INQUIRY INTO THE 2008-09 METROPOLITAN AND REGIONAL WATER AND WASTEWATER PRICING PROCESS

FINAL REPORT

June 2008

The Essential Services Commission of South Australia
Level 8, 50 Pirie Street Adelaide SA 5000
GPO Box 2605 Adelaide SA 5001
Telephone 08 8463 4444 Facsimile 08 8463 4449
E-mail escosa@escosa.sa.gov.au Website www.escosa.sa.gov.au

Public Information about the Commission's activities

Information about the role and activities of the Commission, including copies of latest reports and submissions, can be found on its website at www.escosa.sa.gov.au.

TABLE OF CONTENTS

GLOSSARY OF TERMS

ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
COAG	Council of Australian Governments
COMMISSION	Essential Services Commission of SA
CPA	Competition Principles Agreement
CSO	Community Service Obligation
EEL	Environment Enhancement Levy
EPA	Environment Protection Authority
ESC	Essential Services Commission, Victoria
GFFCR	Go Forward Full Cost Recovery
IPART	Independent Pricing and Regulatory Tribunal (New South Wales)
LRMC	Long Run Marginal Cost
LRMCC	Long Run Marginal Capital Cost
NCC	National Competition Council
NCP	National Competition Policy
NWC	National Water Commission
NWI	National Water Initiative
OMA	Operating, Maintenance and Administration
RAB	Regulated Asset Base
SA WATER	South Australian Water Corporation
SCARM	Standing Committee on Agriculture and Resource Management
TER	Tax Equivalent Regime
WACC	Weighted Average Cost of Capital
WPA	Waterproofing Adelaide Program
WSAA	Water Services Association of Australia

NOTICE OF REFERRAL FOR AN INQUIRY INTO WATER AND WASTEWATER PRICING IN METROPOLITAN AND REGIONAL SOUTH AUSTRALIA
PURSUANT TO PART 7 OF THE ESSENTIAL SERVICES COMMISSION ACT 2002

FROM: **Kevin Foley, Treasurer**

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

RE: **Water and Wastewater Prices in Metropolitan and Regional South Australia 1 July 2008 to June 2009 and indicative in principle revenue direction to 30 June 2013.**

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).
3. The South Australian Government proposes to publish a Transparency Statement on SA Water's water and wastewater prices. The Government has prepared the attached Transparency Statement.
4. The Transparency Statement links Cabinet's decision on water and wastewater prices to the 1994 CoAG pricing principles and certain National Water Initiative obligations, 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. This Transparency Statement process occurs pursuant to the 1994 CoAG pricing principles and the accredited South Australian National Water Initiative Implementation Plan.
6. 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 price setting processes undertaken in the preparation of advice to Cabinet, resulting in Cabinet making its decision on the level and structure of SA Water's water and wastewater prices in metropolitan and regional South Australia in 2008-09 and an indicative in principle revenue direction to 30 June 2013 having regard to:

a. the application of 1994 CoAG pricing principles;

b. the National Water Initiative, specifically, Clause 65 with respect to the continued application of pricing principles to urban areas, Clause 66(i) with respect to water and wastewater pricing in the metropolitan area and Clause 66(v) with respect to water and wastewater pricing in regional (urban) areas.

(b) In undertaking this inquiry, the Commission is to take into account:

a. the accredited *South Australian National Water Initiative Implementation Plan* with respect to Clauses 65, 66(i) and 66(v);

b. the National Water Commission *National Water Initiative First Biennial Assessment of Progress in Implementation*, August 2007, Attachment 1 'Summary progress on implementing NWI actions' relevant to Clauses 65, 66(i) and 66(v);

c. the attached *Transparency Statement Metropolitan and Regional Water and Wastewater Prices in South Australia 2008-09* (Part A) dated January 2008.

(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 1994 CoAG pricing principles and the National Water Initiative 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 the Treasurer and the Minister for Water Security by no later than 16 May 2008;

(b) I require that the Commission submit a Final Report on the inquiry to the Treasurer and the Minister for Water Security by no later than 27 June 2008;

(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 28 days from the date of publication of the Notice of Inquiry;

(d) If the Commission wishes to seek further information in relation to the conduct of this inquiry, it may contact the Director, Economic Regulation, Revenue and Economics Branch, Department of Treasury and Finance.

DIRECTIONS:

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

I direct that in undertaking its inquiry the Commission must preserve the confidentiality of any information, material or documentation provided by the Government to enable the Commission to undertake its inquiry, and to that end must enter into a Deed of Non-Disclosure with the Crown in right of the State of South Australia. I hereby authorise the Under Treasurer to act as agent for and on behalf of the Crown for that purpose. Further, the Commission must require any consultant firm or person providing consultancy services to the Commission in relation to the inquiry to be made a party to that Deed. A copy of the Deed will be made available to the Commission for comment.

OVERVIEW

In February 2008, the Treasurer referred to the Essential Services Commission of South Australia (the Commission), pursuant to Part 7 of the *Essential Services Commission Act 2002*, a public Inquiry into the processes leading to the Cabinet decision on the level and structure of SA Water's water and wastewater prices in metropolitan and regional South Australia for 2008-09. The Commission's Inquiry was required to have regard to the application of certain pricing principles enunciated by the Council of Australian Governments (CoAG) in 1994 as well as through the National Water Initiative (NWI) in 2004.

In undertaking its Inquiry, the Commission was required to consider the report: Transparency Statement Metropolitan and Regional Water and Wastewater Prices in South Australia 2008-09 (Part A), dated February 2008, which was prepared by the Department of Treasury and Finance. Information considered by Cabinet at the time of the pricing decision in late 2007 was also made available to the Commission on a confidential basis.

This is the Commission's sixth inquiry into the South Australian Government process for setting SA Water's water and/or wastewater prices, and the second inquiry that has been conducted in the context of the National Water Initiative (NWI).[1]

An important context to this Inquiry concerns the current water shortages in South Australia. The Government has announced that it will be investing in a number of water security projects over the next 10 years to address these shortages, including a proposed $1.1 billion desalination plant. Largely as a result of these investments, the Government's decision was to increase water prices by 12.7% (in real terms) in 2008-09, with an in-principle decision to increase water prices by the same magnitude in each of the following four years. This Inquiry has therefore considered, among other things, the manner in which the proposed significant capital projects were taken into account during the process of setting 2008-09 water prices.

The Commission interprets its task in this Inquiry as being one of assessing the extent to which the price setting processes facilitated pricing decisions that were consistent with the CoAG and NWI pricing principles. This report indicates the extent to which information provided to Cabinet adequately set out and considered relevant aspects of the 1994 CoAG pricing principles and the NWI.

Consistent with the approach taken in previous inquiries, the Commission has considered whether or not each relevant input to the pricing decision was dealt with in a manner that could meet minimum requirements of the pricing principles. The Commission has also

1 For information on previous Inquiries conducted by the Commission refer http://www.escosa.sa.gov.au/site/page.cfm?u=72.

identified improvements that could be made to the pricing process in order to achieve greater consistency with the relevant pricing principles.

In addition to the input-based, or “bottom-up”, approach to assessing the price setting process, the Commission has identified an alternative method of assessing the application of the CoAG and NWI pricing principles. This involves defining a framework for a best practice approach to price setting that seeks to maximise the efficiency objectives of the pricing principles. Key elements of the best practice framework have been outlined in this report, for the purpose of informing debate on this topic and with the view that the alternative assessment method could be applied in future inquiries.

In its 2007-08 Inquiry report, the Commission identified several high priority areas for improvement. These included a greater focus on demonstrating the efficiency of forecast operating and capital expenditure; the need to relate the water usage component of prices more closely to Long Run Marginal Cost (LRMC) of supply; and a stronger approach to the consideration of so-called “externalities”, i.e. costs associated with the availability of the water resource, including the management of environmental impacts. Progress in these areas is fundamental to achievement of the efficiency outcomes of the CoAG and NWI pricing principles.

In undertaking the present Inquiry, the Commission has noted some improvements in the price setting process in these high priority areas. For example, the approach to benchmarking of the performance of SA Water has been made more robust, while key cost drivers for metropolitan and regional water supply systems have been identified. In addition, the usage component of water prices is now more closely related to LRMC.

However, the Commission has concluded that further improvement to the pricing process is needed in such areas to ensure adequate application of the pricing principles. For example, in the demonstration of efficient resource pricing, it would be appropriate for Cabinet to be provided with more details regarding consumption forecasts and the calculation of LRMC. Furthermore, it is important that additional information is provided to demonstrate that forward-looking prices are based on prudent and efficient forecast costs.

The matter of efficient costs is particularly significant for the 2008-09 water pricing decision, given the impact of the proposed major capital projects on future water prices. The Commission acknowledges that these costs will be refined as greater certainty emerges about the details of the projects, but such refinements are no guarantee that costs will be efficient.

1 INTRODUCTION

Pursuant to section 35(1) of the *Essential Services Commission Act 2002*, the Treasurer of South Australia has referred to the Commission an Inquiry into the processes followed by the Government in late 2007 in setting water and wastewater prices for metropolitan and regional South Australia for 2008-09. The Commission is required to review the pricing processes in terms of relevant principles established through the Council of Australian Governments (CoAG) and under the National Water Initiative (NWI), as agreed to by all governments as the basis for water and wastewater pricing.

The Commission has previously conducted five inquiries into the equivalent pricing processes that led to Cabinet's two separate 2004-05 water and wastewater pricing decisions and the 2005-06, 2006-07 and 2007-08 water and wastewater pricing decisions. These previous inquiry reports and associated documents are available on the water section of the Commission's website.[2]

The water and wastewater pricing processes here are again combined. Accordingly, the issues that the Commission will examine in this Inquiry are similar to those examined previously.

However, a key issue that underpins the price setting process for 2008-09 is the impact of the existing drought conditions, which has led to greater focus being given to projects and initiatives to ensure that South Australia has access to sufficient water supply in the longer term. The Government has announced plans to invest in a number of major water security projects over the next ten years, including a proposed $1.1bn desalination plant, a north-south water pipeline interconnector and increased water storage in the Mt. Lofty ranges. In total, the proposed investments will lead to a doubling of the value of SA Water's assets over the next ten years. While the final decisions on the capital projects are yet to be taken, the Government has explained that the proposed investments are a major driver in the decision to increase water charges in 2008-09 on average by 12.7% in real terms, and to establish an in principle revenue direction, under which water prices would increase by 12.7% in real terms each year for the following four years. This in principle revenue path would lead to an increase in water prices of around 100% in nominal terms from 2007-08 to 2012-13.

The Commission's Inquiry into the process for setting 2008-09 water and wastewater prices, and the associated in-principle revenue direction, must take into account the significance of these future water security proposals and the substantial price increases that have been announced. The manner in which the CoAG pricing principles and relevant NWI objectives were taken into account by the Government in reaching its decision to substantially increase water prices, is therefore a major focus of this current Inquiry.

2 Refer http://www.escosa.sa.gov.au/site/page.cfm?u=74.

1.1 The Price Setting Process

The South Australian Water Corporation (SA Water) is established under the *South Australian Water Corporation Act 1994* and is subject to the provisions of the *Public Corporations Act 1993*. SA Water provides water and wastewater services to approximately 1.5 million domestic, retail and industrial customers throughout South Australia.

The South Australian Government owns SA Water. The Minister for Water Security is responsible for setting the prices that SA Water charges for services provided. In doing so, the Government has committed to set prices such that they comply with agreed pricing principles. These principles include the 1994 CoAG pricing principles and the principles contained in the NWI, an agreement entered into by all jurisdictions in June 2004. These principles are discussed further in Chapter 2 of this report.

1.1.1 Cabinet decision

The decision on urban water and wastewater prices to apply in 2008-09 was taken by Cabinet in November 2007. The water prices that will apply to most customers in 2008-09 were gazetted on 6 December 2007, with commercial rates to be gazetted in June 2008, in accordance with the *Waterworks Act 1932*. Wastewater rates will also be gazetted in June 2008, in accordance with the *Sewerage Act 1929*. The June 2008 dates arise because those charges utilise property values, which are not available until that time.

The in-principle revenue direction to 2012-13 is not a binding decision in the manner of the 2008-09 pricing decisions. Separate and subsequent pricing decisions will be required for each of those years. However, the direction provides some guidance in respect of those later decisions.

The business and decision making of Cabinet is completely confidential, as are all Cabinet documents and submissions. However, in order for the Commission to undertake this Inquiry, it has been provided with copies of Cabinet submissions and agency Cabinet comments relating to the setting of SA Water's water and wastewater prices for 2008-09. These documents are classified "Strictly Confidential" and the Commission is required to preserve the confidentiality of such documents.

1.1.2 Preparation of the Transparency Statement

Subsequent to making its decision on 2008-09 water and wastewater prices, the South Australian Government has prepared a report: Transparency Statement – Part A, Water and Wastewater Prices in Metropolitan and Regional South Australia 2008-09, dated February 2008. This document sets out the process and the matters that have been considered by the Government in setting 2008-09 water and wastewater prices (including an in-principle revenue direction to June 2013).

One of the purposes of Transparency Statement – Part A is to document the extent to which the Government's pricing decision applies the relevant pricing principles.

The Transparency Statement – Part A remains a largely incremental document. That is, it refers heavily to practices reported in the earlier Transparency Statements and earlier Commission reports rather than repeating all relevant detail. As a result, it focuses on areas of change or new information.

This approach recognises the considerable repetition that would arise in respect of some elements of Transparency Statement – Part A, given that some methods and practices have not changed from year to year. As a result of this, the Commission sometimes refers in later chapters to earlier reports to more fully explain the issue at hand – particularly where a quote from the latest Transparency Statement – Part A would be insufficient to explain the issue.

Of course, the longer the incremental approach is applied, the further back a reader must look to find relevant explanations. Over time, this will tend to reduce the transparency of the process as it makes it increasingly difficult to find, let alone understand, the derivation of various elements of a pricing decision.

This report considers Transparency Statement – Part A as the Government's explanation of its process and its justification that the 2008-09 water and wastewater prices apply the pricing principles. This report also comments, where possible, on the information that was made available to Cabinet in making its decision on 2008-09 water and wastewater prices (but is restricted given the confidential nature of Cabinet's consideration). Where relevant, the report also refers to comments made by the Government in responding to the Commission's 2007-08 Inquiry final report.

Ultimately, this report is to serve as Part B of the overall Transparency Statement, and has been prepared accordingly. This means that it often refers to Part A – rather than repeating the content of Part A.

1.2 Conduct of the Inquiry

The Commission received the Notice of Referral of an Inquiry from the Treasurer on 29 February 2008 setting out the Terms of Reference for the Inquiry.

The Notice of Referral required the Commission to:

- advertise the Inquiry;
- provide 28 days for the lodgement of written submissions;
- provide a draft report by 16 May 2008; and
- provide a Final Report by 27 June 2008.

Pursuant to Section 36 of the *Essential Services Commission Act 2002*, a Public Notice of Inquiry was placed in *The Advertiser* on 7 March 2008, asking for written submissions by 4 April 2008. An Issues Paper was released at the same time.

The Commission received three submissions in response to the Public Notice and Issues Paper. The Issues Paper and submissions are available on the Commission website at: http://www.escosa.sa.gov.au/site/page.cfm?u=74&c=2671.

The low level of stakeholder engagement in this Inquiry, as reflected in the small number of submissions to the Commission's Issues Paper, is consistent with the Commission's experience in earlier water inquiries. It is not reflective of the apparently high degree of public interest in water matters more generally, particularly in the current environment of drought conditions.

In conducting this Inquiry the Commission is principally informed by Transparency Statement – Part A and associated information provided.

2 THE PRICING PRINCIPLES

2.1 1994 CoAG pricing principles

The 1994 CoAG pricing principles provided the framework for water and wastewater pricing reform for all jurisdictions, including South Australia, and were incorporated into the National Competition Policy (NCP) Agreement.[3]

As is explained in Transparency Statement – Part A, the pricing principles are contained in the strategic framework for water, as set out in the Compendium of NCP Agreements (NCC 1998, 2nd Edition).

Section 3 of the strategic framework is dedicated specifically to pricing issues. However, it is a very broad pricing statement and does not provide much detail (see below).

Relevant clauses of the CoAG Strategic Framework 1994 (pp. 103-104) are as follows:

> *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;*

To complement these clauses, the Standing Committee on Agriculture and Resource Management (SCARM), through the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), provided a detailed set of guidelines. This detailed set of guidelines is generally referred to as “the 1994 CoAG Pricing Principles”.

---

3 See http://www.ncc.gov.au/activity.asp?activityID=39.

Guidelines for applying Section 3 of the Strategic Framework and Related Recommendations in Section 12 of the Expert Group Report are as follows:

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, pages 112-113) are as follows:

- *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.*

2.2 The National Water Initiative

The Commission is also required to have regard to the NWI in this Inquiry. The NWI builds on the 1994 CoAG framework and, in matters relevant to this Inquiry, impacts upon the 1994 CoAG pricing principles. The Commission's Inquiry into the 2007-08 water and wastewater price setting process was the first to consider the 1994 CoAG pricing principles, as impacted by the NWI. In its Final Report on this Inquiry, the Commission observed that the NWI objectives, which include the pursuit of "best practice" pricing, required the Commission to become more demanding in its assessment of the Government's water and wastewater pricing process.

Also arising from the NWI was the National Water Commission (NWC). The NWC is a Commonwealth statutory body with a role of driving the national water reform agenda – as encapsulated in the NWI. Amongst other things, the NWC took over the role of the National Competition Council (NCC) in respect of assessing each jurisdiction's progress with implementing, originally, the 1994 CoAG pricing principles and now, the NWI. The NWC's first biennial assessment of progress made by jurisdictions against the NWI occurred in 2007.[4] The terms of reference for this Inquiry require the Commission to take into account this NWC assessment (refer section 2.4 below).

The NWI includes clauses that establish commitments in relation to urban water and wastewater pricing (particularly clauses 64 to 77 inclusive). It should be noted that the NWI also deals with many other aspects of water management. The full text is available from the NWC website (www.nwc.gov.au).

The overarching policy objective of the NWI is set out in clause 5:

> *The Parties agree to implement this National Water Initiative (NWI) in recognition of the continuing national imperative to increase the productivity and efficiency of Australia's water use, the need to service rural and urban communities, and to ensure the health of river and groundwater systems by establishing clear pathways to return all systems to environmentally sustainable levels of extraction. The objective of the Parties in implementing this Agreement is to provide greater certainty for investment and the environment, and underpin the capacity of Australia's water management regimes to deal with change responsively and fairly (refer paragraph 23).*

The Terms of Reference for this Inquiry identify several specific clauses for assessment by the Commission:

Clause 65

In accordance with National Competition Policy (NCP) commitments, the States and Territories agree to bring into effect pricing policies for water storage and delivery in rural and urban systems that facilitate efficient water use and trade in water entitlements, including through the use of:

i) consumption based pricing

ii) full cost recovery for water services to ensure business viability and avoid monopoly rents, including recovery of environmental externalities, where feasible and practical

---

4 This report is available from the NWC website at http://www.nwc.gov.au/nwi/biennial_assessment/index.cfm.

iii) consistency in pricing policies across sectors and jurisdictions where entitlements are able to be traded.

Clause 66

In particular, States and Territories agree to the following pricing actions:

Metropolitan

(i): continued movement towards upper bound pricing by 2008.

Rural and Regional

…

(v) full cost recovery for all rural surface and groundwater based systems, recognising that there will be some small community services that will never be economically viable but will need to be maintained to meet social and public health obligations:

- *a) achievement of lower bound pricing for all rural systems in line with existing NCP commitments*
- *b) continued movement towards upper bound pricing for all rural systems, where practical*
- *c) where full cost recovery is unlikely to be achieved in the long term and a CSO is deemed necessary, the size of the subsidy is to be reported publicly and, where practicable, jurisdictions to consider alternative management arrangements aimed at removing the need for an ongoing CSO.*

The Commission's task in conducting this and earlier Inquiries derives from NWI obligations and earlier NCP obligations. For example, clause 77 of the NWI states that:

The Parties agree to use independent bodies to:

(i) set or review prices or price setting processes, for water storage and delivery by government water service providers, on a case-by-case basis, consistent with the principles in paragraphs 65 to 68; and

(ii) publicly review and report on pricing in government and private water service providers to ensure that the principles in paragraphs 65 to 68 are met.

The Commission observes that its task, as set out in the Terms of Reference, is to review price-setting processes only. Further, the Terms of Reference require the Commission to have regard specifically to clauses 65, 66(i) and 66(v)– a narrower range than that set out in clause 77.

Nevertheless, the NWC, in its submission to the Commission's Issues Paper for the current Inquiry, made reference to the clause 77 obligations and stated that the Commission's inquiry process accords with the NWI commitments.

The Commission is also concerned about the extent to which the current form of inquiry facilitates stakeholder engagement. As noted in Chapter 1 of this report, only 3 submissions were received in response to the Issues Paper. The Commission referred to this matter in its 2007-08 Inquiry report. It noted that the NWC, in its *2005 NCP assessment of water reform progress* (the 2005 NCP Assessment) had commented: "*it is not clear to the [NWC] that adequate public consultation is taking place regarding the [Commission's] pricing inquiries.*" The Commission then observed that "the current form of inquiry, being a retrospective inquiry into processes for establishing prices, is not conducive to meaningful public consultation". This remains the view of the Commission.

The South Australian Government's strategy for implementing its obligations under the NWI is set out in the *South Australian National Water Initiative Implementation Plan 2005* (the Implementation Plan). This plan has been accredited by the NWC, pursuant to the requirements of the NWI. The Terms of Reference for this Inquiry require the Commission to have regard to the Implementation Plan with respect to Clauses 65, 66(i) and 66(v) of the NWI.[5]

2.3 The Combined Pricing Principles

The Inquiry into the price setting process for 2007-08 water and wastewater prices was the first to consider the NWI. A key issue for the Inquiry was interpreting the interaction between the CoAG pricing principles and the NWI, particularly clauses 65, 66(i) and 66(v).

The 1994 CoAG pricing principles are expressed as a set of high level outcomes (e.g. full cost recovery, consumption-based pricing, transparency of cross-subsidies) and specific requirements or agreed actions (e.g. efficient costs, appropriate rate of return) that underpin the outcomes.

As noted in section 2.2, the NWI is a commitment by each jurisdiction to various reforms, based upon "*a continuing national imperative of increasing the productivity and efficiency of Australia's water use*". It includes a series of actions to be adopted by jurisdictions focussed on greater compatibility and best practice approaches to water management. The NWI pricing principles are specified at clauses 64 – 77 of the NWI (headed Best Practice Water Pricing and Institutional Arrangements).

The NWI pricing principles build on and incorporate the 1994 CoAG principles. Clause 65 begins with the words "*In accordance with NCP commitments…*". Clauses 65 and 66 are grouped together under the heading "Water Storage and Delivery Pricing". Clause 65 specifies a general commitment to outcomes to achieve the NWI objectives, including through consumption based pricing and full cost recovery. Clause 66 outlines specific agreed actions to achieve those outcomes.

There are at least two areas in which the NWI explicitly modifies the 1994 CoAG principles. These are the requirements of:

- clause 66(i), for continued movement towards upper bound pricing by 2008; and
- clause 66(v), for jurisdictions to consider alternative management arrangements aimed at removing the need for ongoing CSOs where practicable.

---

[5] The South Australian Implementation Plan is available on the NWC website at http://www.nwc.gov.au/nwi/nwi_implementation.cfm.

The Commission observes that the NWI pricing principles have a more explicit outcomes focus than the 1994 CoAG pricing principles, as evidenced by the statements of clause 65.

This is also confirmed by inspection of, in accordance with the Terms of Reference, the Implementation Plan. In addressing clauses 65 and 66 (and many other NWI clauses), the Implementation Plan includes in each instance a discussion about the “Link to outcomes in the NWI” and points to NWI clause 64 as being relevant to the understanding of clauses 65 and 66. Clause 64 is focussed entirely on outcomes.[6]

The Transparency Statement – Part A contains numerous references to work being conducted by the inter-jurisdictional Steering Group on Water Charging (the Steering Group), which is chaired by the NWC and includes representatives of jurisdictional agencies and regulators, the Department of Environment and Water Resources and the Murray Darling Basin Commission. It has been established to progress the implementation of various aspects of the best practice pricing elements of the NWI.

The Transparency Statement discusses the development by the Steering Group of draft pricing principles for nationally consistent approaches to pricing.[7] The Commission understands that these pricing principles have not yet been consulted on and are not publicly available. Discussions with the NWC suggest that it is unlikely that these principles will be finalised before the end of 2008. While it might be possible that the principles will provide some guidance to any future Inquiries by the Commission, it is difficult to take them into account for this current Inquiry given their status.

2.4 NWI First Biennial Assessment of Progress

The Terms of Reference require the Commission to take into account the NWC’s August 2007 report *National Water Initiative First Biennial Assessment of Progress in Implementation*, and in particular Attachment 1 ‘Summary progress on implementing NWI actions’ relevant to Clauses 65, 66(i) and 66(v).

Within this Attachment, there is a section summarising the NWC assessment of progress in achieving “best practice water pricing and institutional arrangements”.[8] Many of the elements in this section are relevant to Clauses 65, 66(i) and 66(v) of the NWI.

The Commission notes that the NWC’s assessment document provides a very high level summary of progress by each jurisdiction in addressing NWI commitments. The nature of the assessment is fundamentally different to that undertaken by the Commission in the current Inquiry, which has a more detailed focus than the NWC assessment, and is concerned with processes that can enable the achievement of relevant NWI objectives, rather than the achievement of the objectives themselves.

6 The Commission observes that it is not making an assessment in this Inquiry of performance against clause 64.

7 Refer to page 8 of the 2008/09 Transparency Statement – Part A.

8 Refer pages 95-107 of the First Biennial Assessment (available at http://www.nwc.gov.au/nwi/biennial_assessment/index.cfm)

The NWC assessment covers all aspects of progress by states against the NWI commitments, pricing being just one of these aspects. In relation to pricing, the NWC has assessed the South Australian progress against actions relating to best practice water pricing as “completed” or “substantially completed”, although the NWC has highlighted some areas where much further work is required, for example in relation to the consideration of including within water prices the cost of water planning and water management, and in the management of environmental externalities. On these issues, South Australia is rated as “started”.

Discussions between the Commission and the NWC have confirmed that the NWC generally considers South Australia to be making progress in meeting its obligations under the NWI. However, in its submission to the Commission’s Issues Paper on the 2008-09 Inquiry, the NWC commented that:

> *The 2007 Biennial Assessment of progress in implementation of the NWI noted that some of the major prerequisites for achieving improved water charging outcomes derive from reforms outside of the NWI. One such reform area, specifically identified by the National Water Commission, was for stronger independent charging oversight in some states.*[9]

While it notes these comments from the NWC, the Commission has concluded that, for the purposes of this Inquiry, the 2007 Biennial Assessment provides general support for the progress being made in South Australia on many of the pricing related elements under the NWI.

9 NWC submission to the Inquiry into 2008-09 Water and Wastewater Pricing Processes, 4 April 2008, page 1.

3 THE COMMISSION'S ASSESSMENT METHOD

The Terms-of-Reference require the Commission to inquire into the processes used in the setting of water and wastewater prices for 2008-09, having regard to the application of certain pricing principles. The Commission is required to advise on the extent to which information relevant to those principles was made available to Cabinet. In undertaking the Inquiry and preparing the advice, the Commission is to take into account relevant matters outlined in certain documents.

The Commission interprets its task as being one of assessing the extent to which the price setting processes facilitate pricing decisions that are consistent with the pricing principles.

There is a variety of ways in which such an assessment could be undertaken; the Inquiry Terms of Reference are not such as to limit the Commission to a particular method of assessment. The assessment should at least consider whether or not the current processes meet what might be described as a minimum level of consistency, and what modifications might be required to the price setting processes to achieve that minimum level. But it is equally possible to consider the price setting processes in the context of a higher level of consistency with the pricing principles. The remainder of this Chapter of the Inquiry Final Report outlines two such methods of assessment. The first of these, based around the minimum level of consistency with the pricing principles, is the method that has been used in all previous Inquiries by the Commission and is again used in the current Inquiry. The second method is focussed on maximising consistency with the pricing principles. It is put forward in this Inquiry report for information purposes only.

It is appropriate to again emphasise that this Inquiry is still focussed on the pricing process, not prices themselves. Therefore, conclusions as to whether or not the chosen prices achieve any particular outcomes remain beyond the scope of the Commission's Inquiry.

3.1 Assessment method for this Inquiry

The first method is based on a consideration of the extent to which each pricing principle was applied in the processes leading to the pricing decision. It is a bottom-up and input-driven method, with a focus on achieving a minimum level of consistency with the pricing principles.

In its 2007-08 Inquiry report, the Commission noted that both the high level outcomes and the specific requirements of the combined pricing principles, as outlined in Chapter 2 of the current report, are relevant to the Commission's assessment. This remains true for the 2008-09 Inquiry.

The assessment of the application of each pricing principle should consider whether or not the specific requirements are being dealt with and presented to Cabinet:

(a) in a transparent manner (i.e. was the matter addressed, was it shown to have been addressed); and

(b) in such a way as to have reasonably enabled Cabinet to make pricing decisions consistent with the principle (i.e. was it addressed in an appropriate manner).

In its 2007-08 Inquiry, the Commission placed greater emphasis on the second of these factors compared to earlier Inquiries, as a result of the inclusion of the NWI objectives in the Terms of Reference. This approach reflected the maturing of the water reform process through the NWI, and the need to give greater emphasis to the outcomes within the NWI. As noted in section 2.3, the NWI principles have a more explicit outcomes focus than the 1994 CoAG principles.

The Commission's assessment of whether or not the pricing process is likely to achieve the NWI outcomes is again a key factor in this current Inquiry. Indeed, the Commission is of the view that it should strengthen its focus on this factor, given the significance of the 2008-09 pricing decision, which has been driven largely by the proposals to undertake significant water security investments over the next 5 years. With water prices expected to double over the next 5 years (in nominal terms) based on the Government's in-principle revenue direction, the need to ensure that the process for determining prices has paid close attention to the NWI "best-practice" pricing principles assumes even greater importance. The Commission has therefore focussed on whether or not the analysis and information that supported Cabinet's pricing decision was sufficient to enable a decision to be reached that is consistent with the relevant principles.

In this Inquiry, the Commission reaches conclusions (in Chapter 4) on whether or not the information in Transparency Statement – Part A allows for adequate application of the pricing principles. In this context the terms "adequate" or "inadequate", with associated explanation in each section, are sometimes used to provide the Commission's conclusion as to whether or not a particular matter is dealt with (in Transparency Statement – Part A):

(a) in a transparent manner; and

(b) in such a way as to have reasonably enabled Cabinet to make pricing decisions consistent with the high level outcomes.

3.2 An alternative assessment method

During this Inquiry, the Commission has given consideration to an alternative assessment method. Consistent with the best practice emphasis of the NWI, and with the urgency attached to water security issues in South Australia at the present time, this alternative method seeks to define a framework for a best practice approach to price setting that is consistent with the pricing principles. The assessment would then consider the extent to which current price setting processes depart from that framework. The definition of a best practice framework requires a consideration of the underlying intent of the pricing principles as well as the detail of each principle. In that sense, the alternative assessment method is a top-down method which places maximum emphasis on the outcomes to be derived from application of the principles.

The two assessment methods are equally consistent with the Terms of Reference for this Inquiry. Both are concerned with price setting processes having regard to the application of the relevant pricing principles. They differ in terms of the scope of application of the principles, with the alternative method applying the principles in such a way as to maximise the outcomes inherent in the principles. The two methods should not be viewed as mutually exclusive; there is significant common ground between the methods and they both provide insights into the application of the CoAG and NWI principles. It would be relevant to provide Cabinet with information regarding application of the principles from the perspective of both assessments.

In its consideration of this alternative method of assessment, the Commission has not sought to go beyond the stage of defining a framework for a best practice approach to price setting in the water and wastewater sectors. The framework is outlined here for information purposes only. The Commission notes, however, that the approach places emphasis on the provision of incentives to drive efficiency gains in the regulated business, whereas such incentives are largely absent from the current approach.

The best practice framework for price setting processes is founded on the underlying intent of the 1994 CoAG and NWI pricing principles, which is to improve the efficiency of the provision and use of water services, for the benefit of the wider community.[10]

The natural monopoly characteristics of water and wastewater businesses determine the need for an approach to regulation that seeks to achieve regulatory outcomes that mimic the outcomes achievable through a workably competitive market. A price setting framework that promotes efficiency in its various forms will offset the impacts of such monopoly characteristics, and provide accountability to the business in its operations.

The best practice pricing framework is aimed at ensuring that the regulatory environment provides incentives for the regulated business to be efficient over time. These principles are encompassed within the regulatory framework outlined below. A fuller discussion on the framework is contained in the Appendix to this report.

The best practice pricing framework involves consideration of the following 6 matters:

(1) scope of regulation – this involves determination of those services that should be subject to direct price control and those for which light-handed regulation is appropriate, and requires consideration of the degree of market power held by the business in the provision of each service.

[10] For example, refer to clause 5 and clause 64 of the NWI.

(2) control setting method for revenue requirement – a revenue building block approach based on recovery of full economic costs required to deliver the specified services efficiently is generally adopted. This involves the following five steps:

- *Collection and verification of proposed cost information;*
- *Review of proposed operating costs;*
- *Review of proposed capital costs;*
- *Determination of an appropriate cost of capital;*
- *Determination of a return of assets and treatment of taxation.*

(3) form of price control – it is necessary to establish a method for determining prices for the regulated services, once the revenue requirement is known; the regulator might specify individual charges, or apply a weighted average price cap or revenue cap. The latter two methods provide the business with flexibility to determine individual charges within the constraint of the specified cap. Depending on the price control selected, forecast of revenue drivers (e.g. customer numbers and/or sales quantity) will also be necessary

(4) pricing principles – this relates to the efficient revenue recovery mechanism. A two part tariff is generally considered the most efficient price structure for monopoly services as it comprises a usage charge (set at the marginal cost of supply) and a fixed charge (to recover the remaining revenue requirement). This would require making appropriate forecast of revenue drivers, such as customer numbers (for fixed charge) and sales (for usage charges).

(5) length of regulatory period – the period over which the revenue and price controls apply needs to balance the desire to provide greater incentive for cost efficiencies (which suggests a longer period) and the need to limit uncertainties with respect to forecasts (which suggests a shorter period).

(6) additional incentive mechanisms – other incentive mechanisms could be considered, including, e.g., a mechanism to enable a certain proportion of cost efficiencies achieved by the business in one regulatory period to be carried over to the next period.

If the price setting process is to be based on the provision of incentives for efficiency gains by the water and wastewater business, then it is important that it be backed by a regime for monitoring and public reporting of the performance of the business. Such a regime can ensure that efficiency gains are not being achieved at the expense of service to customers, and thus to provide confidence to consumers that the process is robust.

The Commission notes that the best practice pricing framework outlined here is essentially independent of the regulatory body (e.g. Government Minister, independent statutory authority) that makes the pricing decision. However, the extent of applicability of the framework, with its strong emphasis on the provision of incentives for efficiency gains, does depend on the corporate governance framework in place for the regulated entity and whether or not management is able to respond to such incentives.

4 APPLICATION OF THE PRICING PRINCIPLES

This Chapter considers the adequacy of the pricing processes undertaken in the preparation of advice to Cabinet with respect to the pricing principles, as set out in earlier chapters.

In line with earlier Inquiries the Commission has assessed the adequacy of Transparency Statement – Part A with the pricing principles, generally comfortable that it is a credible reflection of the information actually provided to Cabinet.

4.1 Comment on upper and lower bound pricing

The pricing principles are underpinned by the concepts of upper and lower bound pricing. These concepts warrant clarification to provide context to the later discussions in this chapter.

Clause 66(i) of the NWI requires there be "continued movement towards upper bound pricing by 2008" for metropolitan services. Clause 66(v) requires that rural and regional systems at least achieve "lower bound pricing".

The terms upper and lower bound pricing are defined in Schedule B(i) of the NWI respectively as:

> *the level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (TERs), provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital WACC.*
>
> and
>
> *the level at which, 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. Dividends should be set at a level that reflects commercial realities and stimulates [sic] a competitive market outcome.*

The definitions are closely aligned with the words from the 1994 CoAG pricing principles.

While both terms close with the word "pricing", the concepts more closely describe a revenue outcome. That is, the upper or lower bound is the amount of revenue required – the actual pricing flows from that revenue target.

The definition of the upper bound is introduced with the term "to avoid monopoly rents". Consistent with the application of this concept in other regulated industries, and the terms used in clause 65 as discussed in earlier chapters, the Commission interprets this outcome as requiring that:

- prices must reflect reasonable forecasts of efficient operational, maintenance and administrative (OMA) costs;

- prices must reflect forecasts of reasonable and efficient capital expenditure;
- costs must be tied to an identifiable and preferably supportable level of service provision;
- forecast revenue must be based on best available estimates of demand for services, including customer numbers and water sales;
- capital costs must not be double-recovered through the asset base – for example, capital contributions must be treated appropriately (not just transparently);
- asset sales and redundant assets must be removed from the asset base; and
- prices should allow for the recovery of a reasonable return on assets.

Chapter 3 of this report has discussed the Commission's views on how these outcomes can be facilitated under a "best practice" pricing approach. The extent to which the current pricing process is able to provide for a decision that avoids monopoly rents is considered later in this chapter.

The key focus of the lower bound is on business viability, generally implying a business generating at least sufficient revenue to meet its minimum efficient obligations (on a sustainable basis, given the provision for asset replacement). Movement to the lower bound is more commonly an issue for rural water services, which in some jurisdictions operate at revenue levels below commercial viability. While this report addresses lower bound matters as required, the lower bound case is less of an issue in South Australia. Therefore, the inadequacies reported in respect of lower bound matters are of lesser order significance than those relating to the upper bound.

Some elements of the upper and lower bounds involve costs that should be about the same. For example, efficient operational, maintenance and administrative costs should be no different as between the upper or lower bound. Other costs are accounted for differently, or should differ in any case. For example, an allowance for dividends in the upper bound appears through the Weighted Average Cost of Capital (WACC), whereas in the lower bound a specific provision is made.

4.2 Efficient business costs

OMA costs are key components of the overall cost of delivering services.

Business cost (including OMA expenditures) efficiency can be assessed in terms of:

- levels of expenditure;
- the creation and consumption of assets (discussed in later sections); and
- impacts on service levels.

One of the key reasons for considering the efficiency of business costs is to provide a foundation for explaining and justifying future actions and requirements. Particularly in the case of pricing proposals, it is necessary to establish a logical link between past performances, the factors influencing those performances and where the expected combination of movements in cost pressures/opportunities and management action will place the utility in the future. It is this future scenario that should be considered when assessing the level of revenue required from the pricing decisions.

The long-lived nature of the infrastructure employed in delivering water and wastewater services means that improvements in capital performance can take a long time to achieve and are seldom considerations in short-term management decisions. However, particularly as infrastructure assets age, it may be reasonable to expect to observe longer-term relationships emerging between the level of OMA expenditure and capital-based costs (reductions in service capacity).

Performance comparison of the achievements by peer water service providers in recent years can provide useful insight into what constitutes efficient business costs. Performance comparison and benchmarking can also assist in identifying possible future cost pressures.

4.2.1 Pricing Principles

In relation to efficient costs, the 1994 CoAG pricing principles state that:

Expert Group Report Recommendation 4

To avoid monopoly rents, a water business should recover no more than … the operational, maintenance and administrative costs…

Expert Group Report Recommendation 5

To be viable, a water business should recover, at least, the operational, maintenance and administrative costs …

Expert Group Report Recommendation 6

In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient … business costs.

In respect of these earlier requirements the NWC stated in its 2005 NCP Assessment that:

> *South Australia has demonstrated that it has implemented the recommendations of the Essential Services Commission in the area of efficient business costs. …*
>
> *South Australia has demonstrated that it has estimated efficient business costs; and, has explored the link between efficient business costs and the SA Water performance statement and customer charter, thereby providing greater transparency on the 'value-for-money' issue. (p. 6-29)*
>
> *The Commission notes that currently the performance of regional businesses in South Australia is not reported separately and so it may be difficult for South Australia to report on cost recovery for these businesses. Even so, the Commission recommends that South Australia continue to*

> *seek improvement in the reporting and analysis of data at a regional level, including through benchmarking efficient performance as required under the National Water Initiative. (p. 6-33)*

The 1994 principles included a clear statement on the need to demonstrate efficient business costs. Added to this, clause 65 of the NWI reaffirms the aim that water pricing should achieve various outcomes such as avoiding monopoly rents. It is thus important that the information presented to Cabinet on efficient business costs not only addresses these costs but does so sufficiently to enable Cabinet to conclude that the costs so included are efficient.

The Commission also notes that clause 75 of the NWI requires jurisdictions to report independently, publicly and on an annual basis, benchmarking of pricing and service quality for urban water and wastewater service providers.

4.2.2 Transparency Statement – Part A Comments

In discussing efficient business costs, Transparency Statement – Part A includes information about:

- Competitive tendering processes;
- Performance benchmarking;
- Value for money; and
- New operating expenditures.

The Transparency Statement – Part A also included the SA Water 2005-06 Annual Efficiency Report as an appendix.

A summary of the key observations under each of these headings in the Transparency Statement – Part A is set out below.

Competitive tendering

The information provided in the Transparency Statement – Part A is similar to that provided in the 2007-08 Transparency Statement – Part A.

The key observations are that:

- SA Water's most significant contract, with United Water International to manage Adelaide's water and wastewater systems, was established through a competitive tender process; and
- Approximately 75% of all SA Water's water and wastewater OMA expenditures are subject to competitive tendering arrangements.

In addition, the Transparency Statement – Part A states that:

> *the link between delivering a level of service at the most efficient business cost is demonstrated by the competitively tendered outsourcing arrangement and by the extent of contracting for future services and supplies. (p. 12)*

Performance benchmarking: trend analysis of key cost drivers

In relation to performance reporting, the Transparency Statement – Part A outlines:

- The key cost drivers underlying the metropolitan and regional water supply systems;
- The key cost drivers underlying the level of costs of providing metropolitan and regional wastewater systems;
- A comparison and ranking of SA Water's asset, customer service and environmental performance in 2005-06 against the average performance of the main metropolitan water utilities;
- A comparison of SA Water's real operating costs in 2005-06 with the weighted average of eight metropolitan water utilities;
- A comparison of SA Water's service performance in six South Australian regional centres with interstate regional service providers in 2005-06; and
- A comparison of SA Water's real operating cost of regional services in 2005-06 with interstate regional service providers.

Value for money

Transparency Statement – Part A states that:

> *SA Water's 2005-06 Annual Efficiency Report indicates that SA Water's customers are generally satisfied with the range and quality of services and value for money provided by SA Water. (p. 17)*

New operating expenditures

Transparency Statement – Part A states that:

> *Over the period to 2012-13, most of the expected real increase in operating expenditure arises from water security initiatives, the most prominent of which is the proposed 50GL per annum Adelaide desalination plant.*
>
> *With regard to water security, Water Proofing Adelaide and other initiatives, best estimates of future operating expenditures have been included in the regulatory model when they are expected to be incurred. (p.17)*

The Commission notes that this is additional information compared to the 2007-08 Transparency Statement – Part A.

4.2.3 The Commission's assessment

It is not within the Commission's brief to assess the validity of the claims made in Transparency Statement – Part A with respect to the performance figures provided. Rather, it is the Commission's task to provide comment on the extent to which the approach utilised in Transparency Statement – Part A provides Cabinet with the information it requires to enable appropriate pricing decisions to be made.

The Commission's key observations in its final report on the 2007-08 Inquiry were that:

> *'the introduction of the 'value for money' component of the 2004-05 Annual Efficiency Report and the Customer Satisfaction Survey conducted by SA Water in 2006 represents a significant step…The process will be even more robust when it is clear that satisfaction surveys explicitly incorporate comparative pricing information'. (p.22)*
>
> *'Regarding the trend-analysis of key cost drivers, however, there has been little, if any observable progress in Transparency Statement – Part A.' (p.22)*
>
> *'it stands to reason that a pricing decision consistent with the NWI could not be made 'without suitable supported, forward looking cost information' (p.25)*
>
> *'Minimum steps to adequacy include:*
>
> - *Provision of disaggregated forward-looking cost information; and*
> - *Reasonable evidence for the proposition that the costs are efficient.' (p.25)*

This year's Transparency Statement – Part A includes some improvements in relation to the provision of information. The use of National Performance Report benchmarks makes SA Water's performance report more robust, while Transparency Statement – Part A takes a step forward by identifying key cost drivers.

However, there has again been little progress in relation to the trend-analysis of key costs drivers and the provision of forward-looking cost information.

Furthermore, in relation to transparency around SA Water's 'value for money', no additional information has been provided. Satisfaction surveys do not explicitly include comparative pricing information.

Metropolitan services

In previous years, the Government used core performance measures from WSAAfacts to benchmark the efficiency and effectiveness of SA Water's metropolitan activities.

For the 2008-09 Transparency Statement – Part A, SA Water's performance is benchmarked using the NWC's inaugural National Performance Report (2005-06). This is a significant step forward in performance reporting as it enables SA Water to be benchmarked using data that has been prepared using nationally consistent reporting based on agreed performance indicators and definitions.[11]

However, the Commission notes that Transparency Statement – Part A continues to provide cost performance on an operating cost per property basis rather than a total cost per property basis. The Commission noted in the final report for the 2007-08 Inquiry that:

> *Total Cost per property outcomes provide a far closer indication of actual funding requirements than OMA costs; consequently, the non-use of this measure remains disappointing, notwithstanding the difficulties presented by potential variation in approaches to asset valuation. (p.22)*

The large capital expenditure program in water planned for the next five years means that it is becoming even more important to assess the efficiency of total cost rather than just operating cost. As the table below shows, SA Water is forecasting significant growth in capital expenditure compared to operating expenditure.[12]

Table 4.1: SA Water forecast capital and operating expenditure to 2012-13

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Capital expenditure ($m nominal)	151	227	243	613	874	615	642
Operating expenditure ($m in 2007-08 dollars)	278	282	290	293	301	329	354

As SA Water's capital expenditure increases, information about SA Water's total cost per property will provide increasingly valuable information about the efficiency of business costs. While the Commission acknowledges the difficulties in benchmarking this measure against other utilities, such information would at least be valuable in monitoring movements in total costs over time.

Country services

In previous years, because WSAAfacts did not provide comparative service data for non-metropolitan services, interstate comparison data were assembled by SA Water from a range of state and region-specific publications.

---

11 The Commission notes that the NWC National Water Performance Reports for 2006-07 were released on 29 April 2008 and provides more current information on the performance of SA Water relative to other urban water utilities. This report was not available at the time of preparation of the 2008-09 Transparency Statement – Part A.

12 Transparency Statement – Part A, pp55-56.

As noted previously, Transparency Statement – Part A benchmarks 2005-06 data from the NWC's National Performance Report. Given the basis on which regional benchmarking has been prepared before, the use of nationally consistent reporting based on agreed performance indicators and definitions is particularly significant for the quality of benchmarking of SA Water's regional services.

Building a bridge from past performance to future requirements

The Commission continues to emphasise the importance of the development of a forward-looking component of analysis. In its 2007-08 Inquiry, the Commission repeated its previously stated view that:

> *the role of the historical performance reporting is to illustrate the impact of emerging trends and help explain the underlying cause-and-effect relationships that influence the utility's resource needs…The next vital step is to understand how key trends are going to impact on the utility over the next few years and the nature of the resource/revenue implications…The Commission believes that the absence of forward projections for both costs and key service standards would need to be addressed in order to enhance the pricing process. (p. 24)*

Compared to the 2007-08 Transparency Statement - Part A, the Commission notes that there have been some improvements in the information provided in relation to key cost drivers.

The key cost drivers underlying the wastewater and water systems are identified, with some general discussion about how these drivers vary from system to system.

In addition, the Transparency Statement identifies the key drivers of the expected real increase in expenditure over the period to 2012-13 as being water scarcity and water security initiatives.

However, the overall improvement in the information provided has not been substantive. Except for the comments on the likely impact of water scarcity initiatives on operating expenditure, little progress has been made in explaining how historical performance and emerging trends are linked to future resource needs.

The 2005-06 Annual Efficiency Review provides discussion of the key drivers of historical cost performance. For example, it notes that the main factors resulting in movements in real operating costs per property for sewerage in the five years to 2005-06 were the commencement of the Environment Improvement Program and increased wastewater treatment standards.

This is useful discussion that the Commission would like to see extended to forward cost estimates. It is noted that the information provided to Cabinet contained some high level cost information, although the Commission considers that the information is not sufficiently detailed to facilitate an informed decision making process.

This lack of information is particularly concerning as the Commission believes that the significant expenditure program planned for the next five years means that there is an even stronger need for transparency around the efficiency of estimated future business costs.

The Commission is aware that information was presented to Cabinet on the forecast costs associated with the proposed desalination plant. This includes a report prepared by an independent consultant commenting on the reasonableness of the cost estimates relating to the desalination plant and other water security projects. This information was not provided to the Commission as part of this Inquiry and the Commission is therefore unable to comment on the adequacy of this information.

The Commission notes the Government's view in its response to the Commission's 2007-08 final report, that:

> *neither the CoAG guidelines nor NWI pricing obligations specify consideration of 'forward looking' costs, other than in relation to long run marginal cost.*

However, the Commission does not agree with the Government's view on this matter. The revenue-setting process is forward-looking, and the COAG principles relate to the determination of future revenue based on efficient resource pricing and business costs. A pricing decision that is consistent with the COAG principles should ensure that an explicit link is drawn between the determination of efficient future costs, the amount of revenue that is needed to recover these efficient future costs, and the prices that are required to achieve that amount of revenue. The Commission acknowledges that the Transparency Statement provides high level forecasts of the Upper and Lower Revenue Bound and the *Go Forward Full Cost Recovery* (GFFCR). However, based on the information provided to the Commission, there is no explicit link of the pricing decision and revenue outcome. For example, the revenue does not provide the price and quantity forecast linked to the revenue forecast, and there is a simplifying assumption that there is no revenue impact from water restrictions.[13]

The absence of these explicit links does not enable Cabinet to be assured that the proposed prices are reflective of efficient costs. While other objectives (eg. social justice), may also influence the pricing outcome, the pricing principles require transparency around how these various objectives have been taken into account.

---

13 The financial tables in section 8 of the Transparency Statement note that "*Revenue does not include impacts from temporary water restrictions*." However, it does not provide what demand assumptions have been made in determining the revenue forecasts.

4.2.4 The Commission's view on application of the pricing principles

<u>Adequacy of information</u>: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Based on the available performance comparison material, Transparency Statement – Part A makes assertions about SA Water's OMA costs being efficient. This shows that the principle of efficient costs has been considered by Cabinet. However, in the material provided to Cabinet and to the Commission for review, there is insufficient information that would have reasonably enabled Cabinet to make pricing decisions consistent with the high level outcomes. The inadequacy relates primarily to showing that the forward-looking costs, upon which a pricing decision must rely, are efficient.

Necessary steps to adequacy include:

- provision of disaggregated forward-looking cost information; and
- reasonable evidence for the proposition that the costs are efficient.

<u>Transparency of information</u>: Does Transparency Statement – Part A adequately summarise the relevant information?

The Transparency Statement summarises the information received by Cabinet, with some exceptions relating to forward OMA cost trends.

4.3 Capital Expenditure

Capital expenditure was assessed separately by the Commission for the first time in the 2007-08 Inquiry. Given the significance of forecast capital expenditure on the 2008-09 water pricing decision, the Commission has again examined this issue separately.

4.3.1 Pricing Principles

In relation to efficient capital costs, Expert Group Report Recommendation 6 states that:

> *In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business <u>based on efficient</u> … <u>business costs</u>.*

It is critical that the information presented to Cabinet addresses capital expenditure, and does so sufficiently to enable Cabinet to conclude that the capital expenditure is efficient.

4.3.2 Transparency Statement – Part A Comments

Similar information is provided on SA Water's capital program compared to previous years.

Table 15 in Transparency Statement – Part A sets out the proposed capital expenditure in the roll-forward estimate, summarised in the table below (in nominal terms). It should be noted that expenditure forecasts have been provided for the five years to 2012-13 (rather than four years as provided in the 2007-08 Transparency Statement – Part A).

Table 4.2: SA Water forecast capital expenditure ($m nominal)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Water	182	156	521	759	514	560
Wastewater	46	87	93	116	101	81
Total	227	243	613	874	615	642

Transparency Statement – Part A provides more discussion on capital expenditure than in previous years. It notes that:

> *Over the period to 2012-13, most new capital expenditure arises from water security initiatives, the most prominent of which is the proposed 50GL per annum Adelaide desalination plant.*
>
> *Estimates of future new capital assets are based on current costs, escalated at 6% per annum until they are expected to be incurred, at which time the estimates are included in the regulatory asset base and the regulatory model. The escalation reflects current construction market conditions and is consistent with an independent review by consultants, KPMG. Once proposed new capital assets are included in the regulatory asset base, an estimated return on the asset value is included in the regulatory model, using 6% pre-tax real WACC.*
>
> *The best estimates currently available of capital expenditures on water security and Water Proofing Adelaide initiatives are provided at Table 1, Chapter 1. Appropriate contingency allowances have been made…*
>
> *Major capital expenditures on other proposed water security initiatives (viz, remaining costs of the north-south interconnector, expanded storage in the Mt Lofty Ranges and connection to the Upper Spencer Gulf desalination plant) would occur outside the period to 2012-13 and, hence, are not expected to be a major influence on charges to 2012-13. (p.20)*

Based on this statement, it appears that the two major water security projects that have been taken into account in the 2008-09 water pricing decision are the desalination plant and at least part of the costs of the north-south interconnector. However, Transparency Statement – Part A does not make this explicit.

Capital expenditure forecasts have been based on an assumed nominal escalator of 6% per annum.

4.3.3 The Commission's assessment

The Commission's key observations in its 2007-08 review were that:

> *while Transparency Statement – Part A provides information on SA Water's capital program, little or no information is provided to demonstrate that forecast capital costs are efficient (p.27)*

Minimum steps to achieving adequacy include providing information to demonstrate that:

- *well developed asset management planning and processes are in place and being followed;*
- *projects, including projected WPA expenditure, are efficient and least cost solutions;*
- *unit rates are consistent with efficient external benchmarks;*
- *the capital program is consistent with customer requirements or regulatory obligations; and*
- *the proposed expenditure program is deliverable in the timeframes proposed. (p.28)*

Furthermore, in relation to externality benefits that were suggested for certain Water Proofing Adelaide projects, the Commission noted that:

> *no information is provided on the nature or approximate value of these benefits. It is therefore not possible, on the information presented, to assess whether or not the projects are efficient. (p.27)*

As noted above, Transparency Statement – Part A provides more discussion on capital expenditure than in previous years. In particular, water security initiatives are identified as the key driver of most new capital expenditure.

Furthermore, discussion of the 6 per cent escalation factor represents an important advance in the level of information provision. Transparency Statement - Part A notes that this escalation factor has been market tested and reviewed independently. This information would have contributed to Cabinet's assessment of whether or not business costs are efficient.

However, while Transparency Statement – Part A identifies the key projects of the capital program for the next five years (for example, the desalination plant), no information is provided to demonstrate that these projects are 'least cost solutions'. This lack of information was also a key concern of the Commission in the 2007-08 Inquiry.

Transparency Statement – Part A notes that:

> *For the proposed Adelaide desalination plant, firmer estimates of future operating and capital expenditures will become available upon completion of all environmental and engineering studies and pilot plant testing.*
>
> *As firmer estimates become available, revisions will be made to the regulatory model and will be considered in subsequent annual price setting processes, as appropriate.*

The Commission acknowledges that estimates of major capital projects are still at a preliminary stage. In particular, it understands that a due diligence program will be undertaken that will result in firmer estimates of future costs. However, the expenditure forecasts represent a significant increase compared to historical levels and have a large influence on price outcomes. As the Transparency Statement – Part A states:

> *These major infrastructure investments eventually need to be funded through increased water charges and, hence, were a major influence on the Government's 2008-09 water pricing decision.*

The Commission understands that the water price increases have been introduced at this stage in order to smooth the price impact of the major capital projects over a number of years, rather than waiting until firm cost estimates are known. While the Commission considers a smooth price path to be reasonable, the Commission observes that there is still significant uncertainty over the level of costs, and hence the level of prices, that will eventuate in future years as a result of the projects, and that the proposed pricing approach allocates the full risk of such uncertainty to water customers. That is, the current process does not provide incentive to minimise and actively manage cost variations because any increases in forecast cost is likely to be passed through to consumers; who are least able to manage this risk.

Based on its assessment of the material provided to Cabinet in support of the 2008/09 water pricing decision, the Commission does not consider that the level of information provided to Cabinet in relation to these expenditure forecasts would enable determination of whether or not the expenditure is efficient. This includes the contingencies built into the capital program. As indicated previously, the Commission understands that additional information has been provided to Cabinet on the proposed desalination plant that has not been provided to the Commission for its consideration as part of this Inquiry. The Commission is unable to comment on such information and can only base its assessment on the material that it has been provided with.

The Commission notes that, in its response to the Commission's final report for the 2007-08 Inquiry, the Government stated in relation to capital expenditure that:

> *the Government does seek value-for-money and technical efficiency and, to that end, will draw on enhanced performance measurement both comparative across jurisdictions and available over time from the NWI national benchmarking project.*

However, as noted in the discussion on efficient business costs, Transparency Statement – Part A does not provide comparative performance information in relation to capital expenditure or total costs. Only unit rates for operating expenditure are compared to external benchmarks.

Finally, it is unclear as to whether or not any progress has been made on the following matters that are typically examined to assess the efficiency of capital expenditure:

- asset management planning and process in place and being followed;
- capital program is consistent with customer requirements or regulatory obligations; and
- capital expenditure program is deliverable in the timeframes proposed.

4.3.4 The Commission's view on application of the pricing principles

<u>Adequacy of information:</u> Did Cabinet receive information that would allow for adequate application of the pricing principles?

The information provided sets out the proposed capital expenditure program and shows that capital expenditure is included in the upper bound revenue calculation. However, based on the material provided to the Commission, there does not appear to be sufficient information that would have reasonably enabled Cabinet to make pricing decisions consistent with the high level outcomes. The inadequacy relates primarily to showing whether or not the proposed capital expenditure is efficient, and whether or not the proposed prices are reflective of forecast efficient costs.

Necessary steps to achieving adequacy include providing information to demonstrate that:

- well developed asset management planning and processes are in place and being followed;
- projects, including projected desalination plant expenditure, are efficient and least cost solutions;
- unit rates are consistent with efficient external benchmarks;
- the capital program is consistent with customer requirements or regulatory obligations; and
- the proposed expenditure program is deliverable in the timeframes proposed.

<u>Transparency of information:</u> Does Transparency Statement – Part A adequately summarise the relevant information?

Based on the material that was presented to Cabinet with which the Commission has also been provided, the Commission is satisfied that the information regarding capital expenditure is adequately summarised in Transparency Statement – Part A.

4.4 Asset Valuation

4.4.1 Pricing Principles

The Guidelines for applying Section 3 of the Strategic Framework state:

> *The deprival value methodology should be used for asset valuation, unless a specific circumstance justifies another method.*

NWI Clause 66(i) states:

> *Metropolitan*

> *Continued movement towards upper bound pricing by 2008*

Added to this are the clause 65 outcomes, particularly the outcome "avoid monopoly rents", which suggest that the asset valuation information presented to Cabinet should address the deprival value methodology or the reasons for departure from that.

4.4.2 Transparency Statement – Part A Comments

SA Water's assets are valued using a fair value method based on depreciated replacement costs. The Commission has previously noted that this approach is consistent with deprival value, although there is the potential for the two approaches to lead to different values under certain circumstances. The Commission has acknowledged that any such differences are unlikely for water infrastructure assets, which are specialised assets and are unlikely to have an observable market value. However, the Commission has suggested that the Transparency Statement – Part A could better explain the link between deprival value and fair value as relevant to SA Water.

In responding to this suggestion, Transparency Statement – Part A comments that:

> *The Productivity Commission recently stated that an asset's value would be measured at depreciated replacement cost if the asset's service potential would be replaced….SA Water's infrastructure assets are to be replaced and are maintained for their service potential. Hence, it is appropriate that the deprival value of those assets is measured at depreciated replacement cost. (p. 19)*

4.4.3 The Commission's assessment

Transparency Statement – Part A makes clear the continued use of "fair value" as the valuation method. The use of fair value has been previously attributed to the application of South Australia Government Accounting Policy Statement, APS 3, which picks up Australian Accounting Standard AASB 1041. The Commission acknowledges that the fair value asset valuation derives originally from a deprival value based valuation conducted in 2002 (as reported in the Transparency Statement for 2004-05 water prices).

The Commission has previously suggested that the Government seek to ensure that application of fair value, or any subsequent method applied, remains consistent with the 1994 CoAG pricing principles' deprival value on an ongoing basis. This might, at some point, require the development of a separate asset valuation. Nevertheless, the Commission believes that the fair value approach and deprival value approach are currently consistent.

4.4.4 The Commission's view on application of the pricing principles

<u>Adequacy of information:</u> Did Cabinet receive information that would allow for adequate application of the pricing principles?

The Commission has previously judged the fair value approach to be adequate and considers the current information in Transparency Statement – Part A to be adequate.

<u>Transparency of information:</u> Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the Cabinet submission included information about the method of asset valuation.

4.5 Contributed Assets

4.5.1 Pricing Principles

The Guidelines for applying Section 3 of the Strategic Framework state:

> *…transparency is required in the treatment of …, contributed assets,… .*

NWI clause 65 specifies certain outcomes, particularly "avoid monopoly rents".

4.5.2 Transparency Statement – Part A Comments

Transparency Statement – Part A identifies that the Government has not changed its approach to the treatment of contributed assets, which is:

- the removal of post-1995 contributed assets; and
- the non-removal of pre-1995 contributed assets (equivalently, their estimation at zero).

Transparency Statement – Part A states that:

> *It is generally accepted nationally that contributed assets should be deducted from the RAB if adequate information is available to identify those contributed assets.*
>
> *As noted in previous Transparency Statements, adequate information is not available to identify contributed assets prior to 1995. The Government has continued to adopt the treatment of contributed assets outlined in previous pricing decisions and removed post corporatisation contributed assets from the RAB.*
>
> *The post corporatisation estimate of contributed assets is considered to be robust, defensible and consistent with general national principles.*
>
> *Essentially, the contributed asset issue has been overtaken by general principles for consistent approaches to pricing, pending finalisation of those principles. (p.20)*

4.5.3 The Commission's assessment

This matter has been addressed at length by the Commission in every past inquiry, with no change in the Government's approach to the treatment of pre-1995 contributed assets.

The Commission stated in its 2007-08 final report that:

> *It is apparent to the Commission that the Government has taken little or no effective action in response to its previous comments other than to state … that it had "carefully" considered the matter. (p.31).*

This year's Transparency Statement – Part A introduces an additional argument as to why pre-1995 contributed assets should not be removed from the asset base, pointing to the "general principles for consistent approaches to pricing, pending finalisation of those principles".

The Commission understands that this refers to the process being led by the NWC Steering Group on Water Charges to develop principles to achieve consistency in water charging and cost recovery practices across sectors and jurisdictions. As discussed earlier, these principles are currently in draft form and have not yet been adopted. The Commission is therefore unable to place any significant weight on them at this point.

The Commission has not changed its view that the inclusion of contributed assets is likely to result in a significantly over-inflated asset base and therefore an artificially high upper bound. Resultant prices will then also be over inflated and monopoly rents will be locked in, not avoided. This is clearly at odds with clause 65 of the NWI.

4.5.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

The treatment of contributed assets in the information provided to Cabinet is inadequate, in so far as no reasonable estimate of pre-1995 contributed assets has been generated and it does not contain information that would have reasonably enabled Cabinet to make pricing decisions consistent with the high level outcomes. The Commission notes the position contained in Transparency Statement – Part A that emerging nationally consistent pricing principles will validate the Government's view on the treatment of pre-1995 contributed assets.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about contributed assets is adequately summarised in Transparency Statement – Part A.

4.6 Depreciation

4.6.1 Pricing Principles

The Guidelines for applying Section 2 of the Strategic Framework state:

> *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 [weighted average cost of capital].[Emphasis added]*

As the Commission explained in its previous inquiry reports, provision for the cost of asset consumption refers to depreciation.

NWI Clause 66(i) states:

> *Metropolitan*
>
> *Continued movement towards upper bound pricing by 2008*

In addition, Clause 65 of the NWI refers to the outcome "avoid monopoly rents".

4.6.2 Transparency Statement – Part A Comments

Transparency Statement – Part A explains that the Government has continued to estimate depreciation in the upper bound using the straight-line method, based on the estimated useful lives of the assets.

In response to suggestions made by the Commission in the 2007-08 Inquiry Final Report, which noted that the Transparency Statement – Part A did not specify the asset lives used, the 2008-09 Transparency Statement – Part A lists the asset lives adopted for water mains and water security assets.

Transparency Statement – Part A also states that depreciation estimates are consistent with the escalation of the regulatory asset base at 3.5% per annum, with asset depreciation accounted for when new assets are expected to be commissioned and where work-in-progress is not depreciated. Information of this nature has not been included in previous Transparency Statements.

4.6.3 The Commission's assessment

The Commission supports the inclusion of the new information in the 2008-09 Transparency Statement – Part A, particularly in relation to the asset lives that underpin depreciation estimates.

4.6.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Information provided to Cabinet discusses the use of a straight-line depreciation methodology for calculating depreciation and lists the useful lives of many of the key assets. This information is considered to provide for adequate application of the pricing principles.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about depreciation is adequately summarised in Transparency Statement – Part A.

4.7 Provision for future asset refurbishment/rehabilitation (minimum revenue case)

4.7.1 Pricing Principles

Guideline 3, for applying Section 3 of the Strategic Framework states that:

> *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.*

NWI Clause 66(v) states:

> *Rural and Regional*
>
> *achievement of lower bound pricing for all rural systems …*

4.7.2 Transparency Statement – Part A Comments

Transparency Statement – Part A states that:

> *In 2008-09, the Government has continued to include an annuity estimate of the cost to SA Water of future asset refurbishment and replacement in the LRB" (p. 28)*
>
> *In its 2007-08 Final Report, ESCOSA sought information to explain the derivation of the annuity estimate….This information was initially provided in the 2005-06 Transparency Statement (p.28)*

4.7.3 The Commission's Assessment

The lower bound is to include an amount of revenue that allows for the replacement of assets or service capacity as the need arises. The depreciation expense is not automatically accepted as providing this minimum requirement. This is because, at certain times, a depreciation allowance can be in excess of a utility's actual funding requirements.[14]

The CoAG guidelines identified that this cost stream should be estimated in terms of the annual amount that would need to be put away each year to ensure that the costs of all rehabilitation/replacement needs over an extended period would be met, provided annual surpluses were accumulated and interest income applied. This is referred to as the "annuity approach". For urban water and wastewater systems, the outcomes from the annuity approach are frequently materially less than the corresponding straight-line depreciation outcomes for the same assets.

The annuity amount represents $44m in 2008-09, the same as in 2007-08. This represents approximately 5% of the total lower bound revenue, and is about 30% of the depreciation estimate included in the upper bound calculation.

An annuity amount is typically sensitive to three key variables:

- the assets included in the calculation (the pricing principles require that only asset replacement and refurbishment be included);
- the annuity term (in theory the term should capture a full asset cycle); and
- the discount rate adopted.

Transparency Statement - Part A provides a summary of the approach used to determine the annuity estimate, repeating information presented in the 2005-06 Transparency Statement. This information is useful for determining whether or not the annuity meets the requirements of the lower bound.

4.7.4 The Commission's view on application of the pricing principles

<u>Adequacy of information</u>: Did Cabinet receive information that would allow for adequate application of the pricing principles?

The information provided to Cabinet presents an annuity as required. The Commission has previously judged this approach to be adequate and the annuity itself probably remains adequate for 2008-09. The Commission notes that the estimated annuity is forecast to stay constant until 2012-13, despite significant increases in capital expenditure over this period (and increases in forecast depreciation over this period). The Commission would expect the annuity estimate to be adjusted at some point to account for this increased

[14] Of course, there may also be times when depreciation is insufficient.

asset base and the increased funding requirements that would eventually be needed to rehabilitate/replace these assets.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about the annuity is adequately summarised in Transparency Statement – Part A.

4.8 Externalities

While issues associated with the infrastructure and operational aspects of water and wastewater service delivery dominate the text of pricing considerations, it is important to remember that water resource management is a key plank of the overall Water Reform Strategic Framework. The avenue for taking account of costs associated with the availability of the water resource, including management of environmental impacts, is, in part, through the consideration of “externalities”.

The inclusion of externalities in the setting of water prices ensures that consumers can make decisions about water use, facing the full economic costs resulting from that water use. This means that the decision will be consistent with the principle of efficient use of water and water infrastructure.

4.8.1 Pricing Principles

The Guidelines for applying Section 3 of the Strategic Framework state:

> *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 [weighted average cost of capital]. [Emphasis added]*
>
> *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 … . [Emphasis added]*
>
> *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 …*
>
> *Externalities … means environmental and natural resource management costs attributable to and incurred by the water business.*
>
> *NWI Clause 65(ii)*
>
> *.. full cost recovery for water services to ensure business viability and avoid monopoly rents, including recovery of environmental externalities where feasible and practical.*

Furthermore, as noted in the 2007-08 Inquiry Final Report clause 73 of the NWI suggests that the NWI takes a broader (and arguably better) view of externalities than the narrow "costs attributable to and incurred by" applied under the 1994 principles.

The NWC also addressed externalities in its 2005 NCP Assessment, requiring, amongst other things:

> *The Commission will look for South Australia to:*
>
> - *report the extent to which they are identifying and recovering environmental costs through their pricing regime;*
> - *provide evidence that environmental costs imposed on and incurred by water businesses are transparently passed on through prices charged to water users;*
> - *where externalities are not included in pricing regimes, demonstrate price paths that will more [sic] towards achieving full cost recovery within a reasonable timeframe, and*
> - *where not transparently incorporated into pricing regimes, show that they have identified externalities and, after examination, have concluded that inclusion of an externality in pricing is not feasible or practical. (pp. 6-40 to 6-41)*

The NWC has also identified the management of environmental externalities as an area requiring significant further work by South Australia as part of its 2007 *National Water Initiative First Biennial Assessment of Progress in Implementation.*

4.8.2 Transparency Statement – Part A Comments

Transparency Statement – Part A states that, because there remains a lack of clarity nationally about the treatment of externalities, the Government continues to include externality costs that are 'both attributable to and incurred by' SA Water in the upper revenue bound and lower revenue bound in compliance with CoAG guidelines and previous practice.

This approach is consistent with the Government's response to the Commission's 2007-08 Final Report. This response noted that an outcome of the NWI Steering Group is expected to be further developed principles for the recovery of water planning and management costs and, at a later stage, new pricing principles for consideration of externalities. Until there are agreed new pricing principles, consideration of externalities must be based on a continuation of the current CoAG pricing principles.

Consistent with the 2007-08 Transparency Statement – Part A, the 2008-09 Transparency Statement – Part A provides information on the Environment Protection Agency licence fee and levies to Natural Resource Management Boards, which are included externalities. However, no information is provided on the Environment Enhancement Levy.

4.8.3 The Commission's Assessment

The Commission notes that the Government has taken little action to address the Commission's previous comments in relation to externalities, in particular the Commission's recommendation that the Government at least progress the identification of relevant externalities for inclusion in pricing decisions. While the Government has indicated to the Commission that it is currently considering the impact of wastewater discharges on Adelaide's coastal marine environment, and the impact of SA Water's operations on greenhouse gas emissions, information on such externalities does not appear in the information provided to Cabinet as part of the 2008-09 pricing decision.

Furthermore, no additional information has been included to explain the derivation of costs of the externalities that have been listed in the Cabinet information.

In its 2007-08 Final Report, the Commission acknowledged that externalities are inherently difficult matters to explain and cost. However, it noted that the absence of meaningful explanation leaves it unable to be satisfied that a decision-maker could accept with any confidence that the externality costs included are a suitable inclusion in either the lower or upper bound.

The Commission noted that the Government's 2007-08 Transparency Statement – Part A did not address the broader view of externalities that the NWI introduces, awaiting instead the outcome of the work of the NWI Steering Group on Water Charging (chaired by the NWC).[15]

The Commission recommended that, while the NWI Steering Group might provide further guidance on this matter in future, it should be possible for the Government to at least progress the identification of relevant externalities for inclusion in pricing decisions.

The Commission has stated the importance of the consideration of externalities in previous inquiries. The Commission notes NWC's comment in its 2006-07 biennial assessment of progress that[16]:

> *Management of environmental externalities is important in promoting economically and sustainable use of water resources and facilitating the efficient functioning of water markets. Failure to internalise the external effects of water use decisions may work counter to these and other NWI outcomes.*

NWC noted that South Australia is one of the states that have further to go in developing pricing responses to help address externalities. It is apparent from the NWC assessment, that a number of other states have made significant progress in

---

[15] The NWI Steering Group has released a stocktake of approaches to charging for water storage and delivery in the rural water sector in Australia (February 2007). The next step of the NWI Steering Group is to develop issues papers on the areas of marked differences between jurisdictions in water charging and cost recovery practices.

[16] Part B. P.56

this area, in advance of any guidance being produced by the NWI Steering Group. For example, the Commission is aware that the ACT Government has a water abstraction charge of 55 c/kL of water, part of which recovers costs associated with the ACT Government's catchment management, the scarcity value of water and environmental costs.[17]

Therefore, the Commission does not consider that the work being undertaken by the NWI Steering Group should prevent the Government from making progress on the management of externalities in South Australia. As the Commission has previously noted, the broadening effect of the NWI in this area is evident irrespective of what guidance the Steering Group might provide. The Commission notes that there have been significant delays in the progress of this work by the Steering Group and that, based on discussions with the NWC, it is unlikely that any guidance will be produced in the near future. This emphasises the need for the Government to consider this area independently of any guidance that may ultimately emerge from the Steering Group. The submission from Waterproofing Northern Adelaide Regional Subsidiary to the Commission's Issues Paper for this Inquiry supported this view.[18]

The Commission also notes that, concurrent with the NWI Steering Group's work on water charging and cost recovery practices, a number of states are examining how to manage environmental externalities. As the NWC's biennial assessment observed:[19]

> *For example, the Victorian Government is reviewing environmental contributions paid by water authorities, and Western Australia, Tasmania and the Northern Territory are reviewing relevant state water legislation.*

The Commission still considers that, at the least, progress should be made to identify externalities. This would allow the Government to satisfy NWC's request that externalities be identified and examined as to whether or not they should be included in pricing.

4.8.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Documents provided to Cabinet in support of the 2008-09 pricing decision provide no more information about externalities than has been provided in previous years. In the absence of guidance from the NWI Steering Group on Water Charges, the Government continues to apply the narrow definition of

[17] Refer Independent Competition and Regulatory Commission, *Water and Wastewater Price Review: Final Report and Price Determination*, April 2008, pp. 54-55.

[18] Submission from Waterproofing Northern Adelaide Regional Subsidiary, 3 April 2008, p. 1.

[19] Ibid.

externalities. The absence of information about the derivation and costing of the listed externalities, the absence of discussion about externalities that were listed in the 2007-08 Transparency Statement – Part A but not the most recent Statement, and the continued restriction to the narrow definition of externalities means that it is not possible to determine whether or not they warrant inclusion in the revenue bounds.

Therefore, the material provided to Cabinet does not contain information that would have reasonably enabled Cabinet to make pricing decisions consistent with the high level outcomes. As requested previously, at a minimum, the inadequacy should be addressed by including information that identifies the relevant externalities.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about externalities is adequately summarised in Transparency Statement – Part A.

4.9 Return on Assets

Water and wastewater businesses are highly capital intensive (that is, they require investment of large amounts of capital in sunk assets). Therefore, relatively minor variations in rates of return and/or the asset values on which return is sought can have a significant impact on pricing. In addition, the inclusion or exclusion of contributed assets can have a considerable impact.

The inclusion of a return on assets component in pricing considerations is, and will remain, a sensitive issue, in that there is the potential for inefficient asset costs or excessive returns to underpin higher prices and lock in monopoly rents.

The Commission understands that this requirement was included in the 1994 CoAG pricing principles to ensure that the opportunity cost of funds invested is recognised in water and wastewater pricing, leading to efficient economic outcomes.

The cost of capital relates to the opportunity cost of investment. It represents a risk adjusted return that investors demand on their investment.

4.9.1 CoAG Principles

Clause 3 of the CoAG Strategic Framework provides:

> *… 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.*

The Guidelines for applying Section 3 of the Strategic Framework state:

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 [weighted average cost of capital].[Emphasis added]

NWI Clause 66(i)

Continued movement towards upper bound pricing by 2008

4.9.2 Transparency Statement – Part A Comments

Transparency Statement – Part A sets out the values of the inputs used to determine the pre-tax real WACC of 6% for the 2008-09 pricing decision.

It also responds to the Commission's suggestion in last year's Final Report that more detailed information be provided to explain the derivation of each WACC parameter. The Government has included in Appendix 6 to the Transparency Statement – Part A, a description of the WACC formula and brief definitions of the WACC parameters.

4.9.3 The Commission's Assessment

The Commission believes that the additional information provided in Appendix 6 represents an improvement in this year's Transparency Statement – Part A, although the information does not adequately explain the derivation of each WACC parameter as requested by the Commission. For example, the Commission suggests that information on the estimated equity beta input include some discussion on the use of regulatory benchmarks and any analysis of market data.

4.9.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Documents provided to Cabinet present a WACC, including information about its derivation. This has been considered adequate in the past and remains so now. However, the material would be improved were more detailed information presented to explain the derivation of each WACC parameter. Statements describing the meaning of each parameter are not considered sufficient for this purpose.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about WACC is adequately summarised in Transparency Statement – Part A.

4.10 Dividends

Dividend Policy relates to matters associated with the periodic returns made to the shareholders or owners of a business. Any decision on dividends to be paid is linked to the decision on the capital structure of the business. Retention of free cash flows (retained earnings) by the business increases the equity proportion of a business.

4.10.1 Pricing Principles

In relation to dividends, the guidelines for the application of Section 3 of the CoAG principles state that:

> *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 [sic] a competitive market outcome.*

Although the "level that reflects commercial reality" is not further explained, the NCC has previously provided some clarifying remarks:[20]

> *The Council considers that a reasonable upper bound limit for dividend distribution by government water service businesses is the Corporations Law requirement that dividends may be paid only out of profits (profits include accumulated retained profits as well as the current year's profit). This approach would safeguard against water and wastewater service providers having insufficient financial resources to conduct business. This approach would also be consistent with competitive neutrality objectives.*

In the upper bound case the dividend allowance is reflected through the WACC.

NWI Clause 65 ("avoid monopoly rents") and the upper and lower bound concepts are relevant to the dividend allowance.

4.10.2 Transparency Statement – Part A Comments

Transparency Statement – Part A states:

> *Estimates of the contributions to dividends by the water and wastewater businesses and metropolitan and country segments have been included in the LRB. (p. 29)*

In its Final Report on the 2007-08 Inquiry, the Commission queried the extent to which dividends were being included in the lower bound case, noting that the dividend allowance represented around 30% of total lower bound revenue, which appeared inconsistent with the concept of a business operating at the lower bound.

The Transparency Statement - Part A responds to this concern by stating that:

---

[20] The 2003 NCP Assessment Framework for Water Reform, NCC, February 2003.

> *The LRB is based on achieving medium term financial viability in cash flow terms and, therefore, does not preclude profit generation and hence scope for payment of dividends and TERs. It should not be assumed that the LRB only measures a zero annual profit. (p. 29)*

In addition, the Transparency Statement – Part A comments on the impact on dividends of the proposed water price increases to 2012-13:

> *The Government budget forward estimates will not receive any extra benefit from the additional revenue collected from the increase in water charges, after the cost of increased water concessions. (p. 29)*

4.10.3 The Commission's Assessment

The inclusion of a separately identified dividend continues an earlier practice previously judged to have been in accordance with the 1994 CoAG pricing principles.

The Commission interprets the lower bound to imply that it represents a scenario where a business is just maintaining financial viability. Under such circumstances, it would be expected that the business pays out dividends that are lower than those that it would pay under 'normal' circumstances. Accordingly, if SA Water's dividend policy is to payout 95% of after tax profits in dividends, under a lower bound scenario, the payout would be something below 95%.

As in previous years, there is insufficient information provided in Transparency Statement – Part A to determine whether or not the 95% dividend payout ratio could be maintained in the lower bound case.[21]

Given these uncertainties, it is difficult to determine whether or not the dividend payment under the lower bound is compliant with NWI requirements.

The Commission notes the information provided in Table 23 of the Transparency Statement – Part A, on the adjustments that are expected to be made to future dividend payments to ensure that the Government does not receive additional benefits from the proposed price increases.

4.10.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

While a dividend allowance is shown, insufficient information is provided to demonstrate that it is suitable for the lower bound case.

[21] To an extent this would depend on how depreciation is calculated for the purposes of determining profit.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about the dividend is adequately summarised in Transparency Statement – Part A.

4.11 Tax Equivalent Regime

The tax equivalent regime (TER) relates to a regime whereby government owned enterprises are subject to an equivalent taxation regime that applies to the private sector. For state-owned enterprises, tax is paid to the State Government, not the Commonwealth.

4.11.1 Pricing Principles

The 1994 CoAG pricing principles require that taxes or TER payments be included in the calculation of both the maximum revenue and the minimum revenue. However, the minimum revenue requirement calculation does not require the inclusion of income tax for those organisations which do not pay income tax.

The main reason for the TER is to ensure competitive neutrality. In the absence of TER, the public sector will have a cost advantage since it would not have to incorporate the business cost of taxes into prices.

The Guidelines for applying Section 3 of the Strategic Framework state:

> *To avoid monopoly rents, a water business should not recover more than the … taxes or Tax Equivalent Regime*
>
> *To be viable, a water business should recover, at least, … taxes or TERs (not including income tax)*
>
> *In determining prices, transparency is required in … tax equivalent regimes*

The outcomes of NWI Clause 65 are relevant to this issue, especially the avoidance of monopoly rents.

4.11.2 Transparency Statement – Part A Comments

Transparency Statement – Part A states that:

> *Estimates of the contributions to TER payments by the water and wastewater businesses and metropolitan and country segments have been included in the LRB. (p. 30)*
>
> *The TER estimates were based on 30% of operating profit, adjusted in accordance with the liability method of tax effect accounting. (p. 30)*

There is also a statement responding to concerns raised by the Commission in its Final Report for the 2007-08 Inquiry that the tax amount did not appear suitable for the lower bound case. The Government has argued that:

> *The LRB is based on achieving medium term financial viability and does not preclude profit generation, dividends or TER payments. (p. 30)*

4.11.3 The Commission's Assessment

The inclusion of a separately identified tax allowance in the lower bound continues earlier practice previously judged to have been in accordance with the 1994 CoAG pricing principles.

Pursuant to the consideration of the lower bound as presented in section 4.1, the Commission notes that the inclusion of a tax allowance is reasonable. In this respect, the Commission agrees with the Government that a TER payment of greater than zero can be included in the lower bound calculations. However, as was the case with the dividend allowance, it is unclear as to why the lower bound allowance should reflect a "normal" tax liability (that is, a liability applicable to a business well above the lower bound).

4.11.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Insufficient information is provided to demonstrate that the lower bound tax amount is suitable for the lower bound case.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about tax liability is adequately summarised in Transparency Statement – Part A.

4.12 Efficient Resource Pricing

Tariff structure has an important role to play in achieving overall economic efficiency. Although the majority of a water utility's costs may be fixed (in the short to medium term), consumption based pricing sends a strong signal and can achieve allocative efficiencies. This is of particular importance at present given the proposals for new augmentations to water supply infrastructure in SA.

4.12.1 Pricing Principles

The CoAG Strategic Framework requires "the adoption of pricing based on the principles of consumption based pricing". Specifically, urban water providers are required to adopt prices "comprising of an access or connection component together with an additional component or components to reflect usage where this is cost effective."

The CoAG Expert Group recommended "economic regulators … should determine the level of revenue for a water business based on efficient resource pricing".

"Efficient resource pricing" is defined in the CoAG strategic framework as including "the need to use pricing to send the correct economic signals to consumers on the high cost of augmenting water supply systems... 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."

Clause 65(i) of the NWI requires "… efficient pricing policies for water storage and delivery… that facilitate efficient water use … including through the use of (i) consumption based pricing…".

Finally, the Commission observes that Clause 64 of the NWI states "the Parties agree to implement water pricing and institutional arrangements which (i) promote economically efficient and sustainable use of (a) water resources (b) water infrastructure assets."

4.12.2 Transparency Statement – Part A Comments

Transparency Statement – Part A sets out the proposed tariff structure for water and wastewater in Tables 11 and 12. The tariff structure for water for 2008-09 has changed significantly from that in 2007-08, while the tariff structure for wastewater is unchanged.

Transparency Statement – Part A states that:

> *The changes in the mix of charges has resulted in a greater emphasis on usage charges and less emphasis on the service availability (supply) charge. This provides a greater financial incentive for customers to conserve water. (p.46)*

Water

SA Water has two-part tariffs for all non-commercial customers. Its variable charges have three blocks. Its proposed price in 2008-09 is:

- 71c/kL for all consumption up to 120kL;
- $1.38/kL for consumption greater than 120kL; and
- for single residential dwellings only, $1.65kL for all consumption greater than 520kL.

The introduction of the third consumption block represents a major change from previous years where SA Water had only two blocks.

The level of the water charges reflect significant increases compared to 2007-08. The charge for the first block (which has fallen from 125kL in 2007-08 to 120kL in 2008-09) has increased by about 42%, while the charge for the second block has increased by about 19%. The fixed charge remains unchanged in nominal terms.

Transparency Statement – Part A provides the following explanation for these changes:

> *The unfolding severity of the current drought and the Government's new water security initiatives have caused SA Water to significantly revise its previous estimates of LRMC. Beyond the water security initiatives already announced, additional water supplies for South Australia are more likely to be sourced by an expansion of the proposed Adelaide desalination plant (e.g. from 50GL per annum to 100GL per annum), rather than by expanded water trading in the Murray- Darling Basin. This would lead to an estimated LRMC of around $1.90 per kL.*
>
> *In its 2008-09 pricing decision with respect to water usage charges, the Government considered (amongst other things) affordability of water as an essential service and the revised LRMC estimates. As a result of these considerations, the Government modified its tariff structure so as to strengthen the further application of consumption based pricing principles.*

Transparency Statement – Part A also provides additional discussion in relation to the Government's equity and social justice considerations in setting water charges.

SA Water sets different supply charges for residential and non-residential customers. For all commercial customers, the proposed fixed charge is based on a percentage of property value (with a commercial minimum of $174.60, unchanged from 2007-08). Transparency Statement – Part A notes that the property rating scale (0.09000% in 2007-08) is still to be determined and will be gazetted in June 2008 when the latest information on property values is available from the Valuer-General.

For non-commercial charges the fixed charge is proposed to be $157.40 for residential customers and $174.60 for other customers (the same as in 2007-08).

Under the Government's Statewide uniform pricing policy, the charging structure is uniform between Adelaide and regional customers. This gives rise to cross subsidy and Community Service Obligation (CSO) issues, which are addressed below.

Wastewater

SA Water's 2007-08 tariff structure for wastewater charges is unchanged for 2008-09.

All of SA Water's customers pay a charge based on property value (subject to a minimum charge). Transparency Statement – Part A notes that the property rating scale for 2008-09 is still to be determined (as per the rating scale for the water supply charge).

There is no consumption (or volumetric) wastewater component. Separate rates are applied between metropolitan and country customers, to adjust for the generally lower property values in country areas. While the general intent is that country customers should pay similar amounts to city customers, Transparency Statement – Part A notes that:

> *regional customers still pay lower average charges than metropolitan customers, even after the marginally higher increase in wastewater charges.*

Separate property value rates are also applied to residential and non-residential customers, resulting in generally higher payments by non-residential customers.

All customers pay a minimum annual charge, proposed to be $284 for 2008-09.

4.12.3 The Commission's Assessment

Water

In its 2007-08 final report, the Commission noted that:

> *it is likely that the LRMC of water supply has increased recently. The current shortage of water suggests that South Australia could be close to an augmentation of supply and that the previously assumed source of that supply – the Murray River – may not be a viable option. If this is the case then the directly incurred LRMC (leaving aside externalities) is likely to be in the range of $1.00 to $3.00/kL. Even if desalination or similar cost augmentation options are not required in the short term, they may well be long-term options*

The Commission also noted that it:

> *does not consider that the information presented is sufficient to demonstrate that prices meet the requirements of the pricing principles – in particular how the volumetric prices are consistent with LRMC.*

The Commission considers that the Transparency Statement – Part A demonstrates significant progress in relation to the charging of water. The Government has:

- revised its estimate of LRMC to reflect its expected expenditure on new water security initiatives;
- introduced a new consumption block for single residential dwellings to reflect very high consumption; and
- increased the tariff for the bottom two tiers towards LRMC.

As noted in Transparency Statement – Part A, these changes have re-weighted the tariff structure towards consumption based pricing. This is consistent with the COAG principles.

The Commission also notes that because the stated LRMC is high, it would not be possible for volumetric charges to be set at this level without a significant over-recovery of revenue.

In relation to the proposed additional consumption block, there are some different views in regard to the efficiency of inclining block tariff structures. A Productivity Commission discussion paper noted that:[22]

> *Another weakness of the current arrangements, from a social welfare perspective, is the IBT structure of variable charges. By charging different prices to different households based solely on the volume of use, the relationship between the price people pay and the cost of supply is severed.*
>
> *The result is an inefficient allocation of water across households, as the cost of supplying the water does not usually depend on which household it goes to. To achieve efficiency, each user should face the same price unless there are differences in the costs of supplying them.*

The Commission also notes IPART's recent decision in relation to Sydney Water Corporation's tariff structure[23]:

> *IPART's decision for the draft determination is to replace the two-tiered usage charge with a single usage charge. The usage charge will be set so that, by the end of the determination period, it will be equivalent to the estimated long run marginal cost (LRMC) of supply.*

IPART noted that:

> *In order to balance the demand and supply of water over the longer term, economic theory suggests that water prices should be set at the long run marginal cost of supply (LRMC). (p.78)*
>
> *Despite support for the retention of an IBT in submissions, IPART considers that an IBT is no longer warranted given the current lack of water scarcity in Sydney. It considers that a single usage charge set at the LRMC of supply is more appropriate, because it provides efficient price signals to consumers about the long term cost consequences of their consumption. (p.79)*

The Commission also notes that pricing arrangements in the ACT will move from three tiers to two on 1 July 2008.

In contrast, inclining block tariffs have commonly been adopted in the electricity and water industries, mainly as a demand management tool. Inclining block tariffs are designed to discourage high levels of consumption (particularly for discretionary purposes) by charging higher prices as consumption increases. Inclining block tariffs have also been justified as a means of protecting low-income consumers on the basis that they are more likely to use less water, although the relationship between income and water use can vary between consumers.

---

22 Productivity Commission 2008, Towards Urban Water Reform: A Discussion Paper, Productivity Commission Research Paper, Melbourne, March, p.43.

23 Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services, IPART , p.75

It is not within the Commission's terms of reference to comment on whether or not inclining block tariffs are preferable to a single usage charge. However, the Commission notes that there was limited information provided in Transparency Statement – Part A to explain the advantages of introducing a third tier, as distinct from, for example, increasing tariffs across the first two tiers.

The Commission acknowledges that the information provided to Cabinet contains some discussion on the benefits of moving to the new tariff structure, although the Commission considers that the Government should undertake more detailed analysis of the impacts of different tariff structures given the changing supply-demand balance in South Australia (as occurred in Sydney).

Notwithstanding this good progress, the Commission observes that there are some other areas in relation to efficient pricing of water that still require attention.

The Commission notes that little information is provided in Transparency Statement – Part A in relation to the detailed calculation of LRMC. It notes that the estimated LRMC of $1.90/kL is based on the cost of expanding the annual output of the desalination plant from 50GL to 100GL (ie. beyond the water security initiatives already announced), although the calculation of this amount is not discussed in the Cabinet material. More detailed information would be valuable for Cabinet in assessing this aspect of the pricing decision.

Further, despite the Commission's comment in its 2007-08 Final Report about a lack of information about consumption forecasts in Transparency Statement – Part A, no additional information has been provided this year. While some additional information was made available to Cabinet (primarily regarding the quantum of the forecasts, rather than the assumptions, methodology and sensitivities underlying the forecast) the Commission reiterates the observations it made in its 2007-08 final report:

> *It is not possible to generate meaningful tariffs from a revenue requirement without at least making assumptions about expected consumption. This implies that such forecasts or assumptions must somewhere underlie the pricing decisions. The Commission notes that it is not provided with the regulatory models underpinning the pricing process. However, the existence of such models is referred to in Transparency Statement – Part A. (p.49)*

The Commission considers that it would be difficult for Cabinet to make an informed decision without demand forecast information.

Wastewater

The Commission noted in its 2007-08 Inquiry report that:

> *SA Water does not apply consumption based pricing, other than to the largest dischargers. … this recognises the impracticality of metering direct usage for small customers and the*

> *minor benefit (and hence implications for efficient resource use) that price signals of this type would generate. (p.49)*

However, the Commission also noted that while it believes that the tariff structure adopted is "not inconsistent with the pricing principles":

> *In relation to fixed wastewater charges (and fixed water charges for commercial customers) the Commission notes that the vast majority of urban water businesses in Australia have moved away from charging based on property values in recent years. Reasons for this include cost, equity and tariff understandability.*
>
> *The Commission has also previously commented that the equity explanation for this approach to wastewater charges is likely to be undermined by the high proportion of households paying the minimum charge, such that the effective rate per dollar of property value for low value properties is significantly higher than for high value properties. This seems at odds with the equity intention.*
>
> *While property based charges are not necessarily inconsistent with the pricing principles, the Commission suggests that it would be opportune to review the approach to the fixed charge. (p.49)*

The Commission observes that there has been no change to the approach to setting charges for wastewater services for 2008-09. Moreover, Transparency Statement - Part A emphasises the CoAG principles and states that:

> *Where usage charges are not practical, the COAG pricing principles do not stipulate how wastewater charges should be apportioned. (p.39)*

The Commission again recognises that the Government's approach to charging for wastewater services is not necessarily inconsistent with the pricing principles. However, it continues to believe that, for the reasons set out previously, there would be value in reviewing the approach to charging for this service.

4.12.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Documents provided to Cabinet contain some information about water pricing, including the proposed price structure. The Commission supports the greater use of consumption based pricing and the move towards pricing at LRMC. However, the Commission considers that more information should be provided in relation to consumption forecasts and the calculation of LRMC.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about consumption based pricing is adequately summarised in Transparency

Statement – Part A, with the exception that there is no information in Transparency Statement – Part A on the derivation of the LRMC estimate of $1.90/kL.

4.13 Cross-subsidies

In a jurisdiction with the water supply logistics faced by South Australia, some cross subsidies are inevitable under a statewide pricing approach. The key to adherence to the 1994 CoAG pricing principles is ensuring that the cross-subsidies and community service obligations (CSOs) are transparent.

The NWI requirements go further than the CoAG requirements in relation to CSOs in that they specifically require consideration of alternative management arrangements aimed at removing the need for an ongoing CSO.

4.13.1 Pricing Principles

In relation to cross-subsidies, the CoAG principles require:

> *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.*

In relation to CSOs the CoAG Principles require:

> *that where service deliverers are required to provide water services to classes of customers 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*

The CoAG Expert Group also noted that “in determining prices transparency is required in the treatment of community service obligations …”

Finally, clause 66(v)(c) of the NWI requires that:

> *where full cost recovery is unlikely to be achieved in the long term and a Community Service Obligation (CSO) is deemed necessary, the size of the subsidy is to be reported publicly and, where practicable, jurisdictions consider alternative management arrangements aimed at removing the need for an ongoing CSO.*

4.13.2 Transparency Statement – Part A Comments

Cross-subsidies

The information provided on cross-subsidies in the Transparency Statement – Part A is similar to that which has been provided in previous years. The main difference is the absence of quantitative data showing the incremental and stand-alone costs of supply to apply the Baumol approach.

Discussing SA Water's use of the Baumol approach in pricing, Transparency Statement – Part A notes that:

> *The NCC identifies the Baumol Band as the accepted definition of cross-subsidies. (NCC, 2001, p 127) In summary, to avoid cross-subsidies based on the Baumol Band definition, pricing of the relevant service is required to ensure that all customers at least meet their marginal or avoidable costs, while the joint fixed costs are spread among the pool of customers by mechanisms (e.g. service availability (supply) charges) that take account of the value of benefits received (i.e. ability to pay). Further, total charges to each customer should not exceed the stand-alone cost. (p.42)*

Transparency Statement – Part A identifies wastewater charges, Statewide uniform pricing and supply charges to commercial water customers as areas where there may be perceptions of cross-subsidies. It is noted that while Statewide uniform pricing provides scope for cross-subsidy:

> *it is very difficult to identify and demonstrate. In any event, any potential for cross-subsidies is effectively minimised by the Government's CSO payments to SA Water for Statewide uniform pricing. (p.43)*

The estimated budget for CSOs for Statewide uniform pricing is $162.88 million in 2008-09.

In relation to supply charges to commercial water customers, Transparency Statement – Part A outlines that:

> *It is likely those customers are still paying less than their standalone costs, based on Baumol Band principles.*
>
> *In any event, based on nationally consistent approaches to pricing, it is acceptable that service availability (supply) charges be set with regard to equity considerations. (p.43)*

Transparency Statement – Part A observes that there would be some residential customers also paying significant amounts for sewerage charges. However:

> *It is likely those customers are still paying less than their standalone costs, based on Baumol Band principles." (p.43)*

Transparency Statement – Part A also notes that the NWC, in its 2005 NCP Assessment, stated:

> *With regard to cross-subsidies, the Commission considers that South Australia has met its COAG commitments. South Australia has identified areas where cross-subsidies are likely to exist, and has reported that there are unlikely to be significant cross-subsidies in water and wastewater pricing. (NWC, 2006, p 6.30)*

Community Service Obligations

Table 14 in Transparency Statement – Part A sets out the estimated CSO payments to SA Water for 2007-08 and 2008-09. The 2008-09 estimates are shown below. No new CSOs have been introduced since 2007-08.

CSO PAYMENTS (IN NOMINAL TERMS)	2008-09
Statewide Uniform Pricing	
- Water Business	138.21
- Wastewater Business	24.67
Exemptions and Concessions	11.20
Water Proofing Adelaide	3.44
Rain Water Tank Rebate	0.04
River Murray Levy Administration	0.096
Government Radio Network	0.42
Administration of Pensioner Concessions	0.52
TOTAL CSO PAYMENTS	178.56

Transparency Statement – Part A provides the following discussion about alternative approaches to CSOs:

With regard to examining alternative management arrangements for Statewide uniform pricing CSOs, one approach might be to write down the value of the regional RAB, similar to the 'line in the sand' approach. The regulatory asset value could, thus, be reset such that existing revenues from regional customers are equivalent to a 6% return on assets. In this way, CSO payments could be eliminated. Even though the regulatory asset value would be reset at the level of each water network that supplies an individual regional community, water charges would remain consistent across the State.

However, substantially lower asset values mean substantially lower depreciation expense. This raises fundamental concerns about identifying the true costs of supplying regional communities and the consistency of revenues with the replacement of capital assets in future. (p.42)

The approach to the calculation of CSOs is described in Transparency Statement – Part A as follows:

The Government therefore provides SA Water with a CSO payment to ensure full cost recovery. Since 2004, the CSO amount has been calculated as the shortfall between the revenue from regional customers and the URB cost of providing regional services. The URB cost consists of operating costs, depreciation and return on assets (ROA). The ROA is calculated using a pre-tax real WACC of 6%. The CSO payment ensures SA Water earns a 6% rate of return on its regulated assets and, thus, the URB is achieved for its regional business. (p.41)

4.13.3 The Commission's assessment

The Commission considers that there has been no improvement in the information provided in the Transparency Statement – Part A about cross-subsidies.

As in previous years, the Government has continued to assess the possible existence of cross-subsidies in water supply using the Baumol approach. The

Baumol approach has been endorsed by the NCC and is used in other jurisdictions.

The effect of using the Baumol approach is that prices that lie beneath the stand-alone cost of supply are not considered to represent a cross-subsidy. As noted by the Commission previously:

> *the Baumol Band is generally broad and may not reveal sufficient information about the major cost differences of serving different customers. (2006-07 Inquiry Final Report p.45)*

Using this approach, the Government can therefore continue to assert that there are no cross-subsidies. This is despite the Commission's recommendation in both its 2006-07 and 2007-08 reports that the major cost differences of serving different customers be examined further.

In relation to CSOs, the Commission's key observations in its 2007-08 report were that:

- no information on alternative management arrangements aimed at removing the need for CSOs was provided
- no additional information compared to 2006-07 in relation to the calculation of the CSO amount was provided.

Compared to previous years, an improvement in the level of information provided about CSOs is that Transparency Statement – Part A provides some evidence that alternative management arrangements for CSOs have been considered. However, the discussion is limited to consideration of arrangements for the Statewide uniform pricing CSO. While this represents the vast majority of total CSOs, the Commission understands that there are other, smaller CSOs, mainly relating to programs that SA Water administers on behalf of the Government, such as the pensioner concession scheme.

Consistent with the Government's response to the Commission's Final Report for the 2007 Inquiry, Transparency Statement – Part A states that a review of CSO payments is not required as one was undertaken by SA Water in 2004.

Noting this response, the Commission remains of the view that further work could be done in determining CSOs in a more transparent manner; it encourages the Government to undertake a further review to ensure continuous improvement in this area.

4.13.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

The Commission acknowledges that information provided to Cabinet has improved due to the evidence that alternative management arrangements to

CSOs have been considered. However, the nature of this information is insufficient to indicate that the Government has properly considered alternative arrangements aimed at removing the need for ongoing CSOs.

Furthermore, while some information is provided about cross-subsidies and CSOs, the information provided to Cabinet is inadequate, in that:

- insufficient information is provided to demonstrate that no cross-subsidies are in place; and
- insufficient information is provided to demonstrate that the current CSO payment is appropriate.

Accordingly, there is insufficient information that would have reasonably enabled Cabinet to make pricing decisions consistent with the pricing principles.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the information provided to Cabinet about cross-subsidies and CSOs is adequately summarised in Transparency Statement – Part A.

4.14 Movement towards the upper bound

4.14.1 Pricing Principles

NWI Clause 66(i) states:

> *Metropolitan*
>
> *Continued movement towards upper bound pricing by 2008*

4.14.2 Transparency Statement – Part A Comments

The pricing decisions set out in Transparency Statement – Part A and the four year revenue direction are part of an intention to move toward the upper bound as required in NWI clause 66(i).

In moving towards the upper bound, Transparency Statement – Part A discusses the development of a "national approach to full cost recovery", which the Commission understands is currently being considered by the inter-jurisdictional Steering Group on Water Charging. Under this proposed approach, which the Commission notes is in draft form and has not been subject to consultation, the return on assets achieved historically (prior to a defined "legacy date") is locked in, and full cost recovery is only sought in relation to new and replacement capital investments incurred following the legacy date. Transparency Statement – Part A refers to a South Australian legacy date of 30 June 2006, which implies that prices should be set to at least achieve a full WACC of 6% (pre-tax, real) for capital expenditure beyond 30 June 2006, with no attempt to adjust prices to reflect any over-recovery or under-recovery relative to the full WACC for capital expenditure prior to this date.

Transparency Statement – Part A calls this approach “Go-Forward-Full-Cost-Recovery” (GFFCR). It notes that in the long-run, as existing assets are replaced, GFFCR will gradually tend towards the upper revenue bound until eventually the full WACC is earned on all assets.

The application of the GFFCR approach to SA Water’s water and wastewater revenues is discussed in Transparency Statement – Part A. It observes that the historical returns on water assets have been below the upper bound and that the historical returns on wastewater assets have been above the upper bound. Under the GFFCR approach, these historical returns would effectively be locked-in.

Importantly, there is an acknowledgment in Transparency Statement – Part A that:

> *Estimates of the future URB and GFFCR positions are subject to change, particularly as firmer estimates become available of future operating and capital expenditures for the Adelaide desalination plan, upon completion of all environmental and engineering studies, pilot plant testing, independent verification of costs, and upon resolution of procurement and funding arrangements. (pp. 32-33)*

4.14.3 The Commission’s assessment

The Commission notes that the requirement of NWI clause 66(i) is only for movement “toward” the upper bound by 2008. It is not clear when the upper bound should be met, although the Commission assumes that such movement should at least continue beyond 2008.

Consistent with its view in previous Inquiries, the Commission’s main concern relates to the estimation of the upper bound itself, in so far as the issues raised earlier in this report, especially around efficient costs, contributed assets and externalities, mean that doubt must exist about the location of the upper bound. Setting a pathway toward the upper bound presupposes that the upper bound has been identified satisfactorily. The NWC noted its concerns about movement toward an ill-defined upper bound, particularly in relation to contributed assets, in its 2005 NCP Assessment (see page 6.29).

The Commission has some difficulty in commenting on the use of the GFFCR concept as a basis for determining full cost recovery, given the status of the draft principles being developed by the Steering Group. The Commission would be concerned, however, if any nationally agreed principles were to lead to an outcome that would lock in historical returns that are above the upper bound (as would be the case for wastewater returns in SA).

4.14.4 The Commission's view on application of the pricing principles

Adequacy of information: Did Cabinet receive information that would allow for adequate application of the pricing principles?

Information provided to Cabinet shows an intention to move towards an upper bound, which appears to be consistent with NWI clause 66(i). Whilst this is adequate against a strict reading of the NWI obligation, the Commission is not confident that the upper bound has been identified satisfactorily.

Transparency of information: Does Transparency Statement – Part A adequately summarise the relevant information?

The Commission is satisfied that the summary of the Cabinet submission in Transparency Statement – Part A includes information about movement towards the upper bound, subject to the limitations around the upper bound noted above.

5 REVENUE DIRECTION TO 2012-13

Transparency Statement – Part A includes an in-principle revenue direction to June 2013 based on price increases of similar magnitude to those established for 2008-09. The revenue-direction for the period July 2009 – June 2013 is not a pricing decision *per se.* It is not binding, but rather an indication of intended movements over that period.

As the revenue direction is not a pricing decision, no assessment is offered in the context of the CoAG and NWI pricing principles. However, it is identified in the Terms of Reference and therefore the Commission provides the following comments in relation to it.

The Commission has previously indicated support for a move to longer term pricing decisions as this can provide appropriate incentives and certainty to SA Water. The benefits of taking such an approach are discussed as part of the "best practice" pricing approach outlined in Chapter 3 and the Appendix to this report. The existence of an in-principle revenue direction does not achieve this, given its nature, but the Commission sees it as a positive step.

The Commission notes the significant water price increases that have been announced for 2008-09, and are expected to occur over the following four year period. Transparency Statement – Part A links these price increases to the significant water security investments that are proposed over the next ten years. Given this situation, the Commission believes that the quality of the information provided to Cabinet to enable it to make a pricing decision in accordance with the relevant pricing principles, and to set a revenue path for the following four years, is of utmost importance. Information demonstrating that expenditure forecasts are prudent and efficient is critical to the making of such a decision.

The Commission observed in Chapter 4 that, based on the material that has been made available to the Commission, the actual information provided to Cabinet, as summarised in the Transparency Statement – Part A, would not enable a decision maker to conclude that forecast costs are prudent and efficient. This continues to be an area of major concern to the Commission, particularly given the importance of this current pricing decision and its impact on addressing the current water supply shortages.

APPENDIX – BEST PRACTICE PRICE SETTING FRAMEWORK

Introduction

To provide accountability to a water business and maximise efficiency in the delivery of water and wastewater services, it is necessary to establish a price setting process that is consistent with best practice principles.

The price setting framework can be broken into two elements, namely:

- the price setting process itself, ie, the means by which prices are determined; and
- the regulatory framework, ie, the mechanisms applied to create incentives for the promotion of the objectives of the pricing principles.

Both of these elements create incentives for the water business to meet the efficiency objective of the CoAG and NWI pricing principles, an important element of which is to ensure that water prices reflect the true cost of water service provision. While the principles themselves do not provide guidance on the price setting process that could be consistent with the efficiency objective, it is clear that there is no one ‘answer’ that could be considered optimal.

The Commission has thus sought to develop a best practice pricing framework that aims to achieve the NWI and the CoAG pricing principles. The framework is outlined in this Appendix.

It is widely acknowledged that the steps for determining the scope and form of regulation to apply to a natural monopoly business involve the following elements[24]:

- determine the scope of regulation (ie, what services should be subject to direct price control, as compared to a negotiation framework or no regulation);
- determine the control setting method (ie, the approach to calculating the revenue requirement, eg, building blocks, total factor productivity, cost plus etc);
- determine the form of price control (ie, the approach to setting prices, eg direct determination, price cap, revenue cap or a hybrid approach); and
- develop pricing principles to govern how prices for customer types are determined and the resulting price structure.

In addition, the regulatory framework should also involve consideration of:

- the length of the regulatory period; and

[24] *Expert Panel On Energy Access Pricing*, Report To The Ministerial Council On Energy, April 2006 (available on the MCE website at http://www.mce.gov.au/assets/documents/mceinternet/CompleteFinalReportFINAL20060419162032.pdf).

- the need for additional incentive mechanisms to address specific deficiencies in the regulatory framework (ie, an efficiency carryover scheme, a service incentive scheme etc).

Not all of these elements are required to be reviewed on an ongoing basis in order to be consistent with the CoAG and NWI principles. However, ensuring that this review process is undertaken as part of developing the regulatory framework, and again where circumstances materially change, is an important consideration in the context of determining a best practice process.

These elements are further discussed in the rest of this Appendix.

Scope of regulation

There are two main forms of regulation applied to utility businesses in Australia, namely:

- Direct price control; and
- Negotiate/arbitrate.

Direct price control is where an independent third party has responsibility for the determination of the prices charged for a specific service. The negotiate/arbitrate form of regulation involves the development and approval of negotiation frameworks to access services, with scope to seek arbitration if negotiations fail.

Decisions about what services should be subject to a specific form of regulation are based on the degree of market power the firm has in the service, and/or the extent of any countervailing or buyer power. For a water and wastewater service business, the majority of services are likely to be appropriately subject to the direct price control, as the extent of competition for these services is limited.[25]

However, this does not mean that there are no circumstances where an alternative form of regulation could be applied to the services supplied by a water and wastewater provider. These services are likely to be associated with miscellaneous charges for services that are ancillary to the provision of water, such as for example sewerage pump out charges, and which can be potentially provided by competitive businesses.

Identification of those services that should be included within water and wastewater charges is relevant to ensure that the costs included in water prices are limited to only those services that should be subject to direct price control. Failure to adequately identify and differentiate between these different components could lead to competitive services being included in water charges, in contravention of the NWI water use efficiency principle, and imposing efficiency costs as a result. Best practice process would contemplate the nature of the services provided and on that basis determine what costs should properly be recovered through water and wastewater charges.

[25] NB: Services Sydney application for declaration of Sydney Water's sewerage infrastructure.

Approach to determining the revenue requirement – the control setting method

For water and wastewater services, the control setting methodology is guided by the CoAG pricing principles and the NWI, and is analogous to the building block methodology commonly applied to regulated utilities for the determination of their revenue requirements.

The pricing principles require that prices be set to achieve full cost recovery.[26] This involves consideration of what should be included in the definition of full cost recovery. The Expert Group on Asset Valuation Methods and Cost-Recovery Definitions for the Australian Water Industry (Expert Group) define full economic costs as:[27]

- operating and maintenance expenses; plus
- administrative costs; plus
- externalities; plus
- depreciation on a replacement cost basis; plus
- the opportunity cost of capital.

The important feature of this definition is an acknowledgement that the appropriate revenue requirement for the achievement of full cost recovery is the 'economic cost' as compared to the 'accounting costs'. This represented a significant departure from existing price setting practices at that time in the water industry.

Building upon earlier principles, the NWI requires that metropolitan water businesses move toward adoption of upper bound pricing by 2008.[28] Upper bound pricing is defined as:

The level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (TERs), provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital WACC.

This definition is consistent with the earlier Expert Group definition, with the inclusion of consideration of taxes or tax equivalent regimes.

The approach to reviewing the proposed elements of the building blocks used to determine a water business' revenue requirement, which is based on an assessment of full economic cost of supplying water, involves 5 steps as outlined below:

[26] Paragraph 3(a)(i) COAG 25 February 1994.

[27] Paragraph 5.32 Report of Expert Group (1995).

[28] Paragraph 66(i)

Step 1: Collection and verification of proposed cost information

The starting point for the review of costs is the collection of information from the relevant business. This information must be independently verifiable and historically consistent. Ideally, it should be able to be cross checked against alternative sources, such as for example, annual financial reports.

The importance of independent verification cannot be understated, given the nature of the incentives the business has when developing its cost base assumptions. In practice, the business will be seeking to manage its financial risks by including in the cost base the largest amount that it could possibly justify.

It is important that the information provided is robust and consistent with other publicly available sources of financial information. Verification of the proposed cost information is therefore an important element of the framework for providing incentives for cost efficiency, consistent with the objectives of the NWI.

Step 2: Review of proposed operation and administrative costs

Generally, proposed costs are submitted as the basis for proposed prices. The aim of the review process then, consistent with the underlying intent of the NWI and the COAG pricing principles, is to determine whether these proposed costs are efficient for the delivery of water and sewerage services at an appropriate standard, and satisfy the requirements of upper bound revenue. Water quality and other standards are used to ensure that water businesses do not trade off reductions in service quality to achieve cost efficiencies. Monitoring service quality is therefore an equally important part of the price setting regulatory framework.

To determine whether proposed operating costs are efficient it is necessary to review the drivers for changes in proposed operating costs relative to some historic base. In principle, any proposed change in costs (in constant dollars) between historic periods and those costs proposed to be incurred in a future period must be the result of (either singly or in combination):

- changes in input prices, that differ from the rate of change of general prices;
- changes in operating practices that lead to changes in costs;
- changes in the service standard obligations imposed on the business; or
- new capital investments that affect operating costs, in either a positive or negative way.

In other words, there should always be a justification for proposed changes in operating costs from year to year, the reasonableness of which can and should be independently assessed.

An observed change in operating costs should reflect the sum of all the increases and/or decreases in costs that result from changes in the business' circumstances, based on an analysis of the cost drivers. In addition, there should also be an explicit assumption about the likely ongoing efficiency improvements that can be expected. For a water business, these ongoing efficiency improvements are typically between 1 and 2 per cent each year.

To determine the efficiency of proposed operating costs, after the relevant cost drivers have been examined, requires benchmarking of the costs. Cost benchmarking includes:

- comparisons of costs of the same business over time;
- comparisons of costs against businesses who provide similar services;
- competitive benchmarking for services that could otherwise be outsourced, but which are provided in house.

Ideally, each of these three approaches to benchmarking would be undertaken, to provide a range of benchmark costs against which the proposed costs of the business can be evaluated. For services provided in house it is necessary to review outsourcing policies.

Another cost that is required to be included within the definition of upper bound pricing, is the cost of externalities, such as salinity control. Externalities are included as they reflect the costs imposed on the economy and the environment from the provision of water and wastewater services. The inclusion of externalities in the cost base ensures that consumers make decisions about water use, facing the full economic costs resulting from that water use, including impacts on third parties. This means that the decision will be consistent with the principle of efficient use of water and water infrastructure.

At this time there is no commonly agreed framework for the estimation of the costs of those externalities to be included in the revenue requirement for determining water and wastewater charges. This is because it is difficult to estimate the cost imposed on the environment or third parties that is attributable to water use. The most commonly applied approximation to estimating the value of the externality cost, is to incorporate the direct costs incurred to mitigate or manage the environmental impacts of water use, within the cost base for determining water charges.

This approach will be equal to the true value of the externalities where current mitigation and environmental management efforts reflect the cost of the environmental impact from water use. In other words, if an appropriate amount is being spent, equal to the value of the prevention of external impacts, then the costs will be equal to the value of the externalities, and so this will be an appropriate approach to its incorporation in the revenue base.

In practice however, it is unlikely that these two values will coincide, except by coincidence. We understand that further research is being undertaken to better define and measure externalities for the purpose of its incorporation in water user charges.

A number of jurisdictions have developed water externality components for inclusion in water charges. Victoria for example has a water tax that is intended to reflect the scarcity value of water. The ACT has a water abstraction charge that is also a measure of the scarcity value. From a process perspective it is necessary to simply ensure that externalities are accounted for in some way in the revenue requirements. In the absence of robust methodologies to calculate the cost of externalities on third parties, using the costs incurred to mitigate externalities is a reasonable approximation.

Step 3: Review of proposed capital costs

To determine whether proposed capital costs are consistent with the principles of upper bound pricing and the underlying efficiency objective it is necessary to independently review the proposed capital expenditure projects that are included as part of the businesses' proposed capital costs. A typical process for reviewing capital expenditure projects involves:

- identifying the projects that make up a large proportion of the total proposed capital expenditure program; and
- reviewing the business case for these projects including:
  - identifying the need for the project;
  - considering alternative options;
  - evaluating the procurement approach undertaken; and
  - undertaking a benchmarking of costs (if and as appropriate).

It is common for businesses to refer to their outsourcing and procurement policies as the basis for arguing that capital costs are efficient. However, while this ensures that a proposed project is delivered at least cost, it does not account for whether alternative options may have been more cost effective at delivering the project outcomes, or whether the project could have been deferred in an efficient way. It is these secondary issues that require independent review, as part of an examination of the proposed business case for a project.

In any review of proposed projects, there is a fine distinction between the independent reviewer taking on the role of decision maker, as compared with the water business. It is important to acknowledge that any independent review of proposed capital expenditure projects is for the purpose of determining the costs to be included in the revenue requirement. A business that disagrees with that assessment, and given its obligations to provide water and wastewater services to customers, can and should make its own decisions about what projects to actually invest in during a regulatory period.

Step 4: Determination of the return on capital

Estimating the benchmark rate of return has been one of the most contentious issues faced by regulators. That is, while it is generally accepted by Australian regulators that the Capital Asset Pricing Model and the Weighted Average Cost of Capital (WACC) are the appropriate mechanisms to estimate the required return on equity and overall cost of capital, debates have abounded about the value to attribute to each of the parameters underlying these two models.

Detailed discussion on each of the WACC parameters and views as to the merits of the particular parameters to apply, is beyond the scope of this paper. However, there are a number of process issues that should be taken into account when determining the return on capital to apply to a water business. These include:

- examination of the financial risks that the business is bearing, and the relationship that any changes in the regulatory framework has for those business risks;
- prevailing market conditions for the cost of debt, and equity given the risks faced; and
- consideration of WACC parameters for comparator businesses, including those values used in other regulatory reviews.

In other words, the decisions for the design of the regulatory framework will likely affect the decision of the rate of return and should therefore be considered in assessing the rate of return.

Once a rate of return has been decided upon, the return to capital is calculated by simply multiplying this rate by the value of the assets employed to provide water and wastewater services. This requires consideration of the appropriate value to ascribe to the assets of the business. Ideally, once that value has been determined, future asset values over the regulatory period are calculated through the adoption of the rolling forward mechanism. This is where actual capital expenditure is added to the value of the asset base and it is depreciated to calculate the new value of the asset base to then allow calculation of the return on assets.

The value of the asset base at any time will depend on:

- the initial value of the regulatory asset base; plus
- the net capital expenditure (capital expenditure less asset disposals) that has occurred since establishing the initial value of the regulatory asset base; less
- the depreciation recovered since establishing the initial value of the regulatory asset base.

The initial value of existing assets is generally regarded as having limits determined by:

- the ‘scrap value’ of the assets – this historic valuation of the existing assets represents the opportunity cost of the investment in the asset and is typically viewed as representing the lower bound on the asset valuation range; and
- the costs that would be incurred by an efficient new entrant into the market – this forward looking valuation approach is generally viewed as placing a cap on the asset valuation since a value in excess of this would place the asset at risk of by-pass.

Identifying the actual value to attribute assets within this range can be a complex undertaking and regulators have had recourse to a number of alternative methodologies when completing this task. Box 1 provides a brief discussion on the alternative asset valuation methodologies that have been utilised in Australia.

Step 5: Determination of a return of capital and treatment of taxation

An allowance for depreciation (return of capital) is another integral component of the building block framework. The manner by which depreciation is recovered is generally thought of in a straight line or diminishing value context, however, these accounting based methods may not be the most appropriate way of recovering depreciation when demand for the services provided by the assets is expected to grow over time. That is, incorporating high depreciation charges at the commencement of the asset’s life when there are only a limited number of foundation customers may impede greater utilisation of the asset. Moreover, such a strategy would result in the foundation customers bearing a greater proportion of depreciation charges relative to future generations of users, which may be viewed as being inequitable.

Alternatives to the demand related depreciation methodology include the more traditional straight line and diminishing value methodologies, however, neither of these methodologies will provide the service provider with the flexibility to adjust revenue requirements over time in line with projected changes in demand. That said, all water businesses in Australia have adopted a straight line depreciation approach, which is likely consistent with the NWI and COAG pricing principles.

There has been considerable debate about the manner by which tax liabilities should be recognised within the building block framework. That is, some proponents have submitted that tax liabilities should be recognised in the rate of return (ie, a pre-tax approach) while others have noted the limitations of the pre-tax approach and have argued that tax liabilities should be modelled explicitly through the cash flows rather than through the rate of return (ie, a post-tax approach). Proponents of the post-tax approach argue that removing the tax effects from the rate of return ensures that equity holders receive a return that is commensurate with market requirements and avoids potentially incorrect compensation for future tax liabilities.

For the purposes of considering the approach to taxation, it is necessary to review the advantages and disadvantages of a pre versus post tax approach.

Box 1: Alternative Asset Valuation Methodologies

Historical Cost: under the historical cost approach (sometimes referred to as the depreciated actual cost approach) the initial value of the asset base is calculated using accounting information and the approach then involves deducting accumulated depreciation from the actual capital costs incurred in the construction of the assets.

Depreciated Optimised Replacement Cost (DORC): Establishing the value of an asset base using the depreciated optimised replacement cost (DORC) methodology requires estimating the efficient cost of replacing the existing asset assuming optimal configuration and size and using the modern engineering equivalent materials to construct the asset, and depreciating this ORC to take account of the existing asset's lower service potential as a consequence of the remaining life being less than the economic life of the replacement asset.

Deprival Value: This value represents the value to the owner, if the owner were deprived of the asset. As such, the deprival value approach to valuation is designed to measure the opportunity cost of the asset to its current owner if it elects to give up control of the assets

This alternative has been utilised in the water industry and follows the recommendation contained in the Council of Australian Government's Competition Policy Agreement that the deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.[29]

Tariff Based Value: Another alternative that has been used in a limited number of cases is the 'line in the sand' approach. Under this approach the value of assets is calculated as the present value of the expected future cash flows generated by the assets, with the future cash flows based on the tariffs prevailing at the time the initial asset value is set. Examples of regulators that have employed this approach include IPART and the ESC both of whom used the approach when determining tariffs for water businesses in New South Wales and Victoria respectively.

Value Based on Sale of Assets: A valuation based on the price recently paid for assets is another alternative that has been recognised in Australia, although never used in Water Industry.

The following table provides a summary of the asset valuation methodologies that have been utilised by regulators in Australia.

29 COAG, Compendium of National Competition Policy Agreements, 2nd ed., 1998, pg. 112.

Asset Valuation Methodologies Used by Regulators

	ACCC/AER	ESC, Victoria	ESCOSA/SA Government	QCA	IPART	ICRC	ERA
Gas	DORC or modified DORC	DORC and optimised deprival value based on existing tariffs	DORC	DORC	Range of factors considered resulted in valuation being lower than DORC	Range of factors considered resulted in valuation being lower than DORC	Asset value calculated using tariffs underpinning sale of assets resulted in asset value being higher than DORC.
Electricity	DORC or jurisdictional valuations established by Government	Jurisdictional value	Jurisdictional value	DORC	DORC	DORC	Optimised deprival value
Rail	DORC	Asset valuation based on capital expenditure incurred since 1999 no other past recovery of assets	DORC	DORC	DORC	n.a.	Gross replacement value (excludes any optimisation)
Water	n.a.	Optimised deprival value with value based on existing tariffs	Optimised deprival value	Optimised deprival value resulting in use of DORC	Optimised deprival value with value based on existing tariffs	DORC	Optimised deprival value with value based on existing tariffs

Form of price control

Having established the revenue requirement, the next element of the regulatory framework is consideration of the form of price control. The form of price control is the approach to setting prices having determined the revenue cap. The choice of price control affects the incentives created for efficiency, the degree of flexibility the business has to adjust individual prices, and the burden of risk borne by the regulated business.

The alternatives that exist include:

- determination of individual charges;
- weighted average price cap;
- revenue cap; or
- hybrid approach.

Of these four options the setting of individual charges entrusts the most control to the relevant price setter with respect to determining the specific prices charged. To translate the revenue requirement into individual tariffs it is necessary to make assumptions about the likely water demand and customer growth faced by the business over the regulatory period, so as to ensure that the business does not over or under recover relative to its revenue requirement. This can be an inherently difficult and uncertain task. The effect of implementing individual prices as the chosen form of price control is that any difference in revenue resulting from the demand and customer growth assumptions differing from actual, is borne by the business. However, there can be scope for the price setter to readjust individual tariffs to bring them closer in line with prices consistent with efficient use of water resources.

The choice between a weighted average price cap, a revenue cap or a hybrid of the two approaches is essentially a decision as to how the risk of the demand forecast differing from actual demand should be allocated. Under a revenue cap approach, the business is guaranteed its revenue requirement irrespective of actual demand and customer growth. If the business under recovers its revenue requirement, then it is entitled to raise charges in subsequent years to recover any revenue losses. Similarly if it over recovers against its revenue requirement it is obligated to lower prices relative to what they would otherwise have been to offset the additional revenue recovered.

A weighted average price cap allocated the demand risk to the regulated business, but allows for flexibility in the determination of individual tariffs. This allows the business scope to determine how best to realign tariffs, within an overall constraint on revenue recovered.

Hybrid approaches mix combinations of both elements and allow some of the demand risk to be shared through the incentives included as part of the regulatory framework.

Having determined the form of price control, it is usual for an adjustment mechanism to be applied, such as CPI-X. These mechanisms are relevant when the regulatory period exceeds one year, and share the potential efficiency benefits between customers and the business.

Decisions about the optimal form of price control are important because this ultimately creates the regulatory environment that will dictate how charges will be determined, so as to be consistent with an efficient use of society's water resources. It is therefore relevant to consider as part of the price setting process the form of price control applied, to ensure that it is creating the incentive environment for the determination of charges consistent with the NWI efficient use of water resources principle.

Price level and structure principles

To be consistent with the principles for efficient use of water resources it is necessary for the resulting charges to be consistent with broader economic principles surrounding efficient pricing for infrastructure. In particular, it is important that water and wastewater services are priced at a level that reflects the true, full economic cost of providing those services to customers. This suggests that water and wastewater users should be charged based on the concept of marginal cost.

Marginal cost is a measure of the change in total costs as output either increases or decreases. It is an important concept in economics because of the general principle that setting price equal to marginal cost presents a consumer with the opportunity costs of their consumption decisions, which in turn leads to an efficient allocation of society's resources. Where price exceeds marginal cost consumption will be less than the efficient level because some consumers who would have consumed the good if price had reflected marginal cost, no longer choose to do so. The benefit of this consumption is therefore lost. Similarly, where price is set less than marginal cost then a consumer does not pay the full opportunity cost of producing the good or service and will consume at a level that is higher than efficient.

For a natural monopoly, such as a water business, setting price equal to marginal cost will result in the under recovery of costs because average costs exceed marginal cost. To maintain the financial viability of a water business, it is therefore necessary to recover the additional costs to make up full cost recovery, through charges that ideally minimise the distortion in water use.

A two part tariff is one charging structure that will likely minimise this distortion. So long as the usage charge is set with reference to the marginal cost, the remaining fixed charge can be used to recover the remaining costs of providing water and wastewater services.

The price setting process should therefore ideally provide a basis for the development of usage charges that equal marginal cost. Where charges are determined by the price setter, then this simply reduces to an assessment of whether the proposed charges reflect the economic price setting principles.

However, if a weighted average price cap or revenue cap is applied and the business has flexibility in the setting of charges, it is relevant to consider the framework for ensuring that actual tariffs, as determined by businesses themselves albeit subject to a revenue constraint, are consistent with the principles for efficient infrastructure charges. This might involve the development of pricing principles that the water business would be obligated to comply with. The business would then be reviewed against the application of these principles. This is the approach that is commonly applied in the electricity sector.[30]

Length of the regulatory period

The length of the regulatory period is the most crucial determinant of the incentives created for cost efficiency in the regulatory framework. It is the decoupling of revenue and costs that creates the incentive for productive efficiency improvement by the business because, for the length of the regulatory period, any reductions in costs in excess of those assumed for the determination of the revenue requirement, increases the profits retained by the regulated business.

The choice of the length of the regulatory period therefore requires consideration by the price setter because it directly affects the incentive power for cost efficiencies. In making this choice it is relevant to balance the desirability of increasing the power of the incentives with the certainty with which cost forecasts can be made, as the cost of using inaccurate cost information will increase with the length of the regulatory period.

A shorter regulatory period is therefore appropriate where:

- the price setting process is not sufficiently rigorous and consequently the scope for the business to gain monopoly rents through the price setting process is significant; and/or
- there is considerable uncertainty surrounding the cost of providing water and wastewater services into the future, and this may affect the financial viability of the business.

A longer regulatory period (and so greater cost efficiency incentive power) is appropriate where:

- the price setting process is sufficiently rigorous that a reasonable independent assessment can be made of proposed operating and capital costs, upon which appropriate tariffs can be determined over a period of years; and/or
- the uncertainty surrounding costs are minimal.

Where costs are not known with sufficient certainty, a longer regulatory period could see the business earn abnormal profits for an extended period, simply because the assumed prices did not take proper account of likely cost saving opportunities, for example.

---

30 http://www.aemc.gov.au/rules.php

Regulatory incentive mechanisms

The final element of the regulatory framework is the development of ad-hoc incentive mechanisms as add-ons to the regulatory framework to address concerns that may arise with respect to the incentives created by the regulatory framework.

Incentive mechanisms that are applied in other jurisdictions include a:

- service incentive mechanism; and
- efficiency carryover mechanism.

For the provision of water and wastewater services, service incentive mechanisms should incorporate a mandatory minimum standard for service provision on the water businesses to ensure that broader health and safety requirements are met. Beyond this minimum, standard incentive arrangements can be established so that businesses face an appropriate cost-reward trade-off for improving service standards beyond this mandatory level. Complementary to this, the regulatory framework should incorporate a robust service monitoring program to ensure that any efficiency gains achieved by the water businesses are not at the expense of service levels.

The application of these mechanisms, whilst not required for strict compliance with the NWI and the CoAG pricing principles, is consistent with developing an incentive framework for achieving the intent of the NWI. It is therefore relevant to consider as part of a best practice pricing process, the need for additional incentive mechanisms along the lines of those identified above, to address any efficiency incentive gaps.