

INDEPENDENT PRICING AND REGULATORY TRIBUNAL OF NEW SOUTH WALES

# SYDNEY WATER CORPORATION HUNTER WATER CORPORATION SYDNEY CATCHMENT AUTHORITY

# PRICES OF WATER SUPPLY, WASTEWATER AND STORMWATER SERVICES

From: 1 October 2005 to 30 June 2009 for the Sydney Water Corporation and Sydney Catchment Authority

1 November 2005 to 30 June 2009 for Hunter Water Corporation

Determination Nos 5, 6 and 7, 2005

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June, 2005

The Tribunal members for this review are:

Dr Michael Keating AC, Chairman Mr James Cox, Full Time Member Ms Cristina Cifuentes, Part Time Member Mr David Brett, Temporary Member

Inquiries regarding this review should be directed to:

Richard Warner 🖀 (02) 9290 8406 Kate Drinkwater 🖀 (02) 9290 8429 Meena Naidu 🖀 (02) 9290 8458 Con Read 🖀 (02) 9290 8436

Independent Pricing and Regulatory Tribunal of New South Wales Level 2, 44 Market Street, Sydney NSW 2000 ☎ (02) 9290 8400 Fax (02) 9290 2061 www.ipart.nsw.gov.au ALL CORRESPONDENCE TO: PO BOX Q290, QVB POST OFFICE NSW 1230

# **Determination No 5, 2005**

Section 11(1) Independent Pricing and Regulatory Tribunal Act 1992

# **Sydney Water Corporation**

Independent Pricing and Regulatory Tribunal of New South Wales

Reference No: 05/222

## 1 Background

- (1) Section 11 of the *Independent Pricing and Regulatory Tribunal Act* 1992 provides the Tribunal with a standing reference to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service supplied by a government agency specified in schedule 1 of the IPART Act.
- (2) Sydney Water Corporation (the **Corporation**) is listed as a government agency for the purposes of schedule 1 of the IPART Act. The services of the Corporation declared as monopoly services (**Monopoly Services**) under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order* 1997 (**Order**) are:
  - (a) water supply services;
  - (b) sewerage services;
  - (c) stormwater drainage services;
  - (d) trade waste services;
  - (e) services supplied in connection with the provision or upgrading of water supply and sewerage facilities for new developments and, if required, drainage facilities for such developments;
  - (f) ancillary and miscellaneous customer services for which no alternative supply exists and which relate to the supply of services of a kind referred to in paragraphs (a) to (e);
  - (g) other water supply, sewerage and drainage services for which no alternative supply exists.

Accordingly, the Tribunal may determine the prices for the Corporation's Monopoly Services.

- (3) In investigating and reporting on the pricing of the Corporation's Monopoly Services, the Tribunal has had regard to a broad range of matters, including the criteria set out in section 15(1) of the IPART Act.
- (4) In accordance with section 13A of the IPART Act, the Tribunal has fixed a maximum price for the Corporation's Monopoly Services or has established a methodology for fixing the maximum price.
- (5) By section 18(2) of the IPART Act, the Corporation may not fix a price below that determined by the Tribunal without the approval of the Treasurer.

# 2. Application of this determination

- (1) This determination fixes the maximum prices (or sets a methodology for fixing the maximum prices) that the Corporation may charge for the Monopoly Services specified in this determination.
- (2) This determination commences on the later of 1 October 2005 and the date that it is published in the NSW Government Gazette (**Commencement Date**).
- (3) The maximum prices in this determination apply from the Commencement Date to 30 June 2009. The maximum prices in this determination prevailing at 30 June 2009 continue to apply beyond 30 June 2009 until this determination is replaced.

# 3. Replacement of Determination No. 4 of 2003

Subject to clause 2.4(b) of schedule 8, this determination replaces Determination No. 4 of 2003 from the Commencement Date. The replacement does not affect anything done or omitted to be done, or rights or obligations accrued, under Determination No. 4 of 2003 prior to its replacement.

# 4. Monitoring

The Tribunal may monitor the performance of the Corporation for the purposes of:

- (a) establishing and reporting on the level of compliance by the Corporation with this determination; and
- (b) preparing a periodic review of pricing policies in respect of the Monopoly Services supplied by the Corporation.

# 5 Water Savings Fund

The Corporation has been required to contribute \$30 million to the Water Savings Fund established by the Energy Administration Amendment (Water and Energy Savings) Act 2005. Any further contribution that is made by the Corporation to the Water Savings Fund will (subject to any legal or regulatory requirements applying to that contribution), be taken as falling outside the scope of this determination.

# 6. Schedules

Schedules 1-7 (inclusive) and the Tables in those schedules set out the maximum prices that the Corporation may charge for the Monopoly Services specified in the schedules.

# 7. Definitions and Interpretation

Definitions and interpretation provisions used in this determination are set out in schedule 8.

# Schedule 1

# Water Supply Services

# 1. Application

This schedule sets the maximum prices that the Corporation may charge for services under paragraph (a) of the Order (water supply services), (other than those set out in schedule 7).

# 2. Categories for pricing purposes

Prices for water supply services have been determined for 4 categories:

- (a) Metered Properties;
- (b) Metered Standpipes;
- (c) Unmetered Properties; and
- (d) Properties not connected to the Water Supply System.

# 3. Charges for water supply services to Metered Properties

## 3.1 Metered Residential Properties – Filtered Water

The maximum price that may be levied by the Corporation for the provision of Filtered Water to a Metered Residential Property connected to the Water Supply System for a Billing Cycle is the sum of the following:

- (a) the water service charge in Table 1 (with that Metered Residential Property taken to have a 20mm Meter size regardless of its actual Meter size), corresponding to the applicable Period in that table, divided by the number of quarters in that Period; and
- (b) the water usage charge calculated as follows:
  - (i) for each kL of water used up to and including the Tier 1 Water Consumption - the tier 1 water usage charge in Table 2, per kL of Filtered Water used up to and including the Tier 1 Water Consumption for the corresponding Meter Reading Period and the applicable Period in that table;
  - (ii) for each kL of water used in excess of the Tier 1 Water Consumption the tier 2 water usage charge in Table 2, for each kL of Filtered Water used in excess of the Tier 1 Water Consumption for the corresponding Meter Reading Period and the applicable Period in that table.

# 3.2 Metered Residential Properties – Unfiltered Water

The maximum price that may be levied by the Corporation for the provision of Unfiltered Water to a Metered Residential Property connected to the Water Supply System for a Billing Cycle is the sum of the following:

(a) the water service charge in Table 1 (with that Metered Residential Property taken to have a 20mm Meter size regardless of its actual Meter size), corresponding to the applicable Period in that table, divided by the number of quarters in that Period; and (b) the water usage charge in Table 3, per kL of Unfiltered Water used for the corresponding Meter Reading Period and the applicable Period in that table.

### 3.3 Metered Non Residential Property – Filtered Water

The maximum price that may be levied by the Corporation for the provision of Filtered Water to a Metered Non Residential Property connected to the Water Supply System for a Billing Cycle is the sum of the following:

- (a) the water service charge in Table 1 for each Meter, corresponding to the applicable Meter size and Period in that table, divided by the number of quarters in that Period; and
- (b) the tier 1 water usage charge in Table 2, per kL of Filtered Water used for the corresponding Meter Reading Period and the applicable Period in that table.

#### 3.4 Metered Non Residential Property – Unfiltered Water

The maximum price that may be levied by the Corporation for the provision of Unfiltered Water to a Metered Non Residential Property connected to the Water Supply System for a Billing Cycle is the sum of the following:

- (a) the water service charge in Table 1 for each Meter, corresponding to the applicable Meter size and Period in that table, divided by the number of quarters in that Period; and
- (b) the water usage charge in Table 3, per kL of Unfiltered Water used for the corresponding Meter Reading Period and the applicable Period in that table.

### 4. Charges for water supply services to Metered Standpipes

#### 4.1 Filtered Water

The maximum price that may be levied by the Corporation for the provision of Filtered Water to a Metered Standpipe connected to the Water Supply System for a Billing Cycle is the sum of the following:

- (a) the water service charge in Table 1 for each Meter, corresponding to the applicable Meter size and Period in that table, divided by the number of quarters in that Period; and
- (b) the tier 1 water usage charge in Table 2, per kL of Filtered Water used for the corresponding Meter Reading Period and the applicable Period in that table.

#### 4.2 Unfiltered Water

The maximum price that may be levied by the Corporation for the provision of Unfiltered Water to a Metered Standpipe connected to the Water Supply System for a Billing Cycle is the sum of the following:

- (a) the water service charge in Table 1 for each Meter, corresponding to the applicable Meter size and Period in that table, divided by the number of quarters in that Period; and
- (b) the water usage charge in Table 3, per kL of Unfiltered Water used for the corresponding Meter Reading Period and the applicable Period in that table.

# 5. Charges for water supply services to Unmetered Properties

# 5.1 Unmetered Residential Property

The maximum price that may be levied by the Corporation for water supply services to an Unmetered Residential Property connected to the Water Supply System for a Billing Cycle is the water service charge in Table 4, corresponding to the applicable Period in that table, divided by the number of quarters in that Period.

# 5.2 Unmetered Non Residential Property

The maximum price that may be levied by the Corporation for water supply services to an Unmetered Non Residential Property for a Billing Cycle is the water service charge in Table 5, corresponding to the applicable Period in that table, divided by the number of quarters in that Period.

# 6. Charges for water supply services to a Property not connected to the Water Supply System

The maximum water service charge and water usage charge that may be levied by the Corporation for a Property not connected and which remains not connected to the Water Supply System is zero for the period from the Commencement Date until this determination ceases to apply.

# 7. Levying water supply charges on Multi Premises

### 7.1 Water supply charges for Multi Premises

- 7.1.1 Clause 7 of this schedule prescribes how the maximum prices in this schedule are to be levied on Multi Premises, specifically how they are to be levied on persons who own, control or occupy those Multi Premises.
- 7.1.2 Clause 3 of this schedule does not apply to Metered Properties if this clause 7 is capable of applying to those Metered Properties.

### 7.2 Strata Title Lot and Community Development Lot

- 7.2.1 For a Strata Title Building or a Community Parcel:
  - (a) which is connected to the Water Supply System; and
  - (b) which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation for the provision of water supply services for a Billing Cycle is:

(c) the water service charge calculated as follows:

# $\frac{A}{B}$

(the resultant amount being the **Multi Water Service Charge**),

Where:

**A** - the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Meter size and Period in that table) divided by the number of quarters in that Period; and

**B** - the number of Strata Title Lots within that Strata Title Building or the number of Community Development Lots within that Community Parcel (as the case may be); and

- (d) the tier 1 water usage charge in Table 2, per kL of Filtered Water used during the Meter Reading Period, corresponding to the applicable Period in that table (Multi Tier 1 Water Usage Charge); and
- (e) the water usage charge in Table 3, per kL of Unfiltered Water used for the corresponding Meter Reading Period and the applicable Period in that table (**Multi Unfiltered Water Usage Charge**).
- 7.2.2 The Multi Water Service Charge is to be levied on each Strata Title Lot (within that Strata Title Building) or Community Development Lot (within that Community Parcel) (as the case may be).
- 7.2.3 The Multi Tier 1 Water Usage Charge and the Multi Unfiltered Water Usage Charge are to be levied on the Owners Corporation of that Strata Title Building or the owner of that Community Parcel (as the case may be).

#### 7.3 Company Title Building

For a Company Title Building:

- (a) which is connected to the Water Supply System; and
- (b) which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation on the owner of that Company Title Building for the provision of water supply services to that Company Title Building for a Billing Cycle is the sum of the following:

- (c) the water service charge in Table 1 for each Common Water Meter, corresponding to the applicable Meter size, divided by the number of quarters in that Period;
- (d) the tier 1 water usage charge for Filtered Water in Table 2, per kL of Filtered Water used during the Meter Reading Period; and
- (e) the water usage charge for Unfiltered Water in Table 3, per kL of Unfiltered Water used during the Meter Reading Period,

each corresponding to the applicable Period in their respective tables.

# 7.4 Multi Premises (other than a Multi Premises levied under clause 7.2 or 7.3 of this schedule)

For a Multi Premises (other than a Multi Premises levied under clause 7.2 or 7.3 of this schedule) which:

- (a) is connected to the Water Supply System; and
- (b) has a Common Water Meter or multiple Common Water Meters,

the maximum price for the provision of water supply services under this schedule is to be levied by the Corporation based on its usual practice at the Commencement Date.

# 7.5 Strata Title Lot, Company Title Dwelling or Community Development Lot with its own Meter within a Multi Premises

For the avoidance of doubt, a Strata Title Lot, a Company Title Dwelling or a Community Development Lot (as the case may be) with its own Meter within a Multi Premises are each deemed to be a single Property for the purposes of levying water charges under this schedule and clause 3 (and not clause 7) of this schedule is to apply to that Strata Title Lot, Company Title Dwelling or Community Development Lot (as the case may be).

# Tables 1, 2, 3, 4 and 5

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009		
	(\$)	(\$)	(\$)	(\$)		
Metered Residential Properties – water service charge	56.84	62.65 x (1+∆CPI₁)	52.85 x (1+∆CPI₂)	43.87 x (1+∆CPI <sub>3</sub> )		
Metered Non Residential Properties and Multi Premises (which are Residential Properties with a Meter) – water service charge based on Meter size						
20mm	56.84	62.65 x (1+∆CPI₁)	52.85 x (1+∆CPl₂)	43.87 x (1+∆CPI₃)		
25mm	88.81	97.90 x (1+∆CPI₁)	82.58 x (1+∆CPl₂)	68.54 x (1+∆CPI₃)		
30mm	127.89	140.97 x (1+∆CPI₁)	118.91 x (1+∆CPl₂)	98.70 x (1+∆CPI₃)		
32mm	145.51	160.40 x (1+∆CPI₁)	135.30 x (1+∆CPl₂)	112.30 x (1+∆CPI₃)		
40mm	227.36	250.62 x (1+∆CPI₁)	211.40 x (1+∆CPl₂)	175.47 x (1+∆CPI₃)		
50mm	355.25	391.59 x (1+∆CPI₁)	330.32 x (1+∆CPl₂)	274.17 x (1+∆CPI <sub>3</sub> )		
65mm	600.37	661.79 x (1+∆CPI₁)	558.23 x (1+∆CPI₂)	463.35 x (1+∆CPI <sub>3</sub> )		
80mm	909.44	1,002.48 x (1+∆CPI₁)	845.61 x (1+∆CPI₂)	701.88 x (1+∆CPI <sub>3</sub> )		
100mm	1,421.00	1,566.37 x (1+∆CPI₁)	1,321.26 x (1+∆CPl₂)	1,096.68 x (1+∆CPI₃)		
150mm	3,197.24	3,524.34 x (1+∆CPI₁)	2,972.84 x (1+∆CPl₂)	2,467.54 x (1+∆CPI₃)		
200mm	5,683.99	6,265.49 x (1+∆CPI₁)	5,285.05 x (1+∆CPI₂)	4,386.74 x (1+∆CPI₃)		
For Meter sizes not specified above, the following formula applies		$(Meter size)^2 \times 20mm charge/400$				

# Table 1 Water service charge for Metered Properties

 Table 2 Water usage charge for Filtered Water to Metered Properties

Charge	Commencement Date to 30 June 2006 (\$/kL)	1 July 2006 to 30 June 2007 (\$/kL)	1 July 2007 to 30 June 2008 (\$/kL)	1 July 2008 to 30 June 2009 (\$/kL)
Tier 1 water usage charge	1.20	1.23 x (1+∆CPI₁)	1.26 x (1+∆CPI <sub>2</sub> )	1.31 x (1+∆CPI <sub>3</sub> )
Tier 2 water usage charge	1.48	1.59 x (1+∆CPI₁)	1.72 x (1+∆CPI₂)	1.85 x (1+∆CPI₃)

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(\$/kL)	(\$/kL)	(\$/kL)	\$/kL)
Unfiltered Water – water usage charge	0.78	0.78 x (1+∆CPI₁)	0.78 x (1+∆CPl <sub>2</sub> )	0.78 x (1+∆CPI <sub>3</sub> )

# Table 3 Water usage charges for Unfiltered Water to Metered Properties

## Table 4 Water service charge for Unmetered Residential Properties

Charge Commencement Date to 30 June 2006		1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(\$)	(\$)	(\$)	(\$)
Water service charge	281.84	370.15 x (1+∆CPI₁)	367.85 x (1+∆CPl <sub>2</sub> )	371.37 x (1+∆CPl₃)

## Table 5 Water service charge for Unmetered Non Residential Properties

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(\$)	(\$)	(\$)	(\$)
Water service charge	164.84	210.25 x (1+∆CPI₁)	204.05 x (1+∆CPl <sub>2</sub> )	201.07 x (1+∆CPI <sub>3</sub> )

# Schedule 2

# Sewerage services

## 1. Application

This schedule sets the maximum prices that the Corporation may charge for services under paragraph (b) of the Order (sewerage services), (other than those set out in schedule 7).

## 2. Categories for pricing purposes

Prices for sewerage services have been determined for 5 categories:

- (a) Residential Properties connected to the Sewerage System;
- (b) Non Residential Properties connected to the Sewerage System;
- (c) Properties not connected to the Sewerage System;
- (d) Blue Mountains septic pump out services; and
- (e) Exempt Land connected to the Sewerage System.

### 3. Charges for sewerage services to Residential Properties

The maximum price that may be levied by the Corporation for sewerage services to a Residential Property connected to the Sewerage System for a Billing Cycle is the sewerage service charge in Table 6 corresponding to the applicable Period in that table, divided by the number of quarters in that Period.

# 4. Charges for sewerage services to Non Residential Properties

- 4.1 The maximum price that may be levied by the Corporation for sewerage services to a Non Residential Property that is connected to the Sewerage System for a Billing Cycle is the sum of the following:
  - (a) the sewerage service charge equal to the higher of:
    - (i) the sewerage service charge in Table 7 (corresponding to the applicable Period and Meter size in that table) divided by the number of quarters in that Period, and then multiplied by the relevant Discharge Factor; and
    - (ii) the sewerage service charge calculated under clause 4.2 of this schedule, divided by the number of quarters in that Period, and then multiplied by a Discharge Factor of 100%; and
  - (b) the sewerage usage charge calculated as follows:

$$\begin{bmatrix} (A \quad x \quad B) & - & C \end{bmatrix} \quad x \quad D$$

Where:

**A** – the water used (in kL) by that Non Residential Property for the Meter Reading Period;

**B** – the Discharge Factor for that Non Residential Property;

C – the Discharge Allowance for that Non Residential Property;

**D** – the sewerage usage charge in Table 8 for the Meter Reading Period (corresponding to the applicable Period in that table and the volume of sewage discharged); and

**volume of sewage discharged** means the resulting volume determined by the [(A x B)] formula in this clause 4.1(b).

- 4.2 For the purposes of clause 4.1(a) of this schedule, if a Non Residential Property:
  - (a) has a resulting charge that is less than a charge for a 20mm Meter with a Discharge Factor of 100%; or
  - (b) does not have a Meter,

then the sewerage service charge levied on that Non Residential Property is taken to be a sewerage service charge for a Meter size of 20mm and a Discharge Factor of 100%.

# 5. Charges for sewerage services to Properties not connected to the Sewerage System

The maximum price that may be levied by the Corporation for sewerage services (other than the Blue Mountains Septic Services) to a Property not connected to the Sewerage System is zero for the period from the Commencement Date until this determination ceases to apply.

# 6. Charges for Blue Mountains Septic Services<sup>1</sup>

The maximum price that may be levied by the Corporation for Blue Mountains Septic Services for a Billing Cycle is the sum of the following:

- (a) the septic pump out service charge in Table 9 (cor responding to the applicable Period in that table) divided by the number of quarters for that Period; and
- (b) the septic pump out usage charge in Table 10, per kL of effluent removed, for the Meter Reading Period corresponding to the applicable Period in that table.

Note: It is understood that from 1 October 2007, the Corporation will no longer be required to provide the Blue Mountains Septic Services to Properties located in the Blue Mountains City Council Area that are able to connect to the Sewerage System regardless of whether they are connected or not.

# 7. Charges for sewerage services to Exempt Land

The maximum price that may be levied by the Corporation for sewerage services to Exempt Land that is connected to the Sewerage System is the charge per water closet or urinal closet in Table 11, corresponding to the applicable Period in that table.

# 8. Levying sewerage service charges on Multi Premises

### 8.1 Sewerage service charges on Multi Premises

- 8.1.1 Clause 8 of this schedule prescribes how the maximum prices in this schedule are to be levied on Multi Premises, specifically how they are to be levied on persons who own, control or occupy those Multi Premises.
- 8.1.2 Clauses 3 and 4 of this schedule do not apply to Properties connected to the Sewerage System if this clause 8 is capable of applying to those Properties.

#### 8.2 Strata Title Building (Residential Property)

- 8.2.1 For a Strata Title Building:
  - (a) which is connected to the Sewerage System; and
  - (b) which has a Common Water Meter or multiple Common Water Meters, or is not serviced by a Meter; and
  - (c) where the majority of the Strata Title Lots (within that Strata Title Building) are Residential Properties,

the maximum price that may be levied by the Corporation for the provision of sewerage services for a Billing Cycle is:

(d) the sewerage service charge in Table 12 corresponding to a Meter size of 20mm and the applicable Period in that table, divided by the number of quarters in that Period (Residential Strata Sewerage Service Charge).

8.2.2 The Residential Strata Sewerage Service Charge is to be levied on each Strata Title Lot.

#### Strata Title Building (Non Residential Property) 8.3

- 8.3.1 For a Strata Title Building:
  - which is connected to the Sewerage System; and (a)
  - which has a Common Water Meter or multiple Common Water Meters or is not (b) serviced by a Meter; and
  - (c) where the majority of the Strata Title Lots (within that Strata Title Building) are Non Residential Properties,

the maximum price that may be levied by the Corporation for the provision of sewerage services for a Billing Cycle is:

- the sewerage service charge in Table 12 (corresponding to the applicable Period (d) in that table) divided by the number of quarters in that Period (Non Residential Strata Sewerage Service Charge); and
- the sewerage usage charge calculated as follows: (e)

- /

$$\begin{bmatrix} (A \quad x \quad B) & - & C \end{bmatrix} \quad x \quad D$$

(the resulting amount being the Strata Sewerage Usage Charge)

Where:

**A** – the water used (in kL) by that Strata Title Building;

**B** – the Discharge Factor for that Strata Title Building;

**C** – the Discharge Allowance determined in accordance with clause 8.3.4;

**D** - the sewerage usage charge in Table 8 for the Meter Reading Period (corresponding to the applicable Period in that table and the volume of sewage discharged); and

volume of sewage discharged means the resulting volume determined by the  $[(A \times B)]$  formula in this clause 8.3.1(e).

- 8.3.2 The Non Residential Strata Sewerage Service Charge is to be levied on each Strata Title Lot.
- 8.3.3 The Strata Sewerage Usage Charge is to be levied on the Owners Corporation of that Strata Title Building.
- 8.3.4 For the purpose of clause 8.3.1(e), the 'Discharge Allowance' in Table 8 is increased by multiplying it by the number of Strata Title Lots in that Strata Title Building.

#### 8.4 Multi Premises (Residential Property) other than a Strata Title Building

For a Multi Premises (which is not a Strata Title Building) and:

- (a) which is connected to the Sewerage System; and
- (b) which has a Common Water Meter or multiple Common Water Meters; and
- (c) where the majority of the Properties within that Multi Premises are Residential Properties,

the maximum price that may be levied by the Corporation on the owner of that Multi Premises for the provision of sewerage services to that Multi Premises for a Billing Cycle is:

$$\frac{A \quad x \quad B}{C}$$

Where:

**A** - the sewerage service charge in Table 12 (corresponding to the applicable Period in that table);

**B** – the number of Properties within that Multi Premises;

C - the number of quarters in that Period.

#### 8.5 Multi Premises (Non Residential Property) other than a Strata Title Building

For a Multi Premises (which is not a Strata Title Building) and:

- (a) which is connected to the Sewerage System; and
- (b) which has a Common Water Meter or multiple Common Water Meters; and
- (c) where the majority of the Properties within that Multi Premises are Non Residential Properties,

the maximum price that may be levied by the Corporation on the owner of that Multi Premises for the provision of sewerage services to that Multi Premises for a Billing Cycle is the sum of the following:

- (d) the sewerage service charge equal to the higher of:
  - (i) the sewerage service charge in Table 7 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table) divided by the number of quarters in that Period and then multiplied by the relevant Discharge Factor; and
  - (ii) the sewerage service charge calculated under clause 8.6 of this schedule, divided by the number of quarters in that Period and then multiplied by the Discharge Factor of 100%;

and

(e) the sewerage usage charge calculated as follows:

$$\begin{bmatrix} (A \quad x \quad B) & - & C \end{bmatrix} \quad x \quad D$$

Where:

A – the water used (in kL) by that Multi Premises;

**B** – the Discharge Factor for that Multi Premises;

C – the Discharge Allowance for that Multi Premises;

**D** – the sewerage usage charge in Table 8 for the Meter Reading Period (corresponding to the applicable Period in that table and the volume of sewage discharged); and

**volume of sewage discharged** means the resulting volume determined by the [(A x B)] formula in this clause 8.5(e).

- 8.6 For the purposes of clause 8.5(d) of this schedule, if a Multi Premises:
  - (a) has a resulting charge that is less than a charge for a 20mm Meter with a Discharge Factor of 100%; or
  - (b) does not have a Meter,

then the sewerage service charge levied on that Multi Premises is taken to be a sewerage service charge for a Meter size of 20mm and a Discharge Factor of 100%.

# Tables 6, 7, 8, 9, 10, 11 and 12

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Wastewater service charge – all customers	280.59	378.86 x (1+∆CPI₁)	383.65 x (1+∆CPI₂)	388.50 x (1+∆CPI <sub>3</sub> )

#### Table 6 Sewerage service charge for Residential Properties

Table 7 Sewerage service charge for Non Residential Properties<sup>2</sup>

Charge	Commencement Date to	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
_	(\$)		(\$)	(\$)
Meter size				
20mm	280.59	378.86 x (1+∆CPI₁)	383.65 x (1+∆CPI₂)	388.50 x (1+∆CPI <sub>3</sub> )
25mm	438.43	591.96 x (1+∆CPI₁)	599.45 x (1+∆CPI₂)	607.02 x (1+∆CPI <sub>3</sub> )
30mm	631.34	852.42 x (1+∆CPI₁)	863.20 x (1+∆CPI₂)	874.12 x (1+∆CPI <sub>3</sub> )
32mm	718.32	969.87 x (1+∆CPI₁)	982.13 x (1+∆CPI₂)	994.55 x (1+∆CPI <sub>3</sub> )
40mm	1,122.38	1,515.42 x (1+∆CPI₁)	1,534.58 x (1+∆CPI₂)	1,553.98 x (1+∆CPI <sub>3</sub> )
50mm	1,753.71	2,367.85 x (1+∆CPI₁)	2,397.78 x (1+∆CPI₂)	2,428.10 x (1+∆CPI <sub>3</sub> )
65mm	2,963.77	4,001.66 x (1+∆CPI <sub>1</sub> )	4,052.25 x (1+∆CPI₂)	4,103.49 x (1+∆CPI <sub>3</sub> )
80mm	4,489.50	6,061.68 x (1+∆CPI₁)	6,138.33 x (1+∆CPI₂)	6,215.94 x (1+∆CPI₃)
100mm	7,014.84	9,471.38 x (1+∆CPI₁)	9,591.13 x (1+∆CPI₂)	9,712.40 x (1+∆CPI <sub>3</sub> )
150mm	15,783.40	21,310.61 x (1+∆CPI₁)	21,580.05 x (1+∆CPI₂)	21,852.90 x (1+∆CPI <sub>3</sub> )
200mm	28,059.38	37,885.53 x (1+∆CPI₁)	38,364.53 x (1+∆CPI₂)	38,849.59 x (1+∆CPI <sub>3</sub> )
For Meter sizes not specified above, the following formula applies		(Meter size) <sup>2</sup> x 2	20mm charge/400 x df%	

2 The prices in Table 7 assume the application of a Discharge Factor of 100%. The relevant Discharge Factor may vary from case to case, as determined by the Corporation. A pro rata adjustment shall be made where the df% is less than 100%.

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(⊅/KL)	(\$/KL)	(⊅/KL)	(⊅/KL)
Sewerage usage charge				
volume of sewage discharged <sup>3</sup> ≤ Discharge Allowance	0	0	0	0
volume of sewage discharged <sup>3</sup> > Discharge Allowance	1.19	1.20 x (1+∆CPI₁)	1.22 x (1+∆CPl₂)	1.23 x (1+∆CPI₃)

## Table 8 Sewerage usage charge for Non Residential Properties

3 Please refer to the relevant clause 4.1(b) or clause 8.3.1(e) or clause 8.5(e) for the calculation of "volume of sewage discharged".

Table 9	Blue Mountains Septic Service charge
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	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Septic pump out service	384.38	512.00 x (1+∆CPI <sub>1</sub> )	512.00 x (1+∆CPl <sub>2</sub> )	512.00 x (1+∆CPI <sub>3</sub> )

# Table 10 Blue Mountains Septic Service usage charge

Charge	Commencement Date to	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(\$/kL)	(\$/kL)	(\$/kL)	(\$/kL)
Septic pump out usage charge ≤100kL of effluent removed per annum	0	0	0	0
Septic pump out usage charge >100kL of effluent removed per annum	12.30	12.30 x (1+∆CPI₁)	12.30 x (1+∆CPI.₂)	12.30 x (1+∆CPI₃)

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Per water closet or urinal closet	61.79	82.39 x (1+∆CPI₁)	82.39 x (1+∆CPI₂)	82.39 x (1+∆CPI <sub>3</sub> )

Table	11	Sewerage	charge	for	Exempt	Land
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Table 12 S	Sewerage service charge to a Multi Premises with a Common Water	Meter or
	not serviced by a Meter	

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Sewerage service charge	280.59	378.86 x (1+∆CPI₁)	383.65 x (1+∆CPI₂)	388.50 x (1+∆CPl <sub>3</sub> )

# Schedule 3

# Stormwater drainage services

## 1. Application

- 1.1 This schedule sets the maximum prices that the Corporation may charge for services under paragraph (c) of the Order (stormwater drainage services).
- 1.2 Clauses 3 and 4 of this schedule do not apply to Properties if clause 5 is capable of applying to those Properties and is so applied.

## 2. Categories for pricing purposes

Prices for stormwater drainage services have been determined for 2 categories:

- (a) Residential Properties and Vacant Land; and
- (b) Non Residential Properties,

that are within a Stormwater Drainage Area.

# 3. Charges for stormwater drainage to Residential Properties and Vacant Land

The maximum price that may be levied by the Corporation for stormwater drainage services to a Residential Property or Vacant Land, (each within a Stormwater Drainage Area) for a Billing Cycle is the stormwater drainage service charge in Table 13, corresponding to the applicable Period in that table, divided by the number of quarters in that Period.

### 4. Charges for stormwater drainage to Non Residential Properties

The maximum price that may be levied by the Corporation for stormwater drainage services to a Non Residential Property that is within a Stormwater Drainage Area for a Billing Cycle is the stormwater drainage service charge in Table 14, corresponding to the applicable Period in that table, divided by the number of quarters in that Period.

# 5. Multi Premises which is not a Strata Title Building, Company Title Building or Community Parcel

- 5.1 For a Multi Premises which:
  - (a) is not a Strata Title Building, a Company Title Building or a Community Parcel; and
  - (b) is within a Stormwater Drainage Area,

the maximum price that may be levied by the Corporation on the owner of that Multi Premises for stormwater drainage services for a Billing Cycle is the sum of the following:

(1) **for all the Non Residential Properties within that Multi Premises** - the stormwater drainage service charge in Table 14 (corresponding to the

applicable Period in that table) divided by the number of quarters in that Period; and

(2) **for all the Residential Properties within that Multi Premises** - the stormwater drainage service charge in Table 13 (corresponding to the applicable Period in that table) divided by the number of quarters in that Period and then multiplied by the total number of Residential Properties within that Multi Premises.

# Tables 13 and 14

 Table 13 Stormwater drainage service charge for Residential Properties and Vacant

 Land

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Stormwater drainage service charge	24.60	37.00 x (1+∆CPI <sub>1</sub> )	41.22 x (1+∆CPI <sub>2</sub> )	45.44 x (1+∆CPI₃)

## Table 14 Stormwater drainage service charge for Non Residential Properties

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Stormwater drainage service charge	61.50	94.61 x (1+∆CPI₁)	107.26 x (1+∆CPI₂)	115.71 x (1+∆CPI₃)

# Schedule 4

# **Rouse Hill Development Area**

## 1. Application

- 1.1 This schedule sets the maximum prices that the Corporation may charge the Properties in the Rouse Hill Development Area for services under paragraph (g) of the Order (other water supply, sewerage and drainage services for which no alternative supply exists).
- 1.2 The maximum prices in this schedule are in addition to the prices applying to the Properties in the Rouse Hill Development Area under schedules 1, 2, 3, 5, 6 and 7.

## 2. Categories for pricing purposes

The prices in this schedule have been determined only for Properties in the Rouse Hill Development Area.

## 3. Charges to Properties in the Rouse Hill Development Area.

The maximum price that may be levied by the Corporation for the provision of recycled water and drainage services to the Properties in the Rouse Hill Development Area for a Billing Cycle is the sum of the following:

- (a) the recycled water usage charge in Table 15 for the Meter Reading Period, corresponding to the applicable Period in that table; and
- (b) the recycled water service access charge in Table 16, corresponding to the applicable Meter size and Period in that table, divided by the number of quarters in that Period; and
- (c) the river management charge (drainage) in Table 17, corresponding to the applicable Period and the relevant land size in that table, divided by the number of quarters in that Period.

# Tables 15, 16 and 17

## Table 15 Recycled water usage charge

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(\$/KL)	(\$/KL)	(\$/KL)	(\$/KL)
Recycled water usage charge)	0.293	0.293 x (1+∆CPI₁)	0.293 x (1+∆CPI <sub>2</sub> )	0.293 x (1+∆CPI <sub>3</sub> )

## Table 16 Recycled water service access charge

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Recycled water service access charge - Meter size				
20mm	18.99	25.32 x (1+∆CPI₁)	25.32 x (1+∆CPI <sub>2</sub> )	25.32 x (1+∆CPI <sub>3</sub> )
For Properties with Meter size >20mm the formula to apply is	(nomi	nal diameter) <sup>2</sup> x (ch	arge for 20mm Mete	er)/400

# Table 17 River management charge (drainage)

Charge	Commencement Date to	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	(\$)	(\$)	(\$)	(\$)
River management charge (drainage)				
Non Residential Properties with land size ≤ 1000m <sup>2</sup> and Residential Properties	80.99	107.98 x (1+∆CPI₁)	107.98 x (1+∆CPI₂)	107.98 x (1+∆CPI₃)
Non Residential Properties with land size > 1000m <sup>2</sup>	80.99 x ((land area m²)/1000)	107.98 x ((land area m²)/1000) x (1+∆CPI <sub>1</sub> )	107.98 x ((land area m²)/1000)x (1+∆CPl₂)	107.98 x ((land area m²)/1000) x (1+∆CPl₃)

# Schedule 5

# Trade waste services

## 1. Application

This schedule sets the maximum prices that the Corporation may charge for services under paragraph (d) of the Order (trade waste services).

## 2. Categories for pricing purposes

Prices for trade waste services have been determined for 2 categories:

- (a) Industrial Customers that discharge trade waste into the Sewerage System; and
- (b) Commercial Customers that discharge trade waste into the Sewerage System.

## 3. Charges for trade waste services to Industrial Customers

3.1 The maximum price that may be levied by the Corporation for trade waste services to Industrial Customers is the sum of the following:

#### (a) from the Commencement Date to 30 June 2006:

- (i) the industrial agreement charge in Table 18, corresponding to the applicable risk index determined by the Corporation; and
- (ii) the charge in Table 19 and the charge corresponding to the threat level (determined by the Corporation) in Table 20 for the total mass of waste substances discharged that are in excess of the domestic equivalent for waste substance concentrations; and

#### (b) for each Period from 1 July 2006 to 30 June 2009:

- (i) the industrial agreement charge in Table 18, corresponding to the applicable risk index determined by the Corporation, as varied under clause 5 of this schedule; and
- (ii) the charge in Table 19 and the charge corresponding to the threat level (determined by the Corporation) in Table 20 for the total mass of waste substances discharged that are in excess of the domestic equivalent for waste substance concentrations, as varied under clause 5 of this schedule.
- 3.2 For the purpose of clauses 3.1(a)(ii) and 3.1(b)(ii) of this schedule, a reference to "domestic equivalent for waste substance concentrations" is a reference to average concentrations of that substance over time and/or volume of discharge, determined in accordance with the Trade Waste Policy.
- 3.3 The maximum price that may be levied by the Corporation for the total waste substance concentrations in excess of the acceptance standard in Tables 19 and 20 is:
  - (a) **from the Commencement Date to 30 June 2006** the corresponding charge in those tables; and
  - (b) **for each Period from 1 July 2006 to 30 June 2009 -** the corresponding charge in those tables, as varied under clause 5 of this schedule,

doubled and applied to the entire mass of the substance discharged that is in excess of the domestic equivalent (rather than only to the amount that is in excess of the acceptance standard, excluding sulphate.

- 3.4 If the Corporation determines that a substance is either a critical substance or an over capacity substance, (in accordance with the Trade Waste Policy), then:
  - (a) **from the Commencement Date to 30 June 2006 -** the charges in Tables 19 and 20; and
  - (b) **for each Period from 1 July 2006 to 30 June 2009** the charges in Tables 19 and 20, as varied under clause 5 of this schedule,

are to be multiplied by the charging rate multiplier in Table 21, and applied to so much of the mass of the substance that is 1.5 times in excess of the Industrial Customer's long term average daily mass (LTADM), as defined in the Corporation's Trade Waste Policy. (This is in addition to the charges that apply to the mass of the substance that is equal to or less than the customer's LTADM).

3.5 For the avoidance of doubt, where applicable, both of clauses 3.3 and 3.4 of this schedule may apply to determine the charge payable for a particular substance.

# 4. Charges for trade waste services to Commercial Customers

- 4.1 The maximum price that may be levied by the Corporation for trade waste services to Commercial Customers is the sum of the following:
  - (a) from the Commencement Date to 30 June 2006:
    - (i) the commercial agreement charge in Table 22;
    - (ii) the volumetric charge equal to the higher of:
      - (1) the minimum annual charge in Table 23; and
      - (2) the volumetric charge in Table 23, corresponding to the applicable charging code determined in accordance with the Trade Waste Policy; and
    - (iii) the wastesafe charge in Table 24; and

#### (b) for each Period from 1 July 2006 to 30 June 2009:

- (i) the commercial agreement charge as in Table 22, as varied under clause 5 of this schedule;
- (ii) the volumetric charge equal to the higher of:
  - (1) the minimum annual charge in Table 23, as varied under clause 5 of this schedule; and
  - (2) the volumetric charge in Table 23, as varied under clause 5 of this schedule, corresponding to the applicable charging code determined in accordance with the Trade Waste Policy; and
- (iii) the wastesafe charge in Table 24, as varied under clause 5 of this schedule.

# 5 Variation of charges

Each charge in Tables 18, 19, 20, 22, 23 and 24 (inclusive) is varied as follows:

- (a) from 1 July 2006 to 30 June 2007 that charge is to be multiplied by  $(1+\Delta CPI_1)$ ;
- (b) from 1 July 2007 to 30 June 2008 that charge is to be multiplied by  $(1+\Delta CPI_2)$ ; and
- (c) from 1 July 2008 to 30 June 2009 that charge is to be multiplied by  $(1+\Delta CPI_3)$ .

# Tables 18, 19, 20, 21, 22, 23 and 24

Industrial agreeme	ent charges Commen	cement Date to 30 Jur	ne 2006	
Risk index	Standard (\$ per quarter)	With direct electronic reporting (DER) (\$ per quarter)	With on-line monitoring (OLM) (\$ per quarter)	With DER and OLM (\$ per quarter)
1	5,402.63	4,862.36	4,322.11	3,781.84
2	4,876.96	4,389.27	3,901.57	3,413.87
3	2,277.87	2,049.75	1,822.30	1,594.51
4	1,284.94	1,156.45	1,027.95	899.46
5	496.44	446.79	397.16	347.51
6	175.20	157.74	140.17	122.64
7	116.80	105.12	93.44	81.75

# Table 18 Industrial agreement charge

Substance	Acceptance standard	Domestic equivalent	Charges Commencement Date to 30 June 2006
	(mg/L)	(mg/L)	(\$/kg)
Suspended solids	600	200	0.745
BOD – to primary STP	See notes 2 and 3	230	0.104+[0.0169x (BOD mg/L) / 600]
BOD – to secondary/tertiary STP	See notes 2 and 3	230	0.587+[0.0169x (BOD mg/L) / 600]
Grease	Primary 110 Secondary/tertiary 200	50	1.050
Ammonia (as N)	100	35	1.741
Nitrogen (inland only)	150 see note 4	50	0.147
Phosphorus (inland only)	50 see note 4	10	1.164
Sulphate (SO <sub>4</sub> )	2,000	50	0.115x[SO4 mg/L]/2000
Total dissolved solids (ocean systems, no discharge limitation)	10,000	450	0.005
Total dissolved solids (inland systems and ocean systems, with discharge limitation)	Determined by system	450	0.005
Total Dissolved Solids (inland and ocean systems, with advanced treatment to remove TDS)	Determined by system	450	0.15 x fraction of average dry weather flow treated

Table 19 Acceptance standards and quality charges for domestic substances

Notes:

1. The mass of any substance (with the exception of sulphate (S0<sub>4</sub>)) discharged at a concentration which exceeds the nominated acceptance standard will be charged at double the rate for the entire mass for non-domestic substances (including any critical substance charges), and for the mass above domestic equivalent for domestic substances. Concentration is determined by daily composite sampling by either the customer or Sydney Water. Customers who enter into an approved water conservation program may be eligible for flat rate BOD and sulfate charges and will not incur the doubling of the charging rate if certain acceptance standards are exceeded.

2. The oxygen demand of effluent is specified in terms of BOD<sub>5</sub>. Where a reliable correlation can be shown to exist between BOD and another test, Sydney Water may be prepared to accept results based on this alternative test.

3. Acceptance standards for BOD and total dissolved solids are to be determined by the transportation and treatment capacity of the receiving system and the end use of sewage treatment products.

4. Nitrogen and phosphorus limits do not apply where a sewage treatment plant (to which the customer's sewerage system is connected) discharges directly to the ocean.

Threat level	Acceptance standard (mg/L)	Charge Commencement Date to 30 June 2006 (\$/kg)
0	Provisional	0
1	10,000	0.005
2	5,000	0.01
3	1,000	0.06
4	500	0.11
5	300	0.21
6	100	0.59
7	50	1.16
8	30	1.93
9	20	2.89
10	10	5.84
11	5	11.67
12	3	19.26
13	2	29.17
14	1	58.40
15	0.5	116.81
16	0.1	584.04
17	0.05	1,168.13
18	0.03	1,927.38
19	0.01	5,840.30
20	0.005	11,680.59
21	0.0001	584,029.66

Table 20	Threat level based on the acceptance standards and associated charges for
	non domestic substances

 Table 21 Charges for critical substances and over capacity substances

Substance status	Charging rate multiplier	
Critical	2	
Over capacity	3	

Charge	Commencement Date to 30 June 2006 (\$/quarter)	
Commercial agreement charge		
First process	17.50	
Each additional process	5.83	

# Table 22 Commercial agreement charge

# Table 23 Volumetric charge for Commercial Customers

Charging code	Volumetric charge (\$/kL)	Charging code	Volumetric charge (\$/kL)	
A	0.00	К	3.24	
В	0.00	L	5.41	
С	0.02	Μ	7.57	
D	0.05	Ν	10.81	
E	0.10	0	12.98	
F	0.32	Р	16.24	
G	0.54	Q	21.64	
Н	0.75	R	32.46	
I	1.08	S	54.10	
J	2.15			
Where the volume of trade wastewater is assessed, a minimum annual charge (all codes) of \$58.77 applies				

Charge	Commencement Date to 30 June 2006 (\$/kL)	
Wastesafe charge	0.108	

# Schedule 6

# Ancillary and miscellaneous customer services

## 1. Application

This schedule sets the maximum prices that the Corporation may charge for services under paragraph (f) of the Order (ancillary and miscellaneous customer services for which no alternative supply exists).

## 2. Charges for ancillary and miscellaneous services

- 2.1 The maximum charge that may be levied by the Corporation for an ancillary and miscellaneous service in Table 25 is:
  - (a) **from the Commencement Date to 30 June 2006** the corresponding charge in Table 25;
  - (b) from 1 July 2006 to 30 June 2007 the corresponding charge in Table 25 multiplied by  $(1+\Delta CPI_1)$ ;
  - (c) from 1 July 2007 to 30 June 2008 the corresponding charge in Table 25 multiplied by  $(1+\Delta CPI_2)$ ; and
  - (d) from 1 July 2008 to 30 June 2009 the corresponding charge in Table 25 multiplied by  $(1+\Delta CPI_3)$ .
- 2.2 A reference in Table 25 to "NA" means that the Corporation does not provide the relevant service.

No.	Ancillary and miscellaneous services	Charges from Commencement Date to 30 June 2006 (\$)
1	Conveyancing Certificate	
	a) Over the Counter b) Electronic	17.50 7.00
2	<b>Property Sewerage Diagram-up to and including A4 size- (where available)</b> (Diagram showing the location of the house-service line, building and sewer for	
	a) Claratified b) Uncertified	NA
	i. Over the Counter	20.00
		10.00
3	Service Location Diagram (Location of sewer and/or Water Mains in relation to a property's boundaries) a) Over the Counter	20.00
	b) Electronic	10.00
4	Special Meter Reading Statement	26.00
5	Billing Record Search Statement – up to and including 5 years.	33.00
6	Building over or Adjacent to Sewer Advice (Statement of Approval Status for existing Building Over or Adjacent to a Sewer)	29.00
7	Water Reconnection	20.00
	<ul><li>b) Outside business hours (if requested)</li></ul>	134.00
8	<b>Workshop Test of Water Meter</b> (Removal and full mechanical test of the meter by an accredited organisation at the customer's request to determine the accuracy of the water meter. This involves dismantling and inspection of meter components)	
	20mm	165.50
	25mm 32mm	165.50 165.50
	40mm 50mm	165.50 165.50
	60mm 80mm	NA 165 50
	100mm 150mm	NA
		NA
	20mm	NA
	>20mm	NA
9	Water main disconnection a) Application for Disconnection- <i>(all sizes)</i> b) Physical Disconnection	72.00 NA
10	<b>Application for Water Service Connection-(up to and including 25mm)</b> (This covers the administration fee only. There will be a separate charge payable to the utility if they also perform the physical connection)	35.00
11	Application for Water Service Connection-(32-65mm) (This covers administration and system capacity analysis as required)	226.00

# Table 25 Charges for ancillary and miscellaneous services
No.	Ancillary and miscellaneous services	Charges from Commencement Date to 30 June 2006 (\$)
12	Application for Water Service Connection-(80mm or greater) (This covers administration and system capacity analysis as required)	246.00
	Multiple and large services	
13	<b>Application to assess a Water main Adjustment</b> (Moving a fitting and/or adjusting a section of water main up to and including 25 metres in length) This covers preliminary advice as to the feasibility of the project and will result in	
	either: 1. A rejection of the project in which cases the fee covers the associated investigation costs	NA
	Or 2. Conditional approval in which case the fee covers the administrative costs associated with the investigation and record amendment.	NA
14	<b>Standpipe Hire</b> Security Bond (25mm) Security Bond (63mm)	NA NA
15	Standpipe Hire Annual Fee	see meter size price for Metered Non Residential Properties in table 1
	(20mm) (32mm) (50mm) Quarterly Fee	of schedule 1
	(20mm) (32mm) (50mm)	NA NA NA
	Monthly Fee (20mm) (32mm) (50mm)	NA NA NA
	I ri-annual Fee (20mm) (32mm) (50mm)	NA NA NA
16	Standpipe Water Usage Fee	see water usage price in table 2 of schedule 1
17	Backflow Prevention Device Application and Registration Fee (This fee is for initial registration of the backflow device)	NA
18	<b>Backflow Prevention Application Device Annual Administration Fee</b> ( <i>This fee is for the maintenance of records including logging of inspection reports</i> )	NA
19	<b>Major Works Inspections Fee.</b> (This fee is for the inspection, for the purposes of approval of water and sewer mains, constructed by others, that are longer than 25 metres and/or greater than 2 metros in depth)	
	Z meures in depun) Water Mains (\$ per Metre)	NA
	Gravity Sewer Mains (\$per Metre) Rising Sewer Mains (\$per Metre) Reinspection	NA NA

No.	Ancillary and miscellaneous services	Charges from Commencement Date to 30 June 2006 (\$)		
20	Statement of Available Pressure and Flow		\$160.00	
No.	Ancillary and miscellaneous services		Commencement Date to 30 June 2006 Fixed Hourly	
		charges (\$)	charges (\$)	
21	<b>Diagram Discrepancy – known as HS85</b> Application for Sydney Water to undertake a Property Sewerage Diagram estimation for a property where no diagram currently exists	130.00	NA	
22	<b>Request for Asset Construction Details</b> Detailed map of Sydney Water assets indicating water, sewer and drainage.	70.00	NA	
23	Sydney Water Supply System Diagram	30.00	105.00 plus 1.00 per lot for water, 1.25 for water and sewerage.	
	Large Hydra Plan showing water, sewer and drainage assets, covering a large area in a single plot.			
24	<b>Building Plan Approval</b> Approval of building/development plans certifying that the proposed construction does not adversely impact on Sydney Water's assets.	23.00	NA	
25	Water main Adjustment Application Application for Sydney Water to investigate the feasibility of relocating or adjusting an existing water main.	156.00	NA	
26	Water main Fitting Adjustment Application Application for an Accredited Supplier to lower or raise an existing water main fitting.	102.00	NA	
27	<b>Pump Application – Water</b> Application for approval of an installation of a pump on the domestic or fire service, serving a property.	131.00	NA	
28	<b>Extended Private Service Application</b> Application for Sydney Water to investigate the feasibility of permitting an extended private water service to provide a point of connection.	101.00	NA	
29	<b>Sewer Junction Connection Application</b> Application for an Accredited Supplier to insert a junction into Sydney Water's sewer line.	121.00	NA	
30	Sewer Sideline Connection Application Application for an Accredited Supplier to extend a junction to provide a suitable point of connection.	121.00	NA	
31	<b>Sewer main Adjustment Application</b> Application for Sydney Water to investigate the feasibility of relocating or adjusting a sewer main.	156.00	NA	
32	Vent Shaft Adjustment Application Application for Sydney Water to investigate the feasibility of relocating or disusing a sewer vent shaft and an Accredited Supplier to undertake the work.	213.00	NA	

No.	Ancillary and miscellaneous services	Commencement Date to 30 June 2006		
		Fixed charges (\$)	Hourly charges (\$)	
33	<b>Disuse of Sewer Application</b> Application for a Sydney Water to investigate the feasibility to disuse an existing Sydney Water sewer.	134.00	NĂ	
34	<b>Pier Supervision Application</b> Application for Sydney Water to supervise the piercing of an existing sewer. The application and work must be carried out by an approved supplier.	73.00	105.00	
35	<b>Concrete Encasement Supervision Application</b> Application for Sydney Water to supervise the encasement of an existing sewer. The application and work must be carried out by an approved supplier.	73.00	105.00	
36(a)	<b>Plumbing and Drainage Inspection Application</b> Application for Sydney Water to inspect any new sewer or drainage connections. This includes the drawing up of property sewerage diagrams on completion.	59.00	NA	
36(b)	<b>Plumbing and Drainage Inspection Fee</b> Fee per inspection for Sydney Water to inspect any new sewer or drainage connections. NB: Application fee also applies.	72.00	NA	
36 (c)	<b>Plumbing and Drainage Re -inspection Fee</b> Fee per re-inspection for Sydney Water to inspect any sewer or drainage connections. NB: Application fee does not apply.	72.00	NA	
37	<b>Connection to Stormwater Channel Approval Application</b> Application for approval to connect to Sydney Water's stormwater channel greater than 300mm.	255.00	NA	
38	Inspection of Break In Stormwater Channel Application Application for an inspection of a connection to Sydney Water's stormwater channel greater than 300mm	204.00	NA	
39	<b>Inspection of Drainage Lines Application</b> Application for an inspection of drainage lines from stormwater connection to silt arrestor and updating of records.	112.00	NA	
40	<b>Review of Hydraulic Plans</b> Application for Sydney Water to examine hydraulic drawings to determine if internal drainage meets plumbing regulations. Water and fire hydraulics to be submitted and examined individually.	43.00	105.00	
41(a)	Subdivider/Developer Compliance Certificate (also known as a Section 73) Application for a subdivider/developer compliance certificate stating whether a proposed development complies with Section 73 of the Sydney Water Act (1994). In addition, developer charges and various requirements may apply.	325.00	NA	
41(b)	<b>Feasibility application</b> Lodgement of an application for an indication of potential servicing requirements. This also includes an indication on developer charges for a development proposal. Formerly included in subdivider development application.	325.00	NA	
41(c)	Road Closure Application Lodgement of an application for a permanent road closure. Formerly included in subdivider development application	197.00	NA	

No.	Ancillary and miscellaneous services	Commencement Date to 30 June 2006		
		Fixed charges (\$)	Hourly charges (\$)	
42	<b>Developer Investigation Fee</b> Investigation of expanding reticulation systems to cater for developments requirements and to safeguard Sydney Water's assets.	see service 41	105.00	
43	<b>Design and Construct Contract Administration</b> Performance of various activities to ensure the quality of the work under contract during the development and to safeguard Sydney Water's assets.	NA	105.00	
44	Minor Extension Approval Application (changed name to Water and Sewer Extension Application) Application for approval to undertake a minor extension of an existing service or for expanding reticulation systems for a development.	180.00	NA	
45	<b>Hydrant Resealing</b> Charge levied on the property owner to reseal a fire hydrant to prevent illegal use of unmetered water.	17.00	NA	
46	<b>Dishonoured or Declined Payment Fee</b> Fee for dishonoured reversal/payment processing where a financial institute declined a payment to Sydney Water.	18.20	NA	
47(a)	<b>Cancellation of Plumbers Permit</b> Application for Sydney Water to cancel a plumber's permit where both parties sign the application	NA	NA	
47(b)	<b>Cancellation of Plumbers Permit</b> Application for Sydney Water to cancel a plumber's permit where only one signatory is received.	52.00	NA	
48	<b>Plumbing and Drainage Quality Assurance Application</b> New charge which is expected to be utilised when Sydney Water's Quality Assurance audit role becomes effective. With Sydney Water's Plumbing and Drainage inspectors moving towards a Quality Assurance role.	150.00	NA	
49	Hourly Rate – Technical Services Hourly rate for provision of expertise and technical services	NA	105.00	
50(a)	Trade waste miscellaneous charges Industrial and commercial trade waste inspections	NA	60.00	
	- with two Sydney Water representative Minimum increment	NA 30.00	120.00 NA	
50(b)	<b>Trade waste application fees for industrial customers only</b> - <i>Standard</i> - <i>Non Standard</i> – where an assessment of pollutants is not covered in the Corporation's Trade Waste Policy, that assessment will be charged at the standard hourly rate plus analytical costs incurred by the Corporation in assessing the wastewater to be discharged, up to a maximum of \$20,000	240.00 NA	NA 108.00	
50(1)	- Variation	288.00	NA	
50(c)	Product authorisation / assessment Applicable to commercial customers only - Application fee - Assessment fee	216.00 NA	NA 105.00	
50(d)	Sale of trade waste data	NA	105.00	

No.	Ancillary and miscellaneous services	Commencement Date to 30 June 2006		
		Fixed charges (\$)	Hourly charges (\$)	
51	Alternative Water Inspection Fee Alternative Water Inspection application for Sydney Water to review the proposed connection to an alternative water source i.e. bore water, grey water. This includes updating the sewerage service diagram on completion.	210.00	NĂ	
52	Hourly Rate – Civil Maintenance	NA	75.00	

## **Schedule 7**

### **Minor Service Extensions**

#### 1. Application

This schedule sets the maximum prices that the Corporation may charge for certain services under paragraph (a) of the Order (water supply services) and paragraph (b) of the Order (sewerage services).

#### 2. Prices for minor service extensions

- 2.1 The maximum price that the Corporation may charge for the provision of water and sewerage services that constitute a Minor Service Extension is the price calculated under clause 3 of this schedule.
- 2.2 The price calculated under clause 3 of this schedule may only be levied by the Corporation on a Property after the Application Date corresponding to that Property.

#### 3. Calculating the price

3.1 The maximum price for the services described in clause 2.1 of this schedule, when the Connection Date is the same as the Availability Date, is the price determined by the following formula:

$$P0 = \left[\frac{\left(PV(K) - PV(R - C)\right)}{PV(S)}\right]$$

3.2 The maximum price for the services described in clause 2.1, when the Connection Date is within the Year following the Availability Date, is the price determined by the following formula:

$$P1 = P0 \times (\theta CPI_{R})$$

3.3 The maximum price for the services described in clause 2.1 of this schedule, when clauses 3.1 and 3.2 of this schedule do not apply, is the price determined by the following formula:

$$Pt = P0 \times [(\theta CPI_A) \times ... \times (\theta CPI_B)]$$

3.4 In clauses 3.1, 3.2 and 3.3 of this schedule:

*P0* is the price per Equivalent Tenament that the Corporation may levy under clause 2.2 of this schedule calculated on the Availability Date.

*P1* is the price per Equivalent Tenament that the Corporation may levy under clause 2.2 of this schedule when the Connection Date is within the Year following the Availability Date.

*Pt* is the price per Equivalent Tenament that the Corporation may levy under clause 2.2 of this schedule when clauses 3.1 and 3.2 of this schedule do not apply.

**PV** means:

- (a) when applied to K or (R-C) , the present value of K or (R-C) (as the case may be), applying a discount rate of 7 per cent;
- (b) when applied to S, the present value of S (over the same period as that used to calculate R), applying a discount rate of 7 per cent.

*K* is the total capital cost of the Minor Service Extension to which this schedule applies.

**R** is the estimated future revenue to be derived in a given Year from the provision of a Minor Service Extension to the owners of the Properties capable of being connected to the Water Supply System or Sewerage System, following a Minor Service Extension.

C is the estimated future operating, maintenance and administration costs expected to be spent on customers serviced by the Minor Service Extension.

*S* is so much of Equivalent Tenament that the Corporation estimates is attributable to connections in each of the Years, following a Minor Service Extension.

*Equivalent Tenament* in relation to a Minor Service Extension is a unit of measure of the additional load that the Corporation estimates is placed on its Water Supply System or Sewerage System from a Property being connected to those systems following the Minor Service Extension expressed as a proportion of the load placed on those systems by an average Residential Property (where 'average Residential Property" is determined by the Corporation from time to time).

**Year** means a period of twelve months commencing 1 July and ending on 30 June in the ensuing calendar year.

 $\theta CPI_A$  is:

(a) the sum of the CPIs for each of the four quarters in the Year immediately following the Availability Date

#### divided by

(b) the sum of the CPIs for each of the four quarters in the Year of the Availability Date.

#### $\theta CPI_B$ is:

(a) the sum of the CPIs for each of the four quarters in the Year immediately preceding the Connection Date

divided by

(b) the sum of the CPIs for each of the four quarters in the Year immediately preceding the earliest quarter in paragraph (a).

#### "..." denotes:

- (a) the number of Years between the Year following the Availability Date and the Connection Date; and
- (b) that in each of the Years in paragraph (a) there is to be applied an index which is:
  - (i) the sum of the CPIs for each of the four quarters of that Year;

divided by

(ii) the sum of the CPIs for each of the four quarters of the Year immediately preceding the Year in paragraph (i).

3.5 For example, if the proposed Availability Date for a Property is January 2005, and the Connection Date for that Property is May 2008, the charge under clause 2.2 of this schedule is calculated by applying the formula in clause 3.3 of this schedule as follows:

 $P_{example}$  = Connection price<sub>2005</sub> x ( $\theta$ CPI<sub>2006</sub>) x ( $\theta$ CPI<sub>2007</sub>) x ( $\theta$ CPI<sub>2008</sub>)

Where:

 $P_{example}$  means the price that may be levied by the Corporation in this example,

Connection price<sub>2005</sub> means the price for connection at the Availability Date, which is

the amount derived from  $\left[\frac{\left(PV(K) - PV(R - C)\right)}{PV(S)}\right]$ 

$$\theta \text{CPI}_{2006} = \left( \frac{CPI_{Sept2005} + CPI_{Dec2005} + CPI_{Mar2006} + CPI_{Jun2006}}{CPI_{Sept2004} + CPI_{Dec2004} + CPI_{Mar2005} + CPI_{Jun2005}} \right)$$

$$\theta \text{CPI}_{2007} = \left( \frac{CPI_{Sept2006} + CPI_{Dec2006} + CPI_{Mar2007} + CPI_{Jun2007}}{CPI_{Sept2005} + CPI_{Dec2005} + CPI_{Mar2006} + CPI_{Jun2006}} \right)$$

$$\theta \text{CPI}_{2008} = \left( \frac{CPI_{Sept2006} + CPI_{Dec2006} + CPI_{Mar2007} + CPI_{Jun2007}}{CPI_{Sept2005} + CPI_{Dec2005} + CPI_{Mar2006} + CPI_{Jun2006}} \right)$$

The application of the formula in clause 3.3 of this schedule given the definitions in clause 3.4 results in  $\theta$ CPI<sub>2007</sub> =  $\theta$ CPI<sub>2008</sub> in this example.

Assume in this example PV(S) is calculated in the following way:

The Corporation estimates that the total Equivalent Tenament for the minor service extension is 20. S is so much of the 20 Equivalent Tenament that the Corporation estimates is attributable to connections in each of the following Years.

If 10 Equivalent Tenament were expected to connect to the system in the first Year it became available, 4 in the next and the remaining 6 in the third, then applying a discount rate of 7 per cent:

$$PV(S) = 10 + \frac{4}{1.07} + \frac{6}{1.07^2} \approx 18.99$$

# Schedule 8

# **Definitions and Interpretation**

### 1. Definitions

#### 1.1 General definitions

In this determination:

**Application Date** is the date on which a person applies to the Corporation for connection of a Property to the Water Supply System and/or the Sewerage System, following a Minor Service Extension to the Water Supply System and/or the Sewerage System.

Area of Operations has the meaning given to that term in the Operating Licence.

**Availability Date** is the date on which a Property is capable of being connected to the Water Supply System and/or Sewerage System, following a Minor Service Extension, irrespective of whether the Property is connected on that date.

Billing Cycle means each quarter during a Period.

**Blue Mountains City Council Area** means the Blue Mountains City Council area proclaimed under the Local Government Act.

**Blue Mountains Septic Service** means the service provided by the Corporation, of pumping out effluent from Properties with septic tanks, within the Blue Mountains City Council Area.

**Commencement Date** means the Commencement Date as defined in clause 2(b) of section 1 (**Background**) of this determination.

**Commercial Customer** has the meaning given to that term in the Trade Waste Policy.

**Common Water Meter** means a Meter which is connected or available for connection to Multi Premises, where the Meter measures the water usage to that Multi Premises but not to each relevant Property located on or within that Multi Premises.

**Community Development Lot** has the meaning given to that term under the *Community Land Development Act* 1989.

**Community Parcel** has the meaning given to that term under the *Community Land Development Act* 1989.

**Company Title Building** means a building owned by a company where the issued shares of the company entitle the legal owner to exclusive occupation of a specified Company Title Dwelling within that building.

**Company Title Dwelling** means a dwelling within a Company Title Building.

**Connection Date** means the date on which a Property is connected to the Water Supply System and/or Sewerage System, following a Minor Service Extension.

**Corporation** means the Corporation as defined in clause 1(b) of section 1 (**Background**) of this determination, constituted under the *Sydney Water Act* 1994.

**Discharge Allowance** means 1.37kL per day multiplied by the number of days in the relevant Meter Reading Period.

**df**% **or Discharge Factor** means the ratio of the amount of waste water the Corporation determines is discharged from a Property into the Sewerage System, to the metered water entering that Property, expressed as a percentage.

Exempt Land means land described in part 1, schedule 2 of the Sydney Water Act, 1994.

**Filtered Water** means water that has been treated at a water filtration plant.

**GST** means the Goods and Services Tax as defined in *A New Tax System* (*Goods and Services Tax*) *Act*, 1999.

**Industrial Customer** has the meaning given to that term in the Trade Waste Policy.

**IPART Act** means the *Independent Pricing and Regulatory Tribunal Act* 1992.

kL means kilolitre or one thousand litres.

Local Government Act means the Local Government Act, 1993 (NSW).

Meter means an apparatus for the measurement of water.

**Metered Non Residential Property** means a Non Residential Property that is serviced by a Meter.

**Metered Property** means a Metered Residential Property or a Metered Non Residential Property.

**Meter Reading Period** means a period equal to the number of days between:

- (a) the date on which the Meter was last read (or taken to have been read by the Corporation); and
- (b) the date on which the Meter was read (or taken to have been read by the Corporation) immediately preceding the date in paragraph (a).

Metered Residential Property means a Residential Property that is serviced by a Meter.

**Metered Standpipe** means a metered device for connecting to the Water Supply System to enable water to be extracted.

**Minor Service Extension** means a service provided by the Corporation to extend the Sewerage System and/or the Water Supply System to Properties which are not connected to the Sewerage System and the Water Supply System where the owners of those Properties (which are capable of being connected) request to be connected to the Sewerage System and/or the Water Supply System.

**Monopoly Services** means the Monopoly Services defined in clause 1(b) of section 1 (**Background**) of this determination.

**Multi Premises** means a premise where there are two or more Properties, excluding premises where there are hotels, motels, guest houses or backpacker hostels (each as defined in the Local Government Act) located on it.

**Non Residential Property** means a Property that is not a Residential Property or Vacant Land.

**Order** means the Order defined in clause 1(b) of section 1 (**Background**) of this determination and published in Government Gazette No. 18, on 14 February 1997.

**Operating Licence** means the Corporation's operating licence in force under part 5 of the *Sydney Water Act,* 1994.

**Owners Corporation** has the meaning given to that term under the *Strata Schemes Management Act* 1996.

**Period** means the Commencement Date to 30 June 2006, 1 July 2006 to 30 June 2007, 1 July 2007 to 30 June 2008 or 1 July 2008 to 30 June 2009 (as the case may be).

**Property** includes:

- (a) a Strata Title Lot;
- (b) a Company Title Dwelling;
- (c) a Community Development Lot;
- (d) a building or part of a building occupied or available for occupation; or
- (e) land.

**Rateable Land** has the meaning given to that term under the Local Government Act.

**Residential Property** means a Property where:

- (a) in the case of that Property being Rateable Land, that Property is categorised as residential under section 516 of the Local Government Act; or
- (b) in the case of that Property not being Rateable Land, the dominant use of that Property is residential, applying the classifications in section 516 of the Local Government Act.

**Rouse Hill Development Area** means that area in the map bounded by the broken line in Attachment A excluding that area described as "Kellyville existing residential area" and the "cemetery".

Sewerage System means the sewerage system of the Corporation.

**Stormwater Drainage Area** has the meaning given to that term under the *Sydney Water Act* 1994.

**Strata Title Building** means a building that is subject to a strata scheme under the *Strata Schemes* (*Freehold Development*) *Act* 1973.

**Strata Title Lot** means a lot as defined under the *Strata Schemes* (*Freehold Development*) *Act* 1973.

**Tier 1 Water Consumption** means 1.096kL per day multiplied by the number of days in the relevant Meter Reading Period.

**Trade Waste Policy** means the Corporation's *Trade Waste Policy and Management Plan* (July 2001) as amended from time to time.

**Tribunal** means the Independent Pricing and Regulatory Tribunal of New South Wales established under the IPART Act.

**Unfiltered Water** means water that has been chemically treated but not treated at a water filtration plant.

**Unmetered Non Residential Property** means a Non Residential Property that is not serviced by a Meter.

**Unmetered Property** means an Unmetered Residential Property or an Unmetered Non Residential Property.

**Unmetered Residential Property** means a Residential Property that is not serviced by a Meter

**Vacant Land** means land with no capital improvements and no connection to the Water Supply System.

Water Supply System means the water supply system of the Corporation.

#### **1.2 Consumer Price Index**

(a) **CPI** means the consumer price index All Groups index number for the, weighted average of eight capital cities, published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by the Tribunal

(b) 
$$\Delta CPI_{1} = \left(\frac{CPI_{Jun2005} + CPI_{Sep2005} + CPI_{Dec2005} + CPI_{Mar2006}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

$$\Delta CPI_{2} = \left(\frac{CPI_{Jun2006} + CPI_{Sep2006} + CPI_{Dec2006} + CPI_{Mar2007}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

$$\Delta CPI_{3} = \left(\frac{CPI_{Jun2007} + CPI_{Sep2007} + CPI_{Dec2007} + CPI_{Mar2008}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

each as calculated by the Tribunal and notified in writing by the Tribunal to the Corporation.

(c) The subtext (for example Jun 2005) when used in relation to paragraph (b) above means the CPI for the quarter and year indicated (in the example the June quarter for 2005).

### 2. Interpretation

#### 2.1 General provisions

In this determination:

- (a) headings are for convenience only and do not affect the interpretation of this determination;
- (b) a reference to a schedule, annexure, attachment, clause or table is a reference to a schedule, annexure, attachment, clause or table to this determination;
- (c) words importing the singular include the plural and vice versa;
- (d) a reference to a law, statute or document includes all amendments or replacements of that law, statute or document;
- (e) a reference to a "quarter" is a reference to a consecutive period of three months ending on 31 March, 30 June, 30 September or 31 December, as the case may be.

#### 2.2 Explanatory notes, examples and clarification note

- (a) Explanatory notes and examples do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.
- (b) The Tribunal may publish a clarification notice in the NSW Government Gazette to correct any manifest error in this determination as if that clarification note formed part of this determination.

#### 2.3 Prices exclusive of GST

Prices or charges specified in this determination do not include GST.

#### 2.4 Billing

- (a) For the avoidance of doubt nothing in this determination affects when the Corporation may issue a bill to a customer for prices or charges under this determination.
- (b) If a Meter Reading Period commences before the Commencement Date and ends after the Commencement Date, the water usage charge or sewerage usage charge (as the case may be) applying to the whole of that Meter Reading Period is the charge calculated under Determination No 4 of 2003, prior to that determination being replaced by this determination.
- (c) If a Meter Reading Period traverses more than 1 Period, the Corporation must levy any charge applying in this determination on a pro-rata basis.

#### 2.5 Apparatus for checking quantity of water used

For the purposes of this determination, where an apparatus is used by the Corporation to check on the quantity of water used recorded by a Meter, that apparatus will not fall within the definition of a 'Meter'.

**Attachment A** 



# **Determination No 6, 2005**

Section 11(1) Independent Pricing and Regulatory Tribunal Act 1992

# **Hunter Water Corporation**

Independent Pricing and Regulatory Tribunal of New South Wales

Reference No: 05/223

#### 1. Background

- (1) Section 11 of the *Independent Pricing and Regulatory Tribunal Act* 1992 provides the Tribunal with a standing reference to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service supplied by a government agency specified in Schedule 1 of the IPART Act.
- (2) The Hunter Water Corporation (**Corporation**) is listed as a government agency for the purposes of Schedule 1 of the IPART Act. The services of the Corporation declared as monopoly services (**Monopoly Services**) under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order* 1997 (**Order**) are:
  - (a) water supply services;
  - (b) sewerage services;
  - (c) stormwater drainage services;
  - (d) trade waste services;
  - (e) services supplied in connection with the provision or upgrading of water supply and sewerage facilities for new developments and, if required, drainage facilities for such developments;
  - (f) ancillary and miscellaneous customer services for which no alternative supply exists and which relate to the supply of services of a kind referred to in paragraphs (a) to (e);
  - (g) other water supply, sewerage and drainage services for which no alternative supply exists.

Accordingly the Tribunal may determine the prices for the Corporation's Monopoly Services.

- (3) In investigating and reporting on the pricing of the Corporation's Monopoly Services, the Tribunal has had regard to a broad range of matters, including the criteria set out in section 15(1) of the IPART Act.
- (4) In accordance with section 13A of the IPART Act, the Tribunal has fixed a maximum price for the Corporation's Monopoly Services or established a methodology for fixing the maximum price.
- (5) By section 18(2) of the IPART Act, the Corporation may not fix a price below that determined by the Tribunal without the approval of the Treasurer.

## 2. Application of this determination

- (1) This determination sets out the maximum prices (or sets a methodology for fixing the maximum prices) that the Corporation may charge for the Monopoly Services specified in this determination.
- (2) This determination commences on the later of 1 November 2005 and the date that it is published in the NSW Government Gazette (**Commencement Date**).
- (3) The maximum prices in this determination are to apply from the Commencement Date to 30 June 2009. The prices specified in this determination prevailing as at 30 June 2009 continue to apply beyond 30 June 2009 until this determination is replaced.

## 3. Replacement of Determination No. 3 of 2003

Subject to clause 2.4(b) of schedule 7, this determination replaces Determination No. 3 of 2003 from the Commencement Date. The replacement does not affect anything done or omitted to be done, or rights and obligations accrued, under Determination No. 3 of 2003 prior to its replacement.

# 4 Monitoring

The Tribunal may monitor the performance of the Corporation for the purposes of:

- (a) establishing and reporting on the level of compliance by the Corporation with this determination; and
- (b) preparing a periodic review of pricing policies in respect of the Monopoly Services supplied by the Corporation.

# 5 Water Savings Fund

Any contribution that is made by the Corporation to the Water Savings Fund established by the Energy Administration Amendment (Water and Energy Savings) Act 2005 will (subject to any legal or regulatory requirements applying to that contribution), be taken as falling outside the scope of this determination.<sup>1</sup>

1 There is nothing in this determination to preclude the imposition of a charge by the government on the Corporation's customers to recover the costs of such a contribution.

# 6. Schedules

Schedules 1-6 (inclusive) and the Tables in those Schedules set out the maximum prices that the Corporation may charge for the Monopoly Services specified in the Schedules.

### 7. Definitions and Interpretation

Definitions and interpretation provisions used in this determination are set out in Schedule 7.

# Schedule 1

# Water Supply Services

### 1. Application

This Schedule sets the maximum prices that the Corporation may charge for services under paragraph (a) of the Order (water supply services).

### 2. Categories for pricing purposes

Prices for water supply services have been determined for 3 categories:

- (a) Metered Properties;
- (b) Unmetered Properties; and
- (c) Water supplied to the Dungog Shire Council.

### 3. Charges for water supply services of Filtered Water to Metered Properties<sup>2</sup>

The maximum price that may be levied by the Corporation for the provision of Filtered Water to a Metered Property connected to the Water Supply System for a Billing Cycle is the sum of the following:

- (a) the water service charge set out in Table 1 (corresponding to the applicable Meter size and Period in that table) divided by the number of four monthly cycles in that Period; and
- (b) the water usage charge which is:
  - (i) for each kL of Filtered Water used up to and including 1000kL per Year the tier 1 water usage charge in Table 2, per kL of Filtered Water used for the corresponding Meter Reading Period and the applicable Period in that table; and
  - (ii) for each kL of Filtered Water used in excess of 1000kL per Year and up to and including 50,000kL per Year – the tier 2 water usage charge in Table 2, per kL of Filtered Water used for the corresponding Meter Reading Period and the applicable Period in that table; and
  - (iii) for each kL of Filtered Water used above 50,000kL per Year the charge in Table 3, per kL of Filtered Water used for the corresponding Meter Reading Period and the applicable Period in that table and location of that Metered Property.

2 The maximum price currently levied by the Corporation for the provision of water supply services to Gosford City Council and Wyong Shire Council (the **Councils**) is the sum of the water service charge in Table 1 and the water usage charge in Tables 2 and 3. It is understood that each Council will negotiate with the Corporation as to the maximum price payable for the provision of water supply services to that Council if the supply of water from the Corporation to that Council greatly increases in the future. If this occurs, the maximum price for the provision of water supply services to the Councils may be different from the maximum price under this determination.

#### 4. Charges for water supply services of Unfiltered Water to Metered Properties

The maximum price that may be levied by the Corporation for the provision of Unfiltered Water to a Metered Property for a Billing Cycle is the sum of the following:

- (a) the water service charge set out in Table 1 (corresponding to the applicable Meter size and Period in that table) divided by the number of four monthly cycles in that Period; and
- (b) the water usage charge which is:
  - (i) for each kL of Unfiltered Water used up to and including 1000kL per Year – the tier 1 water usage charge in Table 2 (discounted by \$0.30 per kL), per kL of Unfiltered Water used for the corresponding Meter Reading Period and the applicable Period in that table; and
  - (ii) for each kL of Unfiltered Water used in excess of 1000kL per Year the tier 2 water usage charge in Table 2 (discounted by \$0.30 per kL), per kL of Unfiltered Water used for the corresponding Meter Reading Period and the applicable Period in that table.

### 5. Charges for water supply services to Unmetered Properties

The maximum price that may be levied by the Corporation for the provision of water supply services to an Unmetered Property connected to the Water Supply System for a Billing Cycle is the water service charge set out in Table 1 (corresponding to the applicable Period and the Diameter Pipe size in that table) divided by the number of four monthly cycles in that Period.

#### 6. Water charges for the Dungog Shire Council

The maximum price that may be levied by the Corporation for water supply services to the Dungog Shire Council for a Billing Cycle is the sum of the following:

- (a) the water service charge set out in Table 1 (corresponding to the applicable Meter size and Period in that table) divided by the number of four monthly cycles in that Period;
- (b) **for each kL of water used up to and including 1000kL per Year** the tier 1 water usage charge set out in Table 4, per kL of water used for the corresponding Meter Reading Period and the applicable Period in that table;
- (c) **for each kL of water used in excess of 1000kL per Year and up to and including 50,000kL per Year -** the tier 2 water usage charge in Table 4, per kL of water used for the corresponding Meter Reading Period and the applicable Period in that table; and
- (d) **for each kL of water used above 50,000kL per Year** the tier 3 water usage charge in Table 4, per kL of water used for the corresponding Meter Reading Period and the applicable Period in that table.

#### 7. Levying charges on Multi Premises

#### 7.1 Water supply charges for Multi Premises

- 7.1.1 Clause 7 of this schedule prescribes how the maximum prices in this schedule are to be levied on Multi Premises, specifically how they are to be levied on persons who own, control or occupy the Multi Premises.
- 7.1.2 Clauses 3 and 4 of this schedule do not apply to charges for Metered Properties if this clause 7 is capable of applying to those Metered Properties.

# 7.2 Strata Title Lot within a Strata Title Building with a Common Water Meter or multiple Common Water Meters

For a Strata Title Lot within a Strata Title Building which:

- (a) is connected to the Water Supply System; and
- (b) has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation on that Strata Title Lot for the provision of water supply services to that Strata Title Lot for a Billing Cycle is calculated as follows:

$$\begin{pmatrix} A & + & B \end{pmatrix} \times \frac{C}{D}$$

Where:

**A** - the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table) divided by the number of four monthly cycles in that Period;

**B** – the water usage charge for each Common Water Meter calculated by applying clause 3(b) and clause 4(b) (as applicable) of this schedule for the Meter Reading Period;

C – the Unit Entitlement of that Strata Title Lot; and

**D** - the total Unit Entitlement of that Strata Title Building.

# 7.3 Strata Title Lot with its own Meter within a Strata Title Building with a Common Water Meter or multiple Common Water Meters

For a Strata Title Lot which:

- (a) is connected to the Water Supply System; and
- (b) has its own Meter; and
- (c) is situated in a Strata Title Building which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation for the provision of water supply services in a Billing Cycle on:

- (d) a Strata Title Lot is the following:
  - (i) a water service charge equal to:

$$\frac{A}{B} \times C$$

Where:

**A** - the meter equivalent in Table 1 corresponding to the Meter size of that Strata Title Lot;

**B** - the amount equal to the sum of the meter equivalents in Table 1 corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building; and

**C** - the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table) divided by the number of four monthly cycles in that Period;

and

- (ii) a water usage charge for the Meter servicing that Strata Title Lot calculated by applying clause 3(b) and clause 4(b) (as applicable) of this schedule for the Meter Reading Period; and
- (e) the Owner Corporation of that Strata Title Building is the water usage charge in clause 3(b) and clause 4(b) (as applicable) of this schedule applied to so much of the water (recorded by all the Common Water Meters) that is in excess of the water recorded by the Meters servicing all the Strata Title Lots within that Strata Title Building.

#### 7.4 Multi Premises (which is not a Strata Title Building)

For a Multi Premises (which is not a Strata Title Building) and:

- (a) which is connected to the Water Supply System; and
- (b) which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation on the owner of that Multi Premises for the provision of water supply services to that Multi Premises for a Billing Cycle is:

- (c) the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Meter size and Period) divided by the number of four monthly cycles in that Period; and
- (d) the water usage charge for each Common Water Meter calculated by applying clause 3(b) and clause 4(b) (as applicable) of this schedule for the Meter Reading Period.

# Tables 1, 2, 3, and 4

Charge	Meter equivalent	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)			
Water service charge - Meter size / Diameter Pipe size								
20mm	1.00	21.48	34.07 x (1+∆CPI₁)	35.97 x (1+∆CPl₂)	37.93 x (1+∆CPl <sub>3</sub> )			
25mm	1.56	33.51	53.15 x (1+∆CPI₁)	56.11 x (1+∆CPl <sub>2</sub> )	59.17 x (1+∆CPI <sub>3</sub> )			
32mm	2.56	54.99	87.22 x (1+∆CPI₁)	92.08 x (1+∆CPI₂)	97.10 x (1+∆CPI <sub>3</sub> )			
40mm	4.00	85.92	136.28 x (1+∆CPI₁)	143.88 x (1+∆CPI₂)	151.72 x (1+∆CPI <sub>3</sub> )			
50mm	6.25	134.25	212.94 x (1+∆CPI₁)	224.81 x (1+∆CPl₂)	237.06 x (1+∆CPI <sub>3</sub> )			
65mm	10.56	226.83	359.78 x (1+∆CPI₁)	379.84 x (1+∆CPI <sub>2</sub> )	400.54 x (1+∆CPI <sub>3</sub> )			
80mm	16.00	343.68	545.12 x (1+∆CPI₁)	575.52 x (1+∆CPl <sub>2</sub> )	606.88 x (1+∆CPI <sub>3</sub> )			
100mm	25.00	537.00	851.75 x (1+∆CPI₁)	899.25 x (1+∆CPI₂)	948.25 x (1+∆CPI₃)			
150mm	56.25	1,208.25	1,916.44 x (1+∆CPI₁)	2,023.31 x (1+∆CPI <sub>2</sub> )	2,133.56 x (1+∆CPI <sub>3</sub> )			
200mm	100.00	2,148.00	3,407.00 x (1+∆CPI₁)	3,597.00 x (1+∆CPl <sub>2</sub> )	3,793.00 x (1+∆CPI <sub>3</sub> )			
250mm	156.25	3,356.25	5,323.44 x (1+∆CPI₁)	5,620.31 x (1+∆CPl₂)	5,926.56 x (1+∆CPI <sub>3</sub> )			
300mm	225.00	4,833.00	7,665.75 x (1+∆CPI₁)	8,093.25 x (1+∆CPl <sub>2</sub> )	8,534.25 x (1+∆CPI <sub>3</sub> )			
350mm	306.25	6,578.25	10,433.94 x (1+∆CPI₁)	11,015.81 x (1+∆CPI₂)	11,616.06 x (1+∆CPI <sub>3</sub> )			
400mm	400.00	8,592.00	13,628.00 x (1+∆CPI₁)	14,388.00 x (1+∆CPI <sub>2</sub> )	15,172.00 x (1+∆CPI <sub>3</sub> )			
500mm	625.00	13,425.00	21,293.75 x (1+∆CPI₁)	22,481.25 x (1+∆CPI <sub>2</sub> )	23,706.25 x (1+∆CPI <sub>3</sub> )			
For Meter siz decimal place	es not specifi es)	ed above, the meter	equivalent is calculate	ed by: (meter size) <sup>2</sup> /40	0 (rounded to 2			

 Table 1 Water service charge for Metered Properties and Unmetered Properties

Charge	Commencement Date to 30 June 2006 (\$/kL)	1 July 2006 to 30 June 2007 (\$/kL)	1 July 2007 to 30 June 2008 (\$/kL)	1 July 2008 to 30 June 2009 (\$/kL)
Tier 1 water usage charge	1.09	1.11 x (1+∆CPI₁)	1.13 x (1+∆CPI <sub>2</sub> )	1.16 x (1+∆CPI <sub>3</sub> )
Tier 2 water usage charge	1.03	1.07 x (1+∆CPI₁)	1.11 x (1+∆CPI₂)	1.16 x (1+∆CPI₃)

 Table 2 Water usage charge for water consumption of 50,000kL or less

Charge	Commencement Date to 30 June 2006 (\$/kL)	1 July 2006 to 30 June 2007 (\$/kL)	1 July 2007 to 30 June 2008 (\$/kL)	1 July 2008 to 30 June 2009 (\$/kL)
Water usage charge - per kilolitre of metered water used above 50,000kL by Properties in the following locations				
Kooragang / Stockton	0.868	0.884 x (1+∆CPI₁)	0.901 x (1+∆CPI <sub>2</sub> )	0.918 x (1+∆CPI <sub>3</sub> )
Tomago	0.908	0.925 x (1+∆CPI₁)	0.942 x (1+∆CPI <sub>2</sub> )	0.960 x (1+∆CPI <sub>3</sub> )
South Wallsend	0.874	0.890 x (1+∆CPI₁)	0.907 x (1+∆CPI <sub>2</sub> )	0.924 x (1+∆CPI <sub>3</sub> )
Warner's Bay/Valentine	0.908	0.925 x (1+∆CPI₁)	0.942 x (1+∆CPI <sub>2</sub> )	0.960 x (1+∆CPI <sub>3</sub> )
Seaham Hexham	0.944	0.962 x (1+∆CPI₁)	0.980 x (1+∆CPI <sub>2</sub> )	0.998 x (1+∆CPI <sub>3</sub> )
Newcastle Highfields	0.955	0.973 x (1+∆CPI₁)	0.991 x (1+∆CPI <sub>2</sub> )	1.010 x (1+∆CPI <sub>3</sub> )
Raymond Terrace	0.970	0.988 x (1+∆CPI₁)	1.007 x (1+∆CPI <sub>2</sub> )	1.026 x (1+∆CPI <sub>3</sub> )
Port Stephens	0.973	0.991 x (1+∆CPI₁)	1.010 x (1+∆CPI <sub>2</sub> )	1.029 x (1+∆CPI <sub>3</sub> )
Kurri Cessnock	0.977	0.995 x (1+∆CPI₁)	1.014 x (1+∆CPI <sub>2</sub> )	1.033 x (1+∆CPI <sub>3</sub> )
Lookout	0.975	0.993 x (1+∆CPI₁)	1.012 x (1+∆CPI <sub>2</sub> )	1.031 x (1+∆CPI <sub>3</sub> )
Edgeworth West Wallsend	1.001	1.020 x (1+∆CPI₁)	1.039 x (1+∆CPI <sub>2</sub> )	1.058 x (1+∆CPI <sub>3</sub> )
All other locations (tier 2 water usage charge)	1.030	1.070 x (1+∆CPI₁)	1.110 x (1+∆CPI <sub>2</sub> )	1.160 x (1+∆CPI₃)

### Table 3 Water usage charge where water consumption exceeds 50,000kL

 Table 4 Water charges for Dungog Shire Council

Charge	Commencement Date to 30 June 2006 (\$/kL)	1 July 2006 to 30 June 2007 (\$/kL)	1 July 2007 to 30 June 2008 (\$/kL)	1 July 2008 to 30 June 2009 (\$/kL)
Tier 1 water usage charge	1.09	1.11 x (1+∆CPI₁)	1.13 x (1+∆CPl <sub>2</sub> )	1.16 x (1+∆CPI <sub>3</sub> )
Tier 2 water usage charge	1.03	1.07 x (1+∆CPI₁)	1.11 x (1+∆CPl₂)	1.16 x (1+∆CPI <sub>3</sub> )
Tier 3 water usage charge	0.59	0.60 x (1+∆CPI₁)	0.62 x (1+∆CPI <sub>2</sub> )	0.63x (1+∆CPI₃)

# Schedule 2

# Sewerage Services

### 1. Application

This Schedule sets the maximum prices that the Corporation may charge for services under paragraph (b) of the Order (sewerage services).

### 2. Categories for pricing purposes

Prices for sewerage services have been determined for 4 categories:

- (a) Residential Single Properties with a 20mm Meter;
- (b) Metered Properties (other than Residential Single Properties with a 20mm Meter);
- (c) Unmetered Properties connected to the Water Supply System; and
- (d) Residential Single Properties which do not have a Meter and which are not connected to the Water Supply System but are connected to the Sewerage System.

# 3. Charges for sewerage services to Residential Single Properties with a 20mm Meter

The maximum price that may be levied by the Corporation for sewerage services to a Residential Single Property with a 20mm Meter size, connected to the Water Supply System and the Sewerage System for a Billing Cycle, is the sum of the following:

- (a) the sewerage service charge in Table 5 (corresponding to the applicable Period in that table) divided by the number of four monthly cycles in that Period; and
- (b) the sewerage usage charge calculated as follows:

$$(A \times B) \times C$$

Where:

**A** – water used (in kL) by that Residential Single Property for the Meter Reading Period;

**B** - Discharge Factor for Residential Single Properties; and

C – the sewerage usage charge in Table 8 (corresponding to the applicable Period in that table).

# 4. Charges for sewerage services to Metered Properties (other than Residential Single Properties with a 20mm Meter)

The maximum price that may be levied by the Corporation for sewerage services to a Metered Property (other than a Residential Single Property with a 20mm Meter) connected to the Water Supply System and the Sewerage System for a Billing Cycle, is the sum of the following:

(a) the sewerage service charge equal to:

Where:

**A** - the sewerage service charge in Table 7 (corresponding to the applicable Period and Meter size in that table) divided by the number of four monthly cycles in that Period; and

**B** - the Discharge Factor for that Metered Property.

and

(b) the sewerage usage charge calculated as follows:

$$(A \times B) \times C$$

Where:

- A water used (in kL) by that Metered Property for the Meter Reading Period;
- **B** Discharge Factor for that Metered Property; and

**C** – the sewerage usage charge in Table 8 (corresponding to the applicable Period in that table).

# 5. Charges for sewerage services to Unmetered Properties connected to the Water Supply System

The maximum price that may be levied by the Corporation for sewerage services to an Unmetered Property connected to the Water Supply System and the Sewerage System for a Billing Cycle is:

 $A \times B$ 

Where:

**A** - the sewerage service charge in Table 7 (corresponding to the applicable Period and Diameter Pipe size in that table) divided by the number of four monthly cycles in that Period; and

**B** - the Discharge Factor for that Unmetered Property.

# 6. Charges for sewerage services to Residential Single Properties which do not have a Meter and are not connected to the Water Supply System

The maximum price that may be levied by the Corporation for sewerage services to a Residential Single Property which does not have a Meter and which is not connected to the Water Supply System but is connected to the Sewerage System for a Billing Cycle is the sewerage service charge in Table 6 (corresponding to the applicable Period in that table) divided by the number of four monthly cycles in that Period.

#### 7. Levying sewerage service charges on Multi Premises

#### 7.1 Sewerage service charges on Multi Premises

- 7.1.1 Clause 7 of this schedule prescribes how the maximum prices in this schedule are to be levied on Multi Premises, specifically how they are to be levied on persons who own, control or occupy those Multi Premises.
- 7.1.2 Clauses 3 and 4 of this schedule do not apply to charges for Metered Properties if this clause 7 is capable of applying to those Metered Properties.

# 7.2 Strata Title Lot (Residential Property) within a Strata Title Building with a Common Water Meter or multiple Common Water Meters

- 7.2.1 For a Strata Title Lot (which is a Residential Property) within a Strata Title Building which:
  - (a) is connected to the Sewerage System; and
  - (b) has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation on that Strata Title Lot for the provision of sewerage services to that Strata Title Lot for a Billing Cycle is the sum of the following:

- (c) a sewerage service charge for that Billing Cycle equal to the higher of:
  - (i) the sewerage service charge in Table 9 (corresponding to the applicable Period in that table) divided by the number of four monthly cycles in that Period up to but not exceeding:
    - (1) **for the period from the Commencement Date to 30 June 2006 –** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$13.33 (in nominal terms), divided by the number of four monthly cycles in that Period;
    - (2) **for the period from 1 July 2006 to 30 June 2007** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;
    - (3) **for the period from 1 July 2007 to 30 June 2008** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;
    - (4) **for the period from 1 July 2008 to 30 June 2009** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;

and

(ii) a sewerage service charge calculated as follows:

$$(A \times B) \times \frac{C}{D}$$

Where:

**A** - the sewerage service charge in Table 7 corresponding to the Meter size of each Common Water Meter, divided by the number of four monthly cycles in that Period;

**B** - the Discharge Factor for that Strata Title Lot;

C - the Unit Entitlement for that Strata Title Lot; and

**D** - the total Unit Entitlement for that Strata Title Building;

and

(d) the sewerage usage charge for the Meter Reading Period calculated as follows:

$$(A \times B) \times C \times \left(\frac{D}{E}\right)$$

Where:

**A** – the water used (in kL) by that Strata Title Lot for the Meter Reading Period (as if the water used by that Strata Title Lot was equal to total quantity of water used by that Strata Title Building)

- **B** the Discharge Factor for that Strata Title Lot;
- C the sewerage usage charge in Table 8 for each Common Water Meter;
- **D** the Unit Entitlement for that Strata Title Lot;
- E the total Unit Entitlement for that Strata Title Building; and

# 7.3 Strata Title Lot (Residential Property) with its own Meter within a Strata Title Building with Common Water Meter

- 7.3.1 For a Strata Title Lot which is a Residential Property and which:
  - (a) is connected to the Sewerage System; and
  - (b) has its own Meter; and
  - (c) is situated in a Strata Title Building which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation for a Billing Cycle on:

- (d) that Strata Title Lot for the provision of sewerage services to that Strata Title Lot is the sum of the following:
  - (i) a sewerage service charge for that Billing Cycle equal to the higher of:
    - (1) the sewerage service charge in Table 9 (corresponding to the applicable Period in that table) divided by the number of four monthly cycles in that Period up to but not exceeding:
      - (A) for the period from the Commencement Date to 30 June 2006 the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$13.33 (in nominal terms), divided by the number of four monthly cycles in that Period;

- (B) for the period from 1 July 2006 to 30 June 2007 the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;
- (C) **for the period from 1 July 2007 to 30 June 2008** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;
- (D) for the period from 1 July 2008 to 30 June 2009 the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period; and
- (2) a sewerage service charge calculated as follows:

$$(A \times B) \times \frac{C}{D}$$

Where:

**A** - the sewerage service charge in Table 7, corresponding to the Meter size of each Common Water Meter divided by the number of four monthly cycles in that Period;

**B** - the Discharge Factor for that Strata Title Lot;

**C** – the meter equivalent in Table 7 corresponding to the Meter size of that Strata Title Lot; and

**D** - the amount equal to the sum of the sum of the meter equivalents in Table 7 (corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building);

and

(ii) the sewerage usage charge for the Meter Reading Period calculated as follows:

$$(A \quad x \quad B) \quad x \quad C$$

Where:

**A** – the water used (in kL) by that Strata Title Lot for the Meter Reading Period;

**B** – the Discharge Factor for that Strata Title Lot;

 ${\bf C}$  – the sewerage usage charge in Table 8 (corresponding to the applicable Period in that table) for the Meter servicing that Strata Title Lot;

and

(e) the Owners Corporation of that Strata Title Building is the sewerage usage charge in Table 8 of this schedule applied to so much of the water (recorded by all the Common Water Meters) that is in excess of the water recorded by the Meters servicing all the Strata Title Lots within that Strata Title Building, multiplied by the Discharge Factor for that Strata Title Building.

# 7.4 Strata Title Lot (Non Residential Property) within a Strata Title Building with a Common Water Meter or multiple Common Water Meters.

For a Strata Title Lot (which is a Non Residential Property) within a Strata Title Building which:

- (a) is connected to the Sewerage System; and
- (b) has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation on that Strata Title Lot for the provision of sewerage services to that Strata Title Lot for a Billing Cycle is the sum of the following:

(c) the sewerage service charge calculated as follows:

$$(A \times B) \times \frac{C}{D}$$

Where:

**A** - the sewerage service charge in Table 7 corresponding to the Meter size of each Common Water Meter, divided by the number of four monthly cycles in that Period;

- **B** the Discharge Factor for that Strata Title Lot;
- C the Unit Entitlement for that Strata Title Lot; and
- D the total Unit Entitlement for that Strata Title Building;

and

(d) the sewerage usage charge for the Meter Reading Period calculated as follows:

$$\begin{pmatrix} A \times B \end{pmatrix} \times C \times \begin{pmatrix} D \\ E \end{pmatrix}$$

Where:

**A** – the water used (in kL) by that Strata Title Lot for the Meter Reading Period (as if the water used by that Strata Title Lot was equal to total quantity of water used by that Strata Title Building)

**B** - the Discharge Factor for that Strata Title Lot;

**C** - the sewerage usage charge in Table 8 for each Common Water Meter;

D - the Unit Entitlement for that Strata Title Lot; and

**E** - the total Unit Entitlement for that Strata Title Building.

#### 7.5 Strata Title Lot (Non Residential Property) with it own Meter within a Strata Title Building with a Common Water Meter or multiple Common Water meters

For a Strata Title Lot which is a Non Residential Property and which:

- (a) is connected to the Sewerage System; and
- (b) has its own Meter; and
- (c) is situated in a Strata Title Building which has a Common Water Meter or multiple Common Water Meters,

the maximum price that may be levied by the Corporation for the provision of sewerage services in a Billing Cycle on:

- (d) a Strata Title Lot is the following:
  - (i) a sewerage service charge equal to:

$$(A \times B) \times \frac{C}{D}$$

Where:

**A** - the sewerage service charge in Table 7 (corresponding to the Meter size of each Common Water Meter) divided by the number of four monthly cycles in that Period;

**B** – the Discharge Factor for that Strata Title Lot;

**C** – the meter equivalent in Table 7 corresponding to the Meter size of that Strata Title Lot; and

**D** - the amount equal to the sum of the meter equivalents in Table 7 corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building;

and

(ii) the sewerage usage charge for the Meter Reading Period calculated as follows:

$$(A \quad x \quad B) \quad x \quad C$$

Where:

**A** – the water used (in kL) by that Strata Title Lot for the Meter Reading Period;
**B** – the Discharge Factor for that Strata Title Lot;

 ${\bf C}$  – the sewerage usage charge in Table 8 (corresponding to the applicable Period in that table) for the Meter servicing that Strata Title Lot;

and

(e) the Owners Corporation of the Strata Title Building is the sewerage usage charge in Table 8 of this schedule applied to so much of the water (recorded by all the Common Water Meters) that is in excess of the water recorded by the Meters servicing all the Strata Title Lots within that Strata Title Building, multiplied by the Discharge Factor for that Strata Title Building.

#### 7.6 Multi Premises (Residential Property) that is not a Strata Title Building

7.6.1 For a Multi Premises (which is not a Strata Title Building):

- (a) which is connected to the Sewerage System; and
- (b) which has a Common Water Meter or multiple Common Water Meters; and
- (c) where the majority of the Properties within that Multi Premises are Residential Properties,

the maximum price that may be levied by the Corporation on the owner of that Multi Premises for the provision of sewerage services to that Multi Premises for a Billing Cycle is the sum of the following:

- (d) the sewerage service charge for that Billing Cycle equal to the higher of:
  - (i) the sewerage service charge equal to:

#### $A \times B$

Where:

**A** - the sewerage service charge in Table 7 for each Common Water Meter (corresponding to the applicable Meter size and Period in that table) divided by the number of four monthly cycles in that Period; and

**B** – the Discharge Factor for that Multi Premises;

and

(ii) the sewerage service charge calculated as follows:

$$A \times B$$

Where:

**A** - the sewerage service charge in Table 9 (corresponding to the applicable Period in that table) divided by the number of four monthly cycle in that Period up to but not exceeding:

(1) **for the period from the Commencement Date to 30 June 2006 –** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus

\$13.33 (in nominal terms), divided by the number of four monthly cycles in that Period;

- (2) **for the period from 1 July 2006 to 30 June 2007** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;
- (3) **for the period from 1 July 2007 to 30 June 2008** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period;
- (4) **for the period from 1 July 2008 to 30 June 2009** the amount equal to the sum of the sewerage service charge levied by the Corporation immediately prior to this period plus \$20 (in nominal terms), divided by the number of four monthly cycles in that Period; and
- **B** the number of Properties within that Multi Premises;

and

(e) the sewerage usage charge calculated as follows:

 $(A \times B) \times C$ 

Where:

- A water used (in kL) by that Multi Premises for the Meter Reading Period;
- **B** Discharge Factor for that Multi Premises; and
- **C** the sewerage usage charge in Table 8 for each Common Water Meter (corresponding to the applicable Period in that table).

#### 7.7 Multi Premises (Non Residential Property) that is not a Strata Title Building

For a Multi Premises (which is not a Strata Title Building) and:

- (a) which is connected to the Sewerage System; and
- (b) which has a Common Water Meter or multiple Common Water Meters; and
- (c) where the majority of the Properties within that Multi Premises are Non Residential Properties,

the maximum price that may be levied by the Corporation on the owner of that Multi Premises for the provision of sewerage services to that Multi Premises for a Billing Cycle is the sum of the following:

(d) the sewerage service charge calculated as follows:

 $A \times B$ 

Where:

**A** - the sewerage service charge in Table 7 for each Common Water Meter (corresponding to the applicable Meter size and Period in that table) divided by the number of four monthly cycles in that Period; and

**B** – the Discharge Factor for that Multi Premises;

and

(e) the sewerage usage charge calculated as follows:

$$(A \times B) \times C$$

Where:

- A water used (in kL) by that Multi Premises for the Meter Reading Period;
- **B** Discharge Factor for that Multi Premises; and

/

**C** – the sewerage usage charge in Table 8 for each Common Water Meter (corresponding to the applicable Period in that table).

## Tables 5, 6, 7, 8 and 9

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Sewerage service charge	178.37	276.12 x (1+∆CPI₁)	284.88 x (1+∆CPl <sub>2</sub> )	293.84 x (1+∆CPI₃)

#### Table 5 Sewerage service charge for Residential Single Properties with a 20mm Meter

## Table 6 Sewerage service charge for Unmetered Property not connected to the Water Supply System

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Sewerage Service charge	192.03	296.62 x (1+∆CPI <sub>1</sub> )	305.38 x (1+∆CPI <sub>2</sub> )	314.34 x (1+∆CPI₃)

## Table 7 Sewerage service charges for Metered Properties (other than Residential Single Properties with a 20mm Meter)

Charge	Meter	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
	equivalent	(\$) <sup>3</sup>	<b>(\$)</b> <sup>3</sup>	<b>(\$)</b> <sup>3</sup>	<b>(\$)</b> <sup>3</sup>
Sewerage	e service char	ge – Meter size/Dia	meter Pipe Size		
20mm	1.00	356.73	552.24 x (1+∆CPI₁)	569.76 x (1+∆CPI₂)	587.68 x (1+∆CPl <sub>3</sub> )
25mm	1.56	556.50	861.49 x (1+∆CPI₁)	888.83 x (1+∆CPI₂)	916.78 x (1+∆CPI₃)
32mm	2.56	913.24	1,413.73 x (1+∆CPI₁)	1,458.59 x (1+∆CPI₂)	1,504.46 x (1+∆CPI₃)
40mm	4.00	1,426.93	2,208.96 x (1+∆CPI₁)	2,279.04 x (1+∆CPI₂)	2,350.72 x (1+∆CPl <sub>3</sub> )
50mm	6.25	2,229.58	3,451.50 x (1+∆CPI₁)	3,561.00 x (1+∆CPI₂)	3,673.00 x (1+∆CPI <sub>3</sub> )
80mm	16.00	5,707.73	8,835.84 x (1+∆CPI₁)	9,116.16 x (1+∆CPI₂)	9,402.88 x (1+∆CPI <sub>3</sub> )
100mm	25.00	8,918.33	13,806.00 x (1+∆CPI₁)	14,244.00 x (1+∆CPI₂)	14,692.00 x (1+∆CPI <sub>3</sub> )
150mm	56.25	20,066.25	31,063.50 x (1+∆CPI₁)	32,049.00 x (1+∆CPI₂)	33,057.00 x (1+∆CPI <sub>3</sub> )
200mm	100.00	35,673.33	55,224.00 x (1+∆CPI₁)	56,976.00 x (1+∆CPI₂)	58,768.00 x (1+∆CPI <sub>3</sub> )
250mm	156.25	55,739.58	86,287.50 x (1+∆CPI₁)	89,025.00 x (1+∆CPI₂)	91,825.00 x (1+∆CPl <sub>3</sub> )
300mm	225.00	80,265.00	124,254.00 x (1+∆CPI₁)	128,196.00 x (1+∆CPI₂)	132,228.00 x (1+∆CPI <sub>3</sub> )
350mm	306.25	109,249.58	169,123.50 x (1+∆CPI₁)	174,489.00 x (1+∆CPI₂)	179,977.00 x (1+∆CPI₃)
400mm	400.00	142,693.33	220,896.00 x (1+∆CPI₁)	227,904.00 x (1+∆CPI <sub>2</sub> )	235,072.00 x (1+∆CPI <sub>3</sub> )
500mm	625.00	222,958.33	345,150.00 x (1+∆CPI₁)	356,100.00 x (1+∆CPI₂)	367,300.00 x (1+∆CPI <sub>3</sub> )

For Meter sizes not specified above, the meter equivalent is calculated by: (meter size)<sup>2</sup>/400 (rounded to 2 decimal places)

3 A Discharge Factor of 50 per cent is applied for Residential Properties. For Non Residential Properties a variable Discharge Factor (as determined by the Corporation) is applied, depending on the type of business.

Charge	Commencement Date to 30 June 2006 (\$/kL) <sup>4</sup>	1 July 2006 to 30 June 2007 (\$/kL)⁴	1 July 2007 to 30 June 2008 (\$/kL) <sup>4</sup>	1 July 2008 to 30 June 2009 (\$/kL) <sup>4</sup>
Sewerage usage charge, per kL of water used	0.43	0.43 x (1+∆CPI₁)	0.43 x (1+∆CPI <sub>2</sub> )	0.43 x (1+∆CPI <sub>3</sub> )

Table 8	Sewerage	usage	charge f	or l	Metered	Properties
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**4** A Discharge Factor of 50 per cent is applied for Residential Properties. For Non Residential Properties a variable Discharge Factor (as determined by the Corporation) is applied, depending on the type of business.

Table 9	Sewerage service	e charge for	<sup>.</sup> Multi Pr	remises which	are Residential	<b>Properties</b> <sup>5</sup>
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Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Sewerage service charge for each Residential Property located in a Multi Premises	93.33	156.10 x (1+∆CPI₁)	171.33 x (1+∆CPl₂)	185.72 x (1+∆CPI <sub>3</sub> )

**5** Refer to clauses 7.2, 7.3 and 7.6 for the application of the above charges, which represent one component of the methodology for determining the applicable maximum charge.

## **Stormwater Drainage Services**

#### 1. Application

This Schedule sets the maximum prices that the Corporation may charge for services under paragraph (c) of the Order (stormwater drainage services).

#### 2. Categories for pricing purposes

Prices have been determined for 2 categories:

- (a) Residential Properties; and
- (b) Non Residential Properties.

#### 3. Stormwater drainage charges for Residential Properties

The maximum price that may be levied by the Corporation for stormwater drainage services to a Residential Property for a Billing Cycle is the stormwater drainage service charge in Table 10 (corresponding to the applicable Period in that table) divided by the number of four monthly cycles in that Period.

#### 4. Stormwater drainage charges for Non Residential Properties

#### 4.1 Non Residential Properties constructed after March 1991

The maximum price that may be levied by the Corporation for stormwater drainage services to a Non Residential Property constructed after March 1991 for a Billing Cycle is the stormwater service charge set out in Table 11 (corresponding to the applicable Period and land size in that table) divided by the number of four monthly cycles in that Period.

#### 4.2 Non Residential Properties constructed on or before March 1991

The maximum price that may be levied by the Corporation for stormwater drainage services to a Non Residential Property constructed on or before March 1991 for a Billing Cycle is the sum of the following:

- (a) the stormwater service charge in Table 11 (corresponding to the applicable Period and land size in that table) divided by the number of four monthly cycles in that Period; and
- (b) the property value based charge calculated as follows:

$$\frac{\begin{pmatrix} A & \times & B \end{pmatrix}}{C}$$

Where:

**A** – the property valued based charge in Table 12 (corresponding to the applicable Period in that table);

- **B** the \$AAV; and
- C the number of four monthly cycles in that Period

## Tables 10, 11 and 12

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Stormwater service charge	28.91	47.67 x (1+∆CPI₁)	51.98 x (1+∆CPI₂)	56.29 x (1+∆CPI <sub>3</sub> )

#### Table 10 Stormwater service charge for Residential Properties

	-	-	-			
Table 11	Stormwater	service	charge	for Non	Residential	<b>Properties</b> °

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Stormwater service	charge			
Non Residential Property – small (<1,000 m <sup>2</sup> ) or low impact <sup>7</sup>	28.91	47.67 x (1+∆CPI₁)	51.98 x (1+∆CPI₂)	56.29 x (1+∆CPI <sub>3</sub> )
Non Residential Property – medium (1,001 to 10,000 m <sup>2</sup> )	28.91	62.82 x (1+∆CPI₁)	82.28 x (1+∆CPI₂)	101.73 x (1+∆CPI₃)
Non Residential Property - large (10,001 to 45,000 m <sup>2</sup> )	28.91	244.61 x (1+∆CPI₁)	445.85 x (1+∆CPI₂)	647.08 x (1+∆CPI₃)
Non Residential Property – very large (>45,000 m <sup>2</sup> )	28.91	714.21 x (1+∆CPI₁)	1,385.06 x (1+∆CPI₂)	2,055.91 x (1+∆CPI₃)

6 For further information about this stormwater service charge, please refer to section 9.5.3 of Report Nos 5, 6 and 7, 2005.

7 Low impact Non Residential Properties are often large in area and which are assessed by the Corporation to have a low area of impermeable surface.

## Table 12 Property value based charge for a Non Residential Property<br/>developed on or before March 1991

Charge	Commencement Date to 30 June 2006 (\$/\$AAV)	1July 2006 to 30 June 2007 (\$/\$AAV)	1 July 2007 to 30 June 2008 (\$/\$AAV)	1 July 2008 to 30 June 2009 (\$/\$AAV)
Property value based charge	0.0125	0.0096 x (1+∆CPI₁)	0.0064 x (1+∆CPI <sub>2</sub> )	0.0032 x (1+∆CPI₃)

## Trade Waste Services

#### 1. Application

This Schedule sets the maximum prices that the Corporation may charge for services under paragraph (d) of the Order (trade waste services).

#### 2. Categories for pricing purposes

Prices have been determined for 2 categories:

- (a) trade waste permits and inspection fees; and
- (b) trade waste services.

#### 3. Charges for trade waste permits or inspection fees

The maximum price that may be levied by the Corporation for a trade waste permit (a Major Permit or a Minor Permit) or for inspection fees (a Major Permit or a Minor Permit) is the corresponding charge in Table 13 for the applicable Period in that table.

#### 4. Charges for trade waste services

The maximum price that may be levied by the Corporation for trade waste services is:

- (a) the trade waste high strength charge in Table 14, corresponding to the applicable Period and wastewater treatment catchment area in that table; and
- (b) the trade waste services and tankering services charges in Table 15, corresponding the applicable Period in that table.

## Tables 13, 14 and 15

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)				
Trade waste permit ar	nd inspection fees							
Minor permits								
New minor permits establishment fee	146.58	146.58 x (1+∆CPI₁)	146.58 x (1+∆CPI₂)	146.58 x (1+∆CPI₃)				
Existing Minor Permit	Existing Minor Permit Holders:							
Annual Permit Fee <sup>8</sup>	69.02	103.53 x (1+∆CPI₁)	103.53 x (1+∆CPl₂)	103. 53 x (1+∆CPl₃)				
Inspection fee <sup>8</sup>	93.28	93.28 x (1+∆CPI₁)	93.28 x (1+∆CPl₂)	93.28 x (1+∆CPl₃)				
Existing Renew / Reissue	108.65	108.65 x (1+∆CPI₁)	108.65 x (1+∆CPI₂)	108.65 x (1+∆CPI₃)				
Major permits								
New major permits establishment fee	809.75	809.75 x (1+∆CPI₁)	809.75 x (1+∆CPI₂)	809.75 x (1+∆CPI₃)				
Existing major Permit	Holders:							
Annual Permit Fee	213.20	319.80 x (1+∆CPI₁)	319.80 x (1+∆CPl <sub>2</sub> )	319.80 x (1+∆CPI₃)				
Inspection	93.28	93.28 x (1+∆CPI₁)	93.28 x (1+∆CPl₂)	93.28 x (1+∆CPl₃)				
Existing Renew / Reissue	599.63	599.63 x (1+∆CPI₁)	599.63 x (1+∆CPI₂)	599.63 x (1+∆CPI₃)				

#### Table 13 Trade waste permit and inspection fees

**8** The cost of one inspection is covered by the Annual Permit Fee. Additional inspections, if necessary, are charged an inspection fee for each inspection.

Charge	Commencement Date to 30 June 2006 (\$/kg)	1 July 2006 to 30 June 2007 (\$/kg)	1 July 2007 to 30 June 2008 (\$/kg)	1 July 2008 to 30 June 2009 (\$/kg)
Trade waste high strength charge – wastewater treatment works within wastewater treatment catchment area				
Belmont	2.14	2.14 x (1+∆CPI₁)	2.14 x (1+∆CPI <sub>2</sub> )	2.14 x (1+∆CPI <sub>3</sub> )
Boulder Bay	2.70	2.70 x (1+∆CPI₁)	2.70 x (1+∆CPI <sub>2</sub> )	2.70 x (1+∆CPI <sub>3</sub> )
Branxton	3.90	3.90 x (1+∆CPI₁)	3.90 x (1+∆CPI <sub>2</sub> )	3.90 x (1+∆CPI <sub>3</sub> )
Burwood Beach	1.86	1.86 x (1+∆CPI₁)	1.86 x (1+∆CPl₂)	1.86 x (1+∆CPI₃)
Cessnock	2.49	2.49 x (1+∆CPI₁)	2.49 x (1+∆CPI <sub>2</sub> )	2.49 x (1+∆CPI <sub>3</sub> )
Dora Creek	2.37	2.37 x (1+∆CPI₁)	2.37 x (1+∆CPl <sub>2</sub> )	2.37 x (1+∆CPI₃)
Edgeworth	2.15	2.15 x (1+∆CPI₁)	2.15 x (1+∆CPl <sub>2</sub> )	2.15 x (1+∆CPI₃)
Farley	1.93	1.93 x (1+∆CPI₁)	1.93 x (1+∆CPI₂)	1.93 x (1+∆CPI₃)
Kearsley	3.84	3.84 x (1+∆CPI₁)	3.84 x (1+∆CPI <sub>2</sub> )	3.84 x (1+∆CPI₃)
Karuah	12.70	12.70 x (1+∆CPI₁)	12.70 x (1+∆CPl₂)	12.70 x (1+∆CPl <sub>3</sub> )
Kurri Kurri	3.36	3.36 x (1+∆CPI₁)	3.36 x (1+∆CPl <sub>2</sub> )	3.36 x (1+∆CPI₃)
Morpeth	2.35	2.35 x (1+∆CPI₁)	2.35 x (1+∆CPl <sub>2</sub> )	2.35 x (1+∆CPI₃)
Paxton	6.97	6.97 x (1+∆CPI₁)	6.97 x (1+∆CPl₂)	6.97 x (1+∆CPl₃)
Raymond Terrace	2.80	2.80 x (1+∆CPI₁)	2.80 x (1+∆CPl <sub>2</sub> )	2.80 x (1+∆CPI <sub>3</sub> )
Shortland	2.77	2.77 x (1+∆CPI₁)	2.77 x (1+∆CPl <sub>2</sub> )	2.77 x (1+∆CPl <sub>3</sub> )
Tanilba Bay	3.33	3.33 x (1+∆CPI₁)	3.33 x (1+∆CPl₂)	3.33 x (1+∆CPI <sub>3</sub> )
Toronto	2.28	2.28 x (1+∆CPI₁)	2.28 x (1+∆CPl <sub>2</sub> )	2.28 x (1+∆CPI <sub>3</sub> )

Table 14 Trade waste high strength charges<sup>9</sup>

9 These charges apply where the concentration strength is greater than 350 mg/L for BOD or NFR, whichever is the higher.

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009			
Trade waste services charges							
Heavy Metal – Burwood Beach WWTW Catchment (\$/kg)	29. 56	29. 56 x (1+∆CPI₁)	29. 56 x (1+∆CPl₂)	29. 56 x (1+∆CPI₃)			
Heavy Metal – All other catchments (\$/kg)	24.23	24.23 x (1+∆CPI₁)	24.23 x (1+∆CPI <sub>2</sub> )	24.23 x (1+∆CPI <sub>3</sub> )			
Phosphorus (concentrations >11mg/L)\$/kg)	2.84	2.84 x (1+∆CPI₁)	2.84 x (1+∆CPI₂)	2.84 x 1+∆CPI <sub>3</sub> )			
Sulphate (\$/kg)	{\$0.11x(SO₄/2000)}/ kg	[{\$0.11x(SO₄/2000)}/ kg] x (1+∆CPI₁)	[{\$0.11x(SO₄/2000)} /kg] x (1+∆CPI₂)	[{\$0.11x(SO₄/2000)} /kg] x (1+∆CPI₃)			
Tankering services	charges						
Establish Tankering agreement (\$)	146.58	146. 58 x (1+∆CPI₁)	146. 58 x (1+∆CPI₂)	146. 58 x (1+∆CPI₃)			
Renew agreement (\$)	108.65	108. 65 x (1+∆CPI₁)	108. 65 x (1+∆CPI₂)	108. 65 x (1+∆CPI₃)			
Monthly invoicing fee (\$)	20.50	20. 50 x (1+∆CPI₁)	20. 50 x (1+∆CPI <sub>2</sub> )	20. 50 x (1+∆CPI <sub>3</sub> )			
Delivery processing fee (\$/delivery docket)	2.05	2.05 x (1+∆CPI₁)	2.05 x (1+∆CPI₂)	2.05 x (1+∆CPI₃)			
Portable Toilet Effluent (\$/kL)	14.77	14.77 x (1+∆CPI₁)	14.77 x (1+∆CPI <sub>2</sub> )	14.77 x (1+∆CPI₃)			
Septic Effluent (\$/kL)	3.10	3. 10 x (1+∆CPI₁)	3. 10 x (1+∆CPl <sub>2</sub> )	3. 10 x (1+∆CPI <sub>3</sub> )			
Septic sludge (\$/kL) <sup>10</sup>	28.57	28.57 x (1+∆CPI₁)	28.57 x (1+∆CPI₂)	28.57 x (1+∆CPI <sub>3</sub> )			
High Strength Waste (\$/kL) <sup>11</sup>							
(a) volume charge (\$/kL); and	2.61	2.61 x (1+∆CPI₁)	2.61 x (1+∆CPI <sub>2</sub> )	2.61 x (1+∆CPI <sub>3</sub> )			
(b) load charge (\$/kg)	Charges from Table 14 for the relevant wastewater treatment works within the wastewater treatment catchment area	Charges from Table 14 for the relevant wastewater treatment works within the wastewater treatment catchment area	Charges from Table 14 for the relevant wastewater treatment works within the wastewater treatment catchment area	Charges from Table 14 for the relevant wastewater treatment works within the wastewater treatment catchment area			

#### Table 15 Trade waste services and tankering services charges

i.

10 Sludge is defined as septic tank waste with BOD or NFR (whichever is the higher) greater than 7500mg/L or a septic tank effluent and sludge mix with a 'sludge' proportion greater than 50%.

11 Tankered high strength waste is charged a volume charge plus a load charge. The load charge is the high strength charge in Table 14 for the relevant wastewater treatment works which the waste is delivered.

## Environmental levies and other sewerage charges

#### 1. Application

This Schedule sets the maximum prices that the Corporation may charge under paragraph (b) of the Order (sewerage services), to recover the capital costs of backlog sewerage services (under the Hunter Sewerage Project and the Priority Sewerage Program) that are not recovered through either direct beneficiary contributions or NSW Government community service obligation payments.

#### 2. Categories for pricing purposes

Prices have been determined for Residential Properties and Non Residential Properties.

# 3. Environmental improvement charge for Residential Properties, Non Residential Properties and Vacant Land<sup>12</sup>

3.1 The maximum price that may be levied by the Corporation on a Residential Property, a Non Residential Property or Vacant Land to recover the Corporation's capital costs related to the backlog sewerage programs (under the Hunter Sewerage Project and the Priority Sewerage Program) for a Billing Cycle is the environmental improvement charge in Table 16 for the applicable Period, divided by the number of four monthly cycles in that Period.

12 An owner of Vacant Land which is located in an area serviced by a Sewerage System but is not connected to the Sewerage System will be liable for any other applicable charges as set out in this determination if that owner applies for that Vacant Land to be connected to the Sewerage System.

- 3.2 For the purposes of clause 3.1 of this schedule, the environmental improvement charge in Table 16 does not apply where:
  - (a) the Property is located in an area not serviced by a Sewerage System or is in an area where a scheme to provide a point of connection has not been approved for funding by the NSW Government; or
  - (b) the Property is owned and occupied by an Eligible Pensioner.

# 4. Sewer service access charge for Vacant Land located in an area serviced by the Hunter Sewerage Project

The maximum price that may be levied by the Corporation on Vacant Land not connected to the Sewerage System at the date of announcement of the Hunter Sewerage Project but is reasonably available for connection to the Sewerage System in an area serviced by the Hunter Sewerage Project is the sewer service access charge in Table 17. That maximum price may be only levied by the Corporation at the time:

- (a) that Vacant Land is subdivided, or
- (b) an application is made by the owner of that Vacant Land to connect that Vacant Land to the Sewerage System<sup>13</sup>.

13 A separate application fee is levied by the Corporation – refer to Table 18, item 21.

## Tables 16 and 17

Charge	Commencement Date to 30 June 2006 (\$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Environmental improvement charge	33.45	50.17 x (1+∆CPI₁)	50.17 x (1+∆CPl₂)	50.17 x (1+∆CPI₃)

#### Table 16 Environmental improvement charge

			5	
Charge	Commencement Date to 30 June 2006 \$)	1 July 2006 to 30 June 2007 (\$)	1 July 2007 to 30 June 2008 (\$)	1 July 2008 to 30 June 2009 (\$)
Sewer service access charge	3,184.68	3,184.68 x (1+∆CPI₁)	3,184.68 x (1+∆CPI₂)	3,184.68 x (1+∆CPI₃)

#### Table 17 Sewer service access charge

## Ancillary and miscellaneous customer services

#### 1. Application

This Schedule sets the maximum prices that the Corporation may charge for services under paragraph (g) of the Order (ancillary and miscellaneous customer services for which no alternative supply exists).

#### 2. Ancillary and miscellaneous charges

- 2.1 The maximum charge that may be levied by the Corporation for an ancillary and miscellaneous service in Table 18 is:
  - (a) **from the Commencement Date to 30 June 2006** the corresponding charge in Table 18;
  - (b) from 1 July 2006 to 30 June 2007 the corresponding charge in Table 18 multiplied by (1+ΔCPl<sub>1</sub>);
  - (c) from 1 July 2007 to 30 June 2008 the corresponding charge in Table 18 multiplied by (1+ΔCPl<sub>2</sub>);
  - (d) from 1 July 2008 to 30 June 2009 the corresponding charge in Table 18 multiplied by  $(1+\Delta CPI_3)$ .
- 2.2 A reference in Table 18 to "NA" means that the Corporation does not provide the relevant service.

No.	Ancillary and miscellaneous service	Charge from Commencement Date to 30 June 2006 (\$)
1	Conveyancing Certificate	
•	a) Over the Counter	19 10
	b) Electronic	7.50
2	Bronarty Sowarage Diagram up to and including A4 size (where available)	
2	Charge and accurate the location of the bound sorrige line, building and accuration for a	
	(Diagram showing the location of the nouse-service line, building and sewer for a property)	
	a) Certified	NA
	b) Uncertified	
	i. Over the Counter	13.80
	ii. Electronic	NA
3	Service Location Diagram	
	(Location of sewer and/or Water Mains in relation to a property's boundaries)	
	a) Over the Counter	13.80
	b) Electronic	8.00
4	Special Meter Reading Statement	60.50
5	Billing Record Search Statement – up to and including 5 years.	48.85
6	Building over or Adjacent to Sewer Advice (Statement of Approval Status for existing Building Over or Adjacent to a Sewer)	23.35
7	Water Reconnection – after restriction	
	a) During business hours	52.95
	b) Outside business hours	159.10
8	Workshop Test of Meter	
	(Removal and full mechanical test of the meter by an accredited organisation at the customer's request to determine the accuracy of the Meter. This involves dismantling and inspection of meter components)	
	20mm	171.50
	25mm	171.50
	32mm	213.30
	40mm	229.30
	50mm ('light' being a Meter weighing less than 10 kgs and 'heavy' being a Meter weighing	light 253.50 heavy 465.00
	65mm	465.00
	80mm	469.00
	100mm	545.50
	150mm	545.50
0	Application for water disconnection	
J	a) Application for water disconnection-(all sizes)	27 60
	b) Physical Disconnection	NA
	, <b>.</b>	

## Table 18 Charges for ancillary and miscellaneous services

No.	Ancillary and miscellaneous service	Charge from Commencement Date to 30 June 2006 (\$)
10	Application for Water Service Connection-(up to and including 25mm) (This covers the administration fee only. There will be a separate charge payable to the utility if they also perform the physical connection)	31.85
11	Application for Water Service Connection-(32-65mm) (This covers administration and system capacity analysis as required)	277.00
12	Application for Water Service Connection-(80mm or greater) (This covers administration and system capacity analysis as required)	507.00
13	Multiple and large services Application to assess a Water main Adjustment	
	(Moving a fitting and/or adjusting a section of water main up to and including 25 metres in length)	
	This covers preliminary advice as to the feasibility of the project and will result in either: 1. A rejection of the project in which cases the fee covers the associated investigation costs Or	343.00
	<ol> <li>Conditional approval in which case the fee covers the administrative costs associated with the investigation and record amendment.</li> </ol>	343.00
14	<b>Standpipe Hire – security bond</b> Security Bond (20mm standpipes) Security Bond (32mm and 50 mm standpipes)	300.00 700.00
15	Standpipe Hire	
	Annual Fee (20mm) (32mm) (50mm) Quarterly Fee	NA NA NA
	(20mm) (32mm) (50mm)	NA NA NA
	(20mm) (32mm) (50mm)	10.60 19.00 20.00
	Tri-annual Fee (20mm) (32mm) (50mm)	22.40 56.00 60.00
16	Standpipe Water Usage Fee	water usage charge as per Table 2
17	Backflow Prevention Device Application and Registration Fee (This fee is for initial registration of the backflow device)	19.10

No.	Ancillary and miscellaneous service	Charge fron Commenceme Date to 30 June 200 (\$)
18	Backflow Prevention Application Device Annual Administration Fee	12.75
	(This fee is for the maintenance of records including logging of inspection reports)	
19	Major Works Inspections Fee.	
	(This fee is for the inspection, for the purposes of approval of water and sewer mains, constructed by others, that are longer than 25 metres and/or greater than 2 metres in depth)	
	Water Mains (\$ per metre)	6.30
	Gravity Sewer Mains (\$ per Metre)	9.50
	Rising Sewer Mains (\$ per Metre)	6.30
	Reinspection	NA
20	Statement of Available Pressure and Flow	280.00
	(This fee covers all levels whether modelling is required or not)	

Fixed Charge (\$)         21       Application to Connect or Disconnect Sewer or for a Special Internal Inspection Permit       35.05         Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.       37.20         22       Application to Connect or Disconnect Water & Sewer Services (combined application)       37.20         Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.       37.20         23       Irregular & Dishonoured Payments       37.20         Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines and direct debit payment declines.       31.10         Banking Authority:       20.60       20.60         Credit Card decline       No charge       13.10         Australia Post:       25.60       25.60         24       Request for Separate Metering of Strata Units       25.60         24       Request for Separate Metering of Strata Plan Up to 4 units within a registered Strata Plan Up to 4 units       66.65	No.	Ancillary and miscellaneous service	Commence 30 Ju	ment Date to ne 2006
21       Application to Connect or Disconnect Sewer or for a Special       35.05         Internal Inspection Permit       Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.       37.20         22       Application to Connect or Disconnect Water & Sewer Services (combined application)       37.20         Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.       37.20         23       Irregular & Dishonoured Payments       70.20         Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines.       20.60         Banking Authority:       20.60       13.10         Australia Post:       25.60       24         Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units       66.65			Fixed Charge (\$)	Hourly Charge (\$)
Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.       37.20 <b>22</b> Application to Connect or Disconnect Water & Sewer Services (combined application)       37.20         Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.       37.20 <b>23</b> Irregular & Dishonoured Payments       Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines and direct debit payment declines.       20.60         Banking Authority:       20.60         - Credit Card decline       No charge         - Direct Debit decline       13.10         Australia Post:       25.60 <b>24</b> Request for Separate Metering of Strata Units       25.60 <b>25</b> Request for Separate Metering of Strata Plan       66.65         Up to 4 units       66.65	21	Application to Connect or Disconnect Sewer or for a Special Internal Inspection Permit	35.05	NA
22Application to Connect or Disconnect Water & Sewer Services (combined application)37.20Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.37.2023Irregular & Dishonoured Payments Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines.20.60Banking Authority: - Cheques - Direct Debit decline20.60No charge 13.10Australia Post: - Cheques 		Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.		
Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.23Irregular & Dishonoured Payments Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines and direct debit payment declines.Banking Authority: - Cheques20.60 No charge 13.10Australia Post: - Cheques25.6024Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units66.65	22	Application to Connect or Disconnect Water & Sewer Services (combined application)	37.20	NA
23Irregular & Dishonoured PaymentsFunctions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines and direct debit payment declines.Banking Authority: - Cheques20.60Credit Card declineNo charge- Direct Debit decline13.10Australia Post: - Cheques25.6024Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units66.65		Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.		
Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines and direct debit payment declines.Banking Authority: - Cheques20.60- Credit Card declineNo charge 	23	Irregular & Dishonoured Payments		
Banking Authority:20.60- Cheques20.60- Credit Card declineNo charge- Direct Debit decline13.10Australia Post: - Cheques25.6024Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units66.65		Functions relating to cheques returned by banking authorities or payment agency as irregular or dishonoured, credit card payment declines and direct debit payment declines.		
- Cheques20.60- Credit Card declineNo charge- Direct Debit decline13.10Australia Post: - Cheques25.6024Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units66.65		Banking Authority:		
<ul> <li>Credit Card decline No charge</li> <li>Direct Debit decline 13.10</li> <li>Australia Post:         <ul> <li>Cheques 25.60</li> </ul> </li> <li>24 Request for Separate Metering of Strata Units             <ul> <li>Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan             <ul> <li>Up to 4 units</li> <li>66.65</li> <li>Up to 4 units</li> <li>Cheques</li> <li>Cheques</li> </ul> </li> </ul></li></ul>		- Cheques	20.60	NA
<ul> <li>Direct Debit decline 13.10</li> <li>Australia Post:         <ul> <li>Cheques 25.60</li> </ul> </li> <li>24 Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units 66.65</li> </ul>		- Credit Card decline	No charge	NA
Australia Post:       - Cheques       25.60         24       Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units       66.65		- Direct Debit decline	13.10	NA
<ul> <li>Cheques 25.60</li> <li>24 Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan Up to 4 units</li> <li>66.65</li> </ul>		Australia Post:		
24 Request for Separate Metering of Strata Units         Process a request from a Body Corporate for separate sub-metering of         individual units within a registered Strata Plan         Up to 4 units       66.65		- Cheques	25.60	NA
Up to 4 units 66.65	24	Request for Separate Metering of Strata Units Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan		
		Up to 4 units	66.65	NA
5 to 10 units 84.30		5 to 10 units	84.30	NA
> 10 units 108.90		> 10 units	108.90	NA

No.	Ancillary and miscellaneous service	Commencement Date to 30 June 2006		
		Fixed Charge (\$)	Hourly Charge (\$)	
25	Water Meter Re-Read			
	Re-read a water meter because a Customer has not returned a self read card left during the normal reading cycle because the meter was inaccessible.	47.25	NA	
26	Wyee East Water Contribution	1,293.00	NA	
	Special charge to connect to Wyee East water reticulation system			
27	Determining Requirements for Building Over/Adjacent to Sewer	55.75	NA	
	Statement of conditional requirements to Council approved building plans to safeguard Hunter Water's sewer assets.			
28	Application for a Metered Stand Pipe	111.50	NA	
	Process applications for the hire of portable metered standpipes			
29	Meter Affixtures	20.00	NA	
	Installation of meters for new connections			
30	Inspection of Non-compliant Meters			
	Inspection of properties to assess requirements to make a meter accessible and/or where a second inspection is required for strata metering (where initial application was non-compliant)			
	- up to 4 units	31.60	NA	
	- 5 to 10 units	38.60	NA	
	>10 units	52.60	NA	
	Inaccessible meters	31.60	NA	
31	Special Inspections	60.55	NA	
	Inspection of rainwater tanks and water storage tanks to ensure adequate backflow for protection of Hunter Water supply and inspection of temporary toilet connections to the sewer on large building sites			
32	Connect to or Building Over/Adjacent to Stormwater Channel for a Single Residence	65.10	NA	
	Process applications from customers connecting a single residence to a stormwater channel or erecting a single residence over/adjacent to a stormwater channel held by Hunter Water			
33	Stormwater Channel Connection	258.00	NA	
	New developments unable to drain to the street drainage system maybe serviced by a Hunter Water stormwater channel if available. The fee covers the cost of assessment.			
34	Hydraulic Assessment Application - less than 80mm service	245.00	NA	
	The NSW Code of Practice: Plumbing and Drainage requires developments with large domestic or fire water demands and/or trade waste discharges to lodge hydraulic designs for Hunter Water's approval. This service is normally provided to redevelopments using an existing meter.			
35	Pump Station Design Assessment			
	Pump station designs prepared by consultants are audited to ensure compliance with Hunter Water standards. Water Pump Station	2,552.00	NA	

No.	Ancillary and miscellaneous service	Commencement Date to 30 June 2006	
		Fixed Charge (\$)	Hourly Charge (\$)
	Sewer Pump Station	2,808.00	NA
36	Application to Assess Sewer main Adjustment (Moving a fitting and/or adjusting a section of sewer main up to and including 25 metres in length)	343.00	NA
37	Indicative Developer Charge Application This fee covers assessment of the proposed development and determination of developer charges.	227.00	NA
38	<b>Revised Notice Letter Application</b> The revision fee covers the cost of recalculating the developer charge and reviewing the construction requirements.	289.00	NA
39	<b>Bond Application</b> This fee covers the lodging and release of a bond, and an estimation of the cost of outstanding works, where a developer wishes to provide security in lieu of constructing works to facilitate early release of Hunter Water compliance certificates.	1,122.00	NA
40	<b>Bond Variation</b> This charge covers Hunter Water's administration cost for adjustment of securities.	163.00	NA
41	<b>Application Fee - Section 50</b> The application fee covers the basic processing of each application to determine if there are any requirements such as developer charges or the construction of works.	343.00	NA
42	<b>Application for Water/Sewer main Extensions</b> Unserviced property owners can apply for approval to extend water and/or sewer mains. Hunter Water calculates appropriate developer charges and extension options based on system capacity and topographical constraints.	343.00	NA
43	Assessment of Minor Works Some applications required relatively minor works - typically 1 into 2 lot subdivisions in urban areas where water and sewer facilities are connected to the lot being subdivided. The resources required to assess minor works designs are considerably less than those required for large developments.	542.00	NA
44	Assessment of Major Works This category consists principally of large subdivisions or 'greenfield' sites. As a result of the works being large scale, including not only reticulation systems but also lead-in works, pump stations and rising mains, applicants are required to engage consultants to prepare the designs. Following approval of the designs, construction is supervised by Hunter Water which also carries out the work-as-executed survey and connections to live water mains. These fees are separately charged.	1,948.00	NA
45	<b>Connection to Existing Water System (major works)</b> This fee covers shut down to allow connections to existing fittings and recharging the main.	614.00	NA
46	Insertion or Removal of Tee & Valve		
	Hunter Water is required to identify the shutdown area, issue pre- shutdown notices to affected customers, shutdown the water system to allow the contractor to connect new water systems and restore the water supply following connection.		

No.	Ancillary and miscellaneous service	Commence 30 Jui	ment Date to ne 2006
		Fixed Charge (\$)	Hourly Charge (\$)
	Shutdown and charge up only	614.00	NA
	Shutdown, insert tee & valve, and charge up	769.00	NA
47	<b>Application for Additional Sewer Connection</b> Development requiring alternative sewer connection points must make an application to Hunter Water. Review of options and assessment of drawings or designs.	258.00	NA
48	<b>Tee and Valve Connection</b> Water services greater than 80mm diameter require special connection arrangements to Hunter Water's mains and are covered by an agreement and technical specification prepared on application.	149.00	NA
49	<b>Minor Works Inspection Fee</b> Auditing of works constructed under minor works contracts to ensure that specified quality is being achieved.	147.00	NA
50	<b>Major Works Inspection and WAE Fee</b> Comprises inspection/audit of works constructed under major works contracts to ensure that specified quality is achieved. Work-as-executed comprises survey of the constructed work and modifying plans to detail the precise location of the work for inclusion in Hunter Water information systems.		
	Water Pump Stations Sewer Pump Stations	3,950.00 5,350.00	NA NA
51	Application to Assess Encroachment on Hunter Water Land, Easement Rights or Assets This fee is for a first pass review of an application, to allow Hunter Water to advise requirements to be met and a quote for additional, more detailed assessment.	251.00	NA
52	<b>Technical Services (Fee per hour)</b> This fee provides an hourly rate for additional technical work to be undertaken as agreed upfront with the client/applicant.	NA	91.00
53	<b>Remote Application Fee</b> This fee covers applications made for a compliance certificate in an area remote from Hunter Water Services and includes the basic processing of each application to issue a certificate	207.00	NA
54	Indicative Requirements Fee This charge covers technical assessment of a proposed development and general advice on the level of developer servicing plan charges	343.00	NA
55	<b>Strategy Review</b> Major developments often require the preparation of a servicing strategy for the whole development. Consulting engineers are engaged to prepare this strategy on behalf of a developer and Hunter Water reviews these strategies to ensure they are provide optimal connection options and are consistent with current guidelines	516.00	NA
56	Hydraulics Assessment Application - 80mm service and above This service covers administration and system capacity analysis, as	327.00	NA
	required. This includes hydraulic assessment and processing. Assessment and in-principle approval of meter sizes and services.		

## **Definitions and Interpretation**

#### 1. **DEFINITIONS**

#### 1.1 General definitions

In this determination:

AAV means the assessed annual value of land as defined by the Valuation of Land Act, 1916.

Area of Operations has the meaning given to that term in the Operating Licence.

Billing Cycle means each four monthly cycle during a Period.

**Commencement Date** means the Commencement Date defined in clause 2(b) of section 1 (**Background**) of this determination.

**Common Water Meter** means a Meter which is connected or available for connection to Multi Premises, where the Meter measures the water usage to that Multi Premises but not to each relevant Property located on or within that Multi Premises.

**Community Development Lot** has the meaning given to that term under the *Community Land Development Act* 1989.

**Community Parcel** has the meaning given to that term under the *Community Land Development Act* 1989.

**Company Title Building** means a building owned by a company where the issued shares of the company entitle the legal owner to exclusive occupation of a specified Company Title Dwelling within that building.

**Company Title Dwelling** means a dwelling within a Company Title Building.

**Corporation** means the Corporation defined in clause 1(b) of section 1 (**Background**) of this determination, constituted under the *Hunter Water Act* 1991.

**Dungog Shire Council** means the Dungog Shire Council as constituted under the Local Government Act.

**df**% or **Discharge Factor** means in relation to a Property, the percentage of water supplied to that property which the Corporation assesses or deems to be discharged into the Sewerage System.

**Diameter Pipe** means the service pipe connecting a Property to the Water Supply System.

**Eligible Pensioner** means a person who is the owner and occupier of a Property and who holds a pensioner concession card from Centrelink or an equivalent concession card from the Department of Veterans' Affairs.

Filtered Water means water that has been treated at a water filtration plant.

**GST** means the Goods and Services Tax as defined in *A New Tax System* (*Goods and Services Tax*) *Act,* 1999.

**Hunter Sewerage Project** means the program established in 1988 by the NSW Government to provide sewer services to specific unsewered areas in the Corporation's Area of Operations.

**IPART Act** means the *Independent Pricing and Regulatory Tribunal Act,* 1992.

**kL** means kilolitre or one thousand litres.

**Local Government Act** means the *Local Government Act*, 1993 (*NSW*).

**Major Permit**, in relation to a trade waste permit, has the meaning given to that term in the Trade Waste Policy.

Meter means an apparatus for the measurement of water.

**Metered Property** means a Residential Property or Non Residential Property (as the case may be) that has a Meter.

**Meter Reading Period** means the period equal to the number of days between:

- (a) the date on which the Meter was last read (or taken to have been read by the Corporation); and
- (b) the date on which the Meter was read (or taken to have been read by the Corporation) immediately preceding the date in paragraph (a).

**Minor Permit**, in relation to a trade waste permit, has the meaning given to that term in the Trade Waste Policy.

**Monopoly Services** means the Monopoly Services as defined in clause 1(b) of section 1 (**Background**) of this determination.

**Multi Premises** means a premise where there are two or more Properties, excluding premises where there are hotels, motels, guest houses or backpacker hostels (each as defined in the Local Government Act) located on it.

**Non Residential Property** means a Property that is not a Residential Property or Vacant Land.

**Operating Licence** means the Corporation's operating licence in force under section 12 of the *Hunter Water Act* 1991.

**Order** means the Order defined in clause 1(b) of section 1 (**Background**) of this determination and published in Government Gazette No. 18 dated 14 February 1997.

**Owners Corporation** has the meaning given to that term under the *Strata Schemes Management Act* 1996.

**Period** means the Commencement Date to 30 June 2006, 1 July 2006 to 30 June 2007, 1 July 2007 to 30 June 2008 or 1 July 2008 to 30 June 2009 (as the case may be).

**Priority Sewerage Program** means the program established in 1998 by the NSW Government to provide sewer services to unsewered areas based on a priority ranking developed by the Environment Protection Authority and New South Wales Department of Health and Ageing.

**Property** includes:

- (a) a Strata Title Lot;
- (b) a Company Title Dwelling;
- (c) a Community Development Lot;
- (d) a building or part of a building occupied or available for occupation; or
- (e) land.

**Rateable Land** has the meaning given to that term under the Local Government Act.

**Residential Single Property** means a Residential Property which is not a Strata Title Lot, a Company Title Dwelling or a Community Development Lot.

**Residential Property** means a Property where:

- (a) in the case of that Property being Rateable Land, that Property is categorised as residential under section 516 of the Local Government Act; or
- (b) in the case of that Property not being Rateable Land, the dominant use of that Property is residential, applying the classifications in section 516 of the Local Government Act.

Sewerage System means the sewerage system of the Corporation.

**Strata Title Building** means a building that is subject to a strata scheme under the *Strata Schemes* (*Freehold Development*) *Act* 1973.

**Strata Title Lot** means a lot as defined under the *Strata Schemes* (*Freehold Development*) *Act* 1973.

**Trade Waste Policy** means the Corporation's Trade Waste Policy and Management Plan (as amended from time to time).

**Tribunal** means the Independent Pricing and Regulatory Tribunal of New South Wales established under the IPART Act.

**Unfiltered Water** means water that has not been treated or filtered by the Corporation, and which is distributed by the Corporation to the customer other than via the Corporation's Water Supply System for Filtered Water.

**Unmetered Property** means a Property that is not serviced by a Meter.

**Unit Entitlement** when applied to a Strata Title Lot, has the meaning given to that term under the *Strata Schemes (Freehold Development) Act* 1973.

#### Vacant Land means:

- (a) in relation to schedules 1, 2, 3, 4 and 6, land that has no capital improvements and no connection to the Water Supply System; and
- (b) in relation to schedule 5, land that has no capital improvements and no connection to the Water Supply System at the time the backlog sewerage services (under the Hunter Sewerage Project and the Priority Sewerage Program) were announced by the NSW Government.

Water Supply System means the water supply system of the Corporation.

**Year** means a period of twelve months commencing on 1 July and ending on 30 June in the ensuing calendar year.

#### 1.2 Consumer Price Index

(a) **CPI** means the consumer price index All Groups index number for the, weighted average of eight capital cities, published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by the Tribunal

(b) 
$$\Delta CPI_{1} = \left(\frac{CPI_{Jun2005} + CPI_{Sep2005} + CPI_{Dec2005} + CPI_{Mar2006}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

$$\Delta CPI_{2} = \left(\frac{CPI_{Jun2006} + CPI_{Sep2006} + CPI_{Dec2006} + CPI_{Mar2007}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

$$\Delta CPI_{3} = \left(\frac{CPI_{Jun2007} + CPI_{Sep2007} + CPI_{Dec2007} + CPI_{Mar2008}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

each as calculated by the Tribunal and notified in writing by the Tribunal to the Corporation.

(c) The subtext (for example Jun 2005) when used in relation to paragraph (b) above means the CPI for the quarter and Year indicated (in the example the June quarter for 2005).

#### 2. INTERPRETATION

#### 2.1 General provisions

In this determination:

- (a) headings are for convenience only and do not affect the interpretation of this determination;
- (b) a reference to a schedule, annexure, clause or table is a reference to a schedule, annexure, clause or table to this determination;
- (c) words importing the singular include the plural and vice versa;
- (d) a reference to a law statute or document includes all amendments or replacements of that law, statute or document;
- (e) a reference to a "four monthly cycle" is a reference to a consecutive period of four months ending on 28 February, 30 June or 31 October, as the case may be.

#### 2.2 Explanatory Notes and clarification note

- (a) Explanatory notes do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.
- (b) The Tribunal may publish a clarification notice in the NSW Government Gazette to correct any manifest error in this determination as if that clarification note formed part of this determination.

#### 2.3 Prices exclusive of GST

Prices or charges specified in this determination do not include GST.

#### 2.4 Billing

- (a) For the avoidance of doubt nothing in this determination affects when the Corporation may issue a bill to a customer for prices or charges under this determination.
- (b) If a Meter Reading Period commences before the Commencement Date and ends after the Commencement Date, the water usage charge or sewerage usage charge (as the case may be) applying to that Meter Reading Period is the charge calculated as follows:
  - (i) for the number of days falling before the Commencement Date the water usage charge or the sewerage usage charge under Determination No 3 of 2003, prior to that determination being replaced by this determination; and
  - (ii) **for the number of days falling on or after the Commencement Date -** the water usage charge or the sewerage usage charge under this determination.
- (c) If a Meter Reading Period traverses more than 1 Period, the Corporation must levy any charge applying in this determination on a pro-rata basis.

#### 2.5 Apparatus for checking quantity of water used

For the purposes of this determination, where an apparatus is used by the Corporation to check on the quantity of water used recorded by a Meter, that apparatus will not fall within the definition of a 'Meter'.

## Determination No 7, 2005

Section 11(1) Independent Pricing and Regulatory Tribunal Act 1992

## Sydney Catchment Authority

Independent Pricing and Regulatory Tribunal of New South Wales

Reference No: 05/127

## 1. Background

- (a) Section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992,* permits the Tribunal to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service supplied by a government agency specified in Schedule 1 of the IPART Act.
- (b) Sydney Catchment Authority (Authority) is listed as a government agency for the purposes of Schedule 1 of the IPART Act. The services of the Authority declared as monopoly services (Monopoly Services) under the Independent Pricing and Regulatory Tribunal (Water Supply Services) Order 2000 (Order) are:
  - (1) water supply services; and
  - (2) ancillary and miscellaneous services for which no alternative supply exists and which relate to the supply of those water services.

Accordingly, the Tribunal may determine the prices for the Authority's Monopoly Services.

- (c) In investigating and reporting on the pricing of the Authority's Monopoly Services, the Tribunal has had regard to a broad range of matters, including the criteria set out in section 15(1) of the IPART Act.
- (d) In accordance with section 13A of the IPART Act, the Tribunal has fixed the maximum price for the Authority's Monopoly Services or has established a methodology for fixing the maximum price.
- (e) Under section 18(2) of the IPART Act, the Authority may not fix a price below that determined by the Tribunal without the approval of the Treasurer.

#### 2. Application of this determination

- (a) This determination fixes the maximum prices (or sets a methodology for fixing the maximum prices) that the Authority may charge for the Monopoly Services.
- (b) This determination commences on the later of 1 October 2005 and the date that it is published in the NSW Government Gazette (**Commencement Date**).
- (c) The maximum prices in this determination apply from the Commencement Date to 30 June 2009. The maximum prices in this determination prevailing at 30 June 2009 continue to apply beyond 30 June 2009 until this determination is replaced.

#### 3. Replacement of Determination No. 4 of 2005

This determination replaces Determination No. 4 of 2005 from the Commencement Date. The replacement does not affect anything done or omitted to be done, or rights or obligations accrued, under Determination No. 4 of 2005 prior to its replacement.

### 4 Monitoring

The Tribunal may monitor the performance of the Authority for the purposes of:

- (a) establishing and reporting on the level of compliance by the Authority with this determination; and
- (b) preparing a periodic review of pricing policies in respect of the Monopoly Services supplied by the Authority.

#### 5. Schedules

Schedules 1-3 (inclusive) and the Tables in those Schedules set out the maximum prices that the Authority may charge for the Monopoly Services specified in the Schedules.

### 6. Definitions and Interpretation

Definitions and interpretation provisions used in this determination are set out in Schedule 4.

## Water Supply Services

#### 1. Application

This schedule sets the maximum prices that the Authority may charge for services to a person (other than a Customer) under paragraph (a) of the Order (water supply services).

#### 2. Water supply services to the Corporation

The maximum charge for water supplied by the Authority to the Corporation is the sum of:

- (a) the Fixed Availability Charge in Table 1, corresponding to the applicable Period in that table; and
- (b) the Volumetric Charge (per ML) in Table 2, corresponding to the applicable Period in that table.

#### 3 Water supply services to Wingecarribee Shire Council

The maximum charge for water supplied by the Authority to Wingecarribee Shire Council is the Volumetric Charge (per ML) in Table 3, corresponding to the applicable Period in that table.

#### 4 Water supply services to Shoalhaven City Council

#### 4.1 Supply to Kangaroo Valley

The maximum charge for water supplied by the Authority to Shoalhaven City Council for use in Kangaroo Valley is the Volumetric Charge (per ML) in Table 4, corresponding to the applicable Period in that table.

#### 4.2 Tallowa Dam Releases to Shoalhaven City Council

The maximum charge for water supplied by the Authority to Shoalhaven City Council from the Tallowa Dam Releases during times of drought (as determined by Shoalhaven City Council) is the Volumetric Charge (per ML) in Table 5, corresponding to the applicable Period in that table.

## Tables 1, 2, 3, 4 and 5

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Fixed Availability Charge (\$per calendar month)	5,124,000	5,124,000 x (1+∆CPI₁)	5,124,000 x (1+∆CPI₂)	5,124,000 x (1+∆CPI₃)

#### Table 1 Fixed Availability Charges for the Corporation

 Table 2 Volumetric Charges for the Corporation

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Volumetric Charge (\$ per ML)	155.34	169.91 x (1+∆CPI₁)	185.84 x (1+∆CPI₂)	203.27 x (1+∆CPI <sub>3</sub> )

#### Table 3 Volumetric Charges for Wingecarribee Shire Council

Commencement Charge Date to 30 June 2006		1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Volumetric Charge (\$ per ML)	126.88	148.68 x (1+∆CPI₁)	170.48 x (1+∆CPl₂)	192.27 x (1+∆CPI₃)

#### Table 4 Volumetric Charges for Kangaroo Valley

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Volumetric Charge (\$ per ML)	126.88	148.68 x (1+∆CPI₁)	170.48 x (1+∆CPI <sub>2</sub> )	192.27 x (1+∆CPI <sub>3</sub> )

# Table 5 Volumetric Charges for Tallowa Dam Releases to Shoalhaven City Council in<br/>times of drought

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Volumetric Charge (\$ per ML)	126. 88	148.68 x (1+∆CPI₁)	170.48 x (1+∆CPI <sub>2</sub> )	192.27 x (1+∆CPI₃)

## Water Supply Services

## **Bulk Raw Water**

#### 1. Application

This schedule sets the maximum prices that the Authority may charge for services of Bulk Raw Water to a Customer under paragraph (a) of the Order (water supply services).

#### 2 Bulk Raw Water

The maximum charge for Bulk Raw Water supplied by the Authority to a Customer is the Volumetric Charge (per kL) in Table 6, corresponding to the applicable Period in that table.

Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Bulk Raw Water charges - Volumetric Charge (\$ per kL)	0.45	0.45 x (1+∆CPI₁)	0.45 x (1+∆CPl₂)	0.45 x (1+∆CPI₃)

#### Table 6 Volumetric Charges for Bulk Raw Water

## Water Supply Services

## **Unfiltered Water**

#### 1. Application

This schedule sets the maximum prices that the Authority may charge for services of Unfiltered Water to a Customer under paragraph (a) of the Order (water supply services).

#### 2 Unfiltered Water

The maximum charge for Unfiltered Water supplied by the Authority to a Customer is the sum of:

- (a) the Fixed Availability Charge determined as follows:
  - (i) **from the Commencement Date to 30 June 2006 –** 75% of the Fixed Availability Charge in Table 7, corresponding to the service connection size; and
  - (ii) from 1 July 2006 to 30 June 2007, 1 July 2007 to 30 June 2008 or 1 July 2008 to 30 June 2009 100% of the Fixed Availability Charge in Table 7, corresponding to the service connection size; and
- (b) the Volumetric Charge (per kL) in Table 8, corresponding to the applicable Period in that table.

## Tables 7 and 8

Charge	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Fixed Availability Ch (\$ per financial year)	narge ) - service connectio	n size (nominal dia	neter)	
20mm	75.00	75.00	75.00	75.00
25mm	117.20	117.20	117.20	117.20
30mm	168.75	168.75	168.75	168.75
32mm	192.00	192.00	192.00	192.00
40mm	300.00	300.00	300.00	300.00
50mm	468.75	468.75	468.75	468.75
80mm	1200.00	1200.00	1200.00	1200.00
100mm	1875.00	1875.00	1875.00	1875.00
150mm	4218.75	4218.75	4218.75	4218.75
200mm	7500.00	7500.00	7500.00	7500.00
>200mm	(nominal diameter) <sup>2</sup> x 75/400	(nominal diameter) <sup>2</sup> x 75/400	(nominal diameter) <sup>2</sup> x 75/400	(nominal diameter) <sup>2</sup> x 75/400

#### Table 7 Fixed Availability Charges for Unfiltered Water

Table 8 Volumetric Charges for Unfiltered Water	
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Charge	Commencement Date to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Unfiltered Water - Volumetric Charge (\$ per kL)	0.77	0.77 x (1+∆CPI₁)	0.77 x (1+∆CPl₂)	0.77 x (1+∆CPI <sub>3</sub> )
#### Schedule 4

#### **Definitions and Interpretation**

#### 1. Definitions

#### **1.1 General definitions**

In this determination:

**Authority** means the Authority as defined in clause 1(b) of section 1 (**Background**) of this determination, constituted under the *Sydney Water Catchment Management Act* 1998.

Bulk Raw Water means water that has not been managed in any way.

**Commencement Date** means the Commencement Date as defined in clause 2(b) of section 1 (**Background**) of this determination.

**Corporation** means the Sydney Water Corporation constituted under the *Sydney Water Corporation Act, 1994.* 

**Customer** means a person to whom the Authority supplies water, other than:

- (a) the Corporation; or
- (b) a water supply authority, a local council or a county council each as defined in the *Sydney Water Catchment Management Act,* 1998.

**Fixed Availability Charge** means a fixed charge imposed by the Authority for making water available for supply to a person, irrespective of the amount of water consumed by that person.

**GST** means the Goods and Services Tax as defined in *A New Tax System* (*Goods and Services Tax*) *Act*, 1999.

**IPART Act** means the Independent Pricing and Regulatory Tribunal Act, 1992.

**Kangaroo Valley** means the township of Kangaroo Valley within the local government area of the Shoalhaven City Council.

**kL** means kilolitre or one thousand litres.

ML means megalitre or one million litres.

**Monopoly Services** means the Monopoly Services as defined in clause 1(b) of section 1 (**Background**) of this determination.

**Order** means the Order defined in clause 1(b) of section 1 (**Background**) of this determination and published in Gazette No. 22 dated 11 February 2000.

**Period** means the Commencement Date to 30 June 2006, 1 July 2006 to 30 June 2007, 1 July 2007 to 30 June 2008 or 1 July 2008 to 30 June 2009 (as the case may be).

**Shoalhaven City Council** means the Shoalhaven City Council as constituted under the *Local Government Act, 1993* (NSW).

**Tallowa Dam Releases** describes the circumstance where the Shoalhaven City Council requests the Authority to release from Tallowa Dam water in excess of that which would usually be released by the Authority so as to enable the Shoalhaven City Council to provide water to towns within its local government area in times of drought.

**Tribunal** means the Independent Pricing and Regulatory Tribunal of New South Wales established under the IPART Act.

**Unfiltered Water** means Bulk Raw Water that has been managed for quality, whether by chemical treatment or otherwise but not treated at a water filtration plant.

**Volumetric Charge** means a charge imposed by the Authority for water supplied by the Authority to a person where the charge is based on the amount of water consumed by that person.

**Wingecarribee Shire Council** means the Wingecarribee Shire Council as constituted under the *Local Government Act, 1993* (NSW).

#### 1.2 Consumer Price Index

(a) **CPI** means the consumer price index, All Groups index number for the weighted average of eight capital cities as published by the Australian Bureau of Statistics, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by the Tribunal.

(b) 
$$\Delta CPI_{1} = \left(\frac{CPI_{Jun2005} + CPI_{Sep2005} + CPI_{Dec2005} + CPI_{Mar2006}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

$$\Delta CPI_{2} = \left(\frac{CPI_{Jun2006} + CPI_{Sep2006} + CPI_{Dec2006} + CPI_{Mar2007}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

$$\Delta \mathbf{CPI}_{3} = \left(\frac{CPI_{Jun2007} + CPI_{Sep2007} + CPI_{Dec2007} + CPI_{Mar2008}}{CPI_{Jun2004} + CPI_{Sep2004} + CPI_{Dec2004} + CPI_{Mar2005}}\right) - 1$$

each as calculated by the Tribunal and notified in writing by the Tribunal to the Authority.

(c) The subtext (for example Jun 2005) when used in relation to paragraph (b) above means the CPI for the quarter and year indicated (in the example the June quarter for 2005).

#### 2. Interpretation

#### 2.1 General provisions

In this determination:

- (a) headings are for convenience only and do not affect the interpretation of this determination;
- (b) a reference to a schedule, annexure, clause or table is a reference to a schedule, annexure, clause or table to this determination;
- (c) words importing the singular include the plural and vice versa;
- (d) a reference to a law or statute includes all amendments or replacements of that law or statute; and
- (e) a reference to a person includes any company, partnership, joint venture, association, corporation, other body corporate or government agency.

#### 2.2 Explanatory Notes and clarification note

- (a) Explanatory notes do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.
- (b) The Tribunal may publish a clarification notice in the NSW Government Gazette to correct any manifest error in this determination as if that clarification note formed part of this determination.

#### 2.3 Prices exclusive of GST

Prices or charges specified in this determination do not include GST.

#### 2.4 Billing cycle of the Authority

For the avoidance of doubt nothing in this determination affects when the Authority may issue a bill to a customer for prices or charges under this determination.

Sydney Water Corporation Hunter Water Corporation Sydney Catchment Authority

Prices of Water Supply, Wastewater and Stormwater Services

**Final Report** 

From 1 October 2005 to 30 June 2009 for the SWC and SCA

From 1 November 2005 to 30 June 2009 for HWC

Report Nos 5, 6 and 7, 2005

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September 2005

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#### 1 INTRODUCTION

The Independent Pricing and Regulatory Tribunal of NSW (the Tribunal) is responsible for setting the maximum prices that can be charged by metropolitan water agencies for monopoly water and wastewater services. These agencies include the Sydney Catchment Authority, Sydney Water Corporation (Sydney Water), and Hunter Water Corporation (Hunter Water).

The price determinations for the water agencies have no formal expiry date, but at the time these determinations were made, the Tribunal intended that new determinations would be made in 2005. It has therefore conducted a price review for all three agencies, and made a determination on prices for the Sydney Catchment Authority and Sydney Water to apply from 1 October 2005, and on prices for Hunter Water to apply from 1 November 2005.<sup>1</sup>

The Tribunal released its draft report and determinations in June 2005. Since that time, the Tribunal has received further information from the water agencies and submissions from other parties on its draft determinations. This report explains the Tribunal's decisions on all the material submitted to it and analysis undertaken by it, and sets out its final determinations.

The Tribunal notes that there continues to be uncertainty about the timing and cost of measures that could be needed to manage the current drought and address the imbalance between water demands and available supplies. The Tribunal has made provision for initial expenditure by Sydney Water to develop a desalination plant for Sydney. It recognises, however, that the construction of such a plant will increase the cost of water. The Tribunal may need to make further pricing determinations before the planned expiry of this determination in 2009 to provide for changing circumstances.

The Tribunal has made a separate one-year determination on the maximum prices that can be charged by Gosford City Council and Wyong Shire Council for monopoly water and wastewater services.<sup>2</sup>

#### **1.1** Need for price increases and price restructuring

In making its pricing determination for each agency, the Tribunal was strongly influenced by four significant issues affecting the metropolitan water industry. The first is the scarcity of water. NSW is currently experiencing one of the longest droughts in its recorded history. Even when this drought breaks, there will be a need to manage the demand for water. Pricing can be used to help send signals to water users about the cost of water and the need to conserve it. Step increases<sup>3</sup> in prices when consumption goes above a certain level can provide even more effective signals.

<sup>&</sup>lt;sup>1</sup> The determination commencement dates are based on the billing cycles of the agencies. Sydney Water bill on a 90 day cycle whereas Hunter Water has a 120-day billing cycle.

<sup>&</sup>lt;sup>2</sup> Determinations Nos 1 and 2, 2005, Gosford City Council, Wyong Shire Council Prices of Water Supply, Wastewater and Stormwater Services from 1 July 2005 to 30 June 2006.

<sup>&</sup>lt;sup>3</sup> Such as a two tiered variable usage charge where the first tier price is less than the second tier.

Additional expenditure will be incurred on demand management initiatives. Sydney Water is required to contribute \$30 million per year to the Water Savings Fund established by the then Minister for Energy and Utilities. This fund will make money available to support water conservation and demand management initiatives proposed by the agencies and the private sector. Hunter Water may also be required to contribute to this fund in the future, although no Government decision had been made at the time of this determination.

The second issue is the importance of maintaining and renewing water, wastewater and other services. For many years, the people of Sydney and Newcastle have benefited from the early construction of a vast network of infrastructure that provides water, wastewater and stormwater drainage services. However, operating this network involves costs, and it requires constant maintenance, renewal and expansion to ensure that all residents continue to enjoy an acceptable standard of service.

The third issue is population growth. The Sydney Greater Metropolitan Region (which comprises Sydney, Wollongong, the Central Coast and the Hunter region) is growing rapidly. The water industry will need to make major capital investments to reduce demand, augment supply, and explore new ways of delivering water and wastewater services to meet the needs of an increasing population and ensure the environment is protected. For example, alternative water sources (such as recycled water and the Shoalhaven Transfer Scheme) and innovative approaches in the provision of wastewater services will be required.

The final issue is higher operating costs and increasing complexity of water supply arrangements. The use of alternative water sources and innovative approaches to meeting service requirements may increase the costs involved in day-to-day service delivery. For example, the supply of water from alternative sources often involves pumping or additional treatment, which will involve additional costs. In addition, the private sector is expected to play an important role in innovation in wastewater services, which will mean the arrangements for service delivery will be more complex than they are today.

Together, these issues mean that prices need to increase significantly over the medium to long term, and be restructured to send better signals to customers and service providers.

The Tribunal notes that there was general concern at the level of price increases for Sydney Water and Hunter Water in its draft determinations and the resulting impact on large families. Some stakeholders raised a conflicting concern that the Tribunal's draft finding on the level of the rate of return was not commensurate with the market.

In making its final decisions on prices, the Tribunal has had to balance these conflicting concerns. It has been persuaded by submissions received on its draft determination that there is a good economic case for a higher rate of return. There is also a good environmental case for increased prices to ensure that water resources are not under-valued.

The Tribunal has also carefully considered its obligation to have regard to the impact on customers. It believes that there is a need to transition towards cost reflective prices coupled with direct assistance to the most needy customers, through various customer mitigation measures designed to help customers to manage the price changes. The Tribunal believes that such social programs are best funded by the Government as part of its broader social programs.

The Tribunal's final decisions on prices have sought to balance these two objectives by moving progressively towards cost reflective prices over the period to 2009 and by recommending to the Government a range of customer mitigation measures.

#### **1.2** Overview of the determination

In relation to the Sydney Catchment Authority, the Tribunal's decision is to:

- Set prices for the period 1 October 2005 to 30 June 2009 to generate total revenue of \$639.7 million,<sup>4</sup> which the Tribunal has assessed as adequate to meet the Sydney Catchment Authority's efficient costs of supplying water services to Sydney Water and its other customers. This means that, on average, prices will increase by 12 per cent above inflation (real increase) in the first year of the 2005 determination period, and by 6 per cent above inflation (real increase) in each of the remaining years.
- Rebalance the tariff charged to Sydney Water to place a greater focus on the volumetric charge and better reflect the cost of harvesting and transporting bulk water. Overall, the volumetric charge will increase by 71 per cent above inflation (real increase) over the determination period, while the fixed charge will decrease by 6.8 per cent<sup>5</sup> (real decrease). This rebalancing should provide a stronger incentive to Sydney Water to encourage sustainable water use by its customers.
- Set zero fixed water charges for Wingecarribee and Shoalhaven Councils and moderate the rate at which water usage charges will increase towards the level of charges paid by Sydney Water.

In relation to Sydney Water, the Tribunal's decision is to:

- Set prices for the period 1 October 2005 to 30 June 2009 to generate total revenue of \$6,079 million,<sup>6</sup> which the Tribunal has assessed as adequate to meet Sydney Water's efficient costs of providing water, wastewater and stormwater services. This means that, on average, prices will increase by 7.5 per cent above inflation (real increase) in the first year of the 2005 determination period, and by 1.1 per cent above inflation (real increase) in each of the remaining years.
- Restructure water charges for residential customers, to provide a strong conservation signal in relation to discretionary water use. A key component of the Tribunal's price determination for Sydney is the introduction of a two tier pricing structure for water usage. The principal aim of this change is to encourage water conservation around the home. The tariff arrangement is particularly intended to target discretionary outdoor water use such as garden and lawn irrigation. Reducing water consumption is important if the supply and demand for water is to be brought into balance.
- The restructured charges apply to single dwellings and other individually metered residential properties such as community title developments. Higher two-tiered variable usage charges will be accompanied by lower fixed service charges. Under this

<sup>&</sup>lt;sup>4</sup> \$2004/05 and assumes these prices are applied from 1 July 2005. While the determination will apply from 1 October 2005, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

<sup>&</sup>lt;sup>5</sup> Before inflation - the fixed charge is forecast to increase in dollars of the day, but decrease in real terms.

<sup>&</sup>lt;sup>6</sup> Assuming these prices were applied from 1 July 2005. While the determination will apply from 1 October 2005, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

structure, water usage up to 400 kilolitres per year<sup>7</sup> will be charged at 1.20/kL in 2005/06 (increasing to  $1.31/kL^8$  in 2008/09), while usage beyond this amount will be charged at 1.48/kL (increasing to  $1.85/kL^9$  in 2008/09). The water service charge will be reduced by 45 per cent over the determination period.

- Increase non-residential wastewater usage charges from the current \$1.15/kL to \$1.23/kL in 2008/09 (\$2005/06), and the wastewater service charge for all customers from the current \$346.66 per annum to \$388.50 per annum (\$2004/05), to reflect the increased costs of providing these services to a growing population.
- Set stormwater drainage tariffs to better reflect the costs of providing these services. The residential stormwater service charge will increase by \$20 (from the current \$25.04) or 81 per cent above inflation (real increase) over the 2005 determination period. The non-residential stormwater service charge will increase by \$45 (from \$70.64) or 60 per cent above inflation (real increase) over the determination period.

#### In relation to Hunter Water, the Tribunal's decision is to:

- Set prices for the period 1 November 2005 to 30 June 2009 to generate total revenue of \$618.7 million,<sup>10</sup> which the Tribunal has assessed as adequate to meet Hunter Water's efficient costs of providing water, wastewater and stormwater drainage services. This means that, on average, prices will increase by 7.5 per cent above inflation (real increase) in the first year of the determination period, and by 2.5 per cent above inflation (real increase) in each of the remaining years.
- Restructure water prices so that the declining block tariff (where the average price for water decreases as consumption increases above a certain threshold) is removed over the determination period. This will mean that the price for customers that currently use less than 1,000 kilolitres of water per year will increase by 5.6 per cent above inflation (real increase) in 2005/06, and by 1.9 per cent above inflation (real increase) in each of the following years to 2008/09. For customers using more than 1,000 kilolitres per year, the price will increase by 7.9 per cent above inflation (real increase) in 2005/06, and approximately 4.0 per cent above inflation (real increase) in each of the following years to 2008/09.
- Retain the location-based usage price for very large users and increase this by 5.6 per cent above inflation (real increase) in 2005/06, and 1.9 per cent above inflation (real increase) in the following years.
- Set the wastewater service charge to increase by 9.6 per cent above inflation (real increase) in 2005/06, and by 3.2 per cent above inflation (real increase) in each of the following years. Maintain the wastewater usage charge at the current level in 2004/05 and limit adjustment in the following years to the movement in the CPI.
- Restructure stormwater pricing arrangements, from 1 July 2006, to phase out the property-value-based charges and establish a more equitable and cost-reflective system.

<sup>&</sup>lt;sup>7</sup> To be expressed as a daily limit of approximately 1.096kL/day. It should be noted that given the seasonality of water consumption, some consumers who consume less than 400kL over the year may exceed the 1.096kL daily limit.

<sup>&</sup>lt;sup>8</sup> In 2005/06 dollars.

<sup>9</sup> Ibid.

<sup>&</sup>lt;sup>10</sup> Assuming these prices were applied from 1 July 2005. While the determination will apply from 1 November 2005, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

In making these decisions, the Tribunal has had regard to the proposals and information submitted by each agency, the independent analysis of these proposals it commissioned, and information and submissions provided by other interested parties (see Box 1.1 for more information on the review process).

#### Box 1.1 Tribunal's approach to information collection and decision-making

The Tribunal's review included an extensive investigation and public consultation process. As part of this review, the Tribunal:

- released an issues paper in July 2004
- invited the Sydney Catchment Authority, Sydney Water and Hunter Water to provide submissions detailing their pricing proposals, and required them to provide extensive financial and performance data on the future capital and operating expenditure they believe will be necessary to maintain their customer service levels and respond to regulatory and customer demands
- invited other interested parties to make submissions after reviewing the agencies' submissions. A total of 32 written responses were received
- engaged McLennan Magasanik Associates (McLennan Magasanik) to independently review the agencies' forecasts of water consumption and customer numbers over the period 2004/05 to 2009/10 and advise the Tribunal on the validity of these forecasts for the purposes of setting prices
- engaged a consortium of WS Atkins International Ltd. and Cardno MBK (Atkins/Cardno) to conduct a review of the Sydney Catchment Authority's, Sydney Water's and Hunter Water's capital expenditure, asset management and operating expenditure proposals across their water, wastewater and stormwater drainage businesses
- held a combined public hearing in Sydney on 10 March 2005 for the five metropolitan water agencies regulated by the Tribunal and invited some of the parties who made written submissions to present their views on issues raised in their submissions
- engaged RSM Bird Cameron to review the agencies' proposals in relation to miscellaneous charges
- released, in June 2005, the draft report and draft determinations of prices of water supply, wastewater and stormwater services
- invited interested parties to make submissions on the Tribunal's draft report and determinations by 15 July 2005
- allowed the Sydney Catchment Authority, Sydney Water and Hunter Water to provide supplementary submissions setting out significant changes to future capital and operating expenditures submitted in their initial submissions to the Tribunal. These submissions were received in March 2005 but were not considered by the Tribunal in its draft report due to timing constraints. Sydney Water also included revised forecasts in its July 2005 submission on the Tribunal's draft report and determination
- engaged Atkins/Cardno to review revised costs contained in the Sydney Catchment Authority's, Sydney Water's and Hunter Water's supplementary submissions
- gave the Sydney Catchment Authority, Sydney Water and Hunter Water the opportunity to respond to the findings and recommendations of all the independent reviews referred to above.

The Tribunal received a total of 24 submissions from stakeholders and interested parties on its draft report and determinations. Submissions were made by the water agencies, the Department of Energy, Utilities and Sustainability (DEUS), NSW Treasury, the Council of Social Service of New South Wales, the Public Interest Advocacy Centre (PIAC), AGL, the Properties Owners' Association of NSW, Energy and Water Ombudsman NSW (EWON), Alzheimer's Australia NSW, the Department of Infrastructure, Planning and Natural Resources (DIPNR), the Total Environmental Centre Inc (TEC), Wingecarribee Shire Council and a number of individuals.

The water agencies' main concerns with the Tribunal's draft report and determinations include:

- the water consumption forecasts, particularly the assumption that the drought will end in 2005/06
- the forecast capital and operating costs and the proposed level of capital and operating efficiencies
- the proposed annual reporting of outputs measures
- the increase in construction costs relative to movements in the Consumer Price Index (CPI)
- the level of the rate of return provided for.

Comments made by other stakeholders and interested parties include:

- Concerns that the price increases proposed for Sydney Water and Hunter Water would place an unreasonable burden on low income households.
- General acceptance that the two tier price structure for Sydney Water is likely to promote water conservation. However, it is also likely to give rise to social inequities and place a significant burden on a large number of households that are already struggling to pay their bills. Concerns were raised about the Tribunal's limited recommended assistance schemes and the linking of assistance for large families to the Commonwealth Health Card. Some felt this limitation would result in most large families receiving no assistance.
- Concerns raised by Wingecarribee Shire Council about the proposed level of increase in the charges it faced and a request that any increase be limited to about 10 per cent per annum.
- General support for the Tribunal's proposed mechanism for volatility associated with actual and forecast consumption (the deadband). Some parties thought that a lower deadband would be more appropriate.
- Concern that the Tribunal's pricing decisions for Sydney Water do not provide a financial incentive for Sydney Water to purchase recycled water nor encourage non residential customers to use recycled water or reduce consumption.

The Tribunal's responses to the representations and responses made during the public exhibition process are discussed more fully in the balance of the report.

The Tribunal's pricing decisions also explicitly take account of their impact on the agencies' financial position, the State Government (as owner), the agencies' customers, and the environment.

In addition, the Tribunal took into account the State Government's Metropolitan Water Plan (the Plan), which was released in October 2004. The Plan has significant implications for the prices determined for Sydney Water and the Sydney Catchment Authority. In determining these prices, the Tribunal considered Government decisions on the nature and timing of major water infrastructure projects within the Plan.

The Tribunal recognises that there is significant uncertainty associated with the exact timing and cost of some of these projects, due to the long-term nature of the Plan. This is particularly the case with the Shoalhaven Transfer Scheme, on which the Sydney Catchment Authority plans to begin work during the determination period. The Tribunal has decided that it will adjust the Sydney Catchment Authority's prices in the 2009 determination period if the costs incurred by the agency in implementing the Shoalhaven Transfer Scheme are lower than provided for in the 2005 determination.

# 1.3 Overview of implications for customers, agencies and environment

The Tribunal's decisions have been made in accordance with the requirements set out in the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act), including the factors contained in Section 15 of this Act (see Appendix 1). In summary, the Act requires the Tribunal to consider the impacts of the maximum prices it determines on customers, on the agencies (as owners, operators and managers of the assets), and on the environment. The Tribunal explicitly considered these impacts and is satisfied that they achieve a reasonable balance between the competing Section 15 matters.

**In terms of customer impacts**, the Tribunal's analysis shows that, in general, its decisions will increase customers' bills for water and wastewater services, with the greatest increase occurring in 2005/06. The key implications for each agency's customers are as follows:

- For the Sydney Catchment Authority, the determination is expected to increase Sydney Water's bill by 14 per cent in 2005/06, and by a further 9.3 per cent in 2006/07, 10.8 per cent in 2007/08, and 7.5 per cent in 2008/09. It is expected to increase the Wingecarribee and Shoalhaven Councils' bills by 20.8 per cent in 2005/06, and by a further 20.1 per cent in 2006/07, 17.5 per cent in 2007/08, and 15.6 per cent in 2008/09. All these increases include the effect of inflation (nominal increase) and are based on the consumption forecasts adopted by the Tribunal for the determination period.
- For Sydney Water's residential customers, the determination is expected to increase the bill of a customer with average water consumption (250kL per year) by 8.7 per cent in 2005/06, and by a further 4.2 per cent in 2006/07, 3 per cent in 2007/08 and 3.3 per cent in 2008/09. It will increase the bill of a customer using 500kL per year by 12.6 per cent in 2005/06, and a further 6.9 per cent in 2006/07, 4.6 per cent in 2007/08 and 4.9 per cent in 2008/09. These increases include the effect of inflation (nominal increase).
- For large low-income families served by Sydney Water, the determination provides for special measures to be introduced to moderate the impact of the price changes. The Government and other parties have expressed to the Tribunal their concern at the impact increases in bills may have on vulnerable households which may consume large amounts of water for essential purposes. To moderate the impact of price increases on large low-income families the Tribunal supports a scheme where each large low-income household receives a \$40 rebate on their annual bill. The Department of Energy, Utilities and Sustainability put forward a proposal for enhanced retrofits for families that are eligible for the base rate of the Family Tax Benefit Part A. The Tribunal supports this initiative.
- For Sydney Water's commercial and industrial customers, the determination will also increase their bills. The size of the increase will depend on the customer's level of consumption.

- For Hunter Water's residential customers, the determination is expected to increase the bill of a customer with average consumption (206kL per year) by an average of 6.1 per cent per year over the period to 2008/09. These increases include the effect of inflation (nominal increase).
- For Hunter Water's commercial and industrial customers, the determination will increase their bills, particularly those of customers using more than 1,000 kilolitres per year.

**In terms of agency impacts**, the Tribunal's analysis indicates that its decisions will allow the agencies to recover the costs of providing water, wastewater and stormwater services, including meeting the relevant regulatory standards while also maintaining current service standards.

For the Sydney Catchment Authority,<sup>11</sup> these decisions will allow the agency to deliver the following outcomes:

- Extensive works (\$267 million) on the Shoalhaven Transfer Scheme, including the installation of gates, new pumps, and the construction of pipelines from Burrawang to Avon Dam to enhance the catchment yield and reduce the impact of abstractions on the environment.
- Work on Warragamba Dam and visitors centre (\$19.9 million).
- Construction of the Prospect Reservoir Raw Water Pumping Station and work on Prospect Reservoir (\$72 million) to ensure back-up supply in the event of damage to the Upper Canal or Warragamba Pipeline.
- Construction of the Fish River Water Supply Scheme pipeline to provide increased supplies to the Blue Mountains.

For Sydney Water,<sup>12</sup> the Tribunal's pricing decisions will allow the agency to:

- invest \$400 million in renewing and expanding water mains to service new growth and maintain existing standards
- undertake works on pressure management and leakages to reduce mains breaks and water losses
- invest \$169 million in recycling schemes in new development areas to further support efforts to balance long-term demand and supply
- invest \$199 million in wastewater infrastructure to reduce both wet and dry weather overflows
- spend \$273 million to service new urban development
- upgrade sewage treatment plants, including plants in the Hawkesbury/Nepean (\$132 million), the Illawarra (\$9 million) and at Bondi (\$25 million)
- invest \$289 million in improving the reliability of Sydney's sewer network
- invest \$94 million for preliminary work on a desalination plant for Sydney

<sup>&</sup>lt;sup>11</sup> All expenditure is in real \$2004/05 over the 2005 determination period, before capital expenditure efficiencies.

<sup>&</sup>lt;sup>12</sup> All expenditure is in real \$2004/05 over the 2005 determination period, before capital expenditure efficiencies.

- implement an extensive demand management program to address the demand and supply imbalance
- continue existing demand management initiatives, including the retrofit, rain water tank rebate and educational programs for residential customers, and the Every Drop Counts program for business customers.

For Hunter Water, the Tribunal's pricing decisions will allow it to:

- complete the Grahamstown Dam augmentation to increase water supply capacity and security
- replace a trunk water main between Tarro and Shortland to improve security of supply and cater for growth
- construct a new trunk main on Kooragang Island to cater for growth
- undertake work on the water delivery system to replace assets that have reached the end of their useful lives
- upgrade the wastewater transport and treatment systems to reduce wet and dry weather overflows and cater for growth
- provide sewerage services to backlog areas at Fern Bay, Kitchener, Lochinvar, Millfield and Ellalong under the State Government's Priority Sewerage Program.

In addition, the Tribunal's analysis of the impacts of its decisions on the agencies shows that these decisions will ensure the agencies' financial viability over the 2005 determination period. The maximum prices it has set for the Sydney Catchment Authority are expected to enable the agency to earn a real pre tax rate of return of between 5.9 per cent and 6.5 per cent over the determination period. This is higher than the current return of 4.9 per cent and enables the agency to transition to a return of 6.5 per cent.<sup>13</sup>

The maximum prices it has set for Sydney Water and Hunter Water are expected to enable these agencies to earn a real pre tax rate of return that increases from 5.8 per cent to 6.5 per cent over the 2005 determination period. This final return is consistent with the return of 6.5 per cent proposed by Sydney Water, but higher than the return of 5.7<sup>14</sup> per cent (by 2008/09) proposed by Hunter Water. It is also higher than these agencies' current returns of 5 per cent (Sydney Water) and 4.9 per cent (Hunter Water).<sup>15</sup>

Further, the Tribunal's decisions are not expected to impact adversely on the agencies' ability to pay dividends to the State Government over the 2005 determination period.

**In terms of impacts on the environment**, the Tribunal considers that its decisions will help increase customers' awareness of the scarcity and value of water, and encourage them to use this resource carefully. In addition, the decisions explicitly take account of capital and operating expenditure associated with meeting environmental licence requirements.

<sup>&</sup>lt;sup>13</sup> As calculated by the Tribunal based on information supplied by the Sydney Catchment Authority.

<sup>&</sup>lt;sup>14</sup> Hunter Water's supplementary submission proposed a price increase of 3.2 per cent (real) in each year. Hunter Water calculated that this resulted in a rate of return of 5.6 per cent, however the Tribunal's modelling indicates that this price increase gives a rate of return of 5.7 per cent.

<sup>&</sup>lt;sup>15</sup> As calculated by the Tribunal based on information supplied by Sydney Water and Hunter Water.

## 1.4 Regulatory approach adopted by the Tribunal to set maximum prices

As in previous metropolitan water price determinations, the Tribunal has adopted a CPI  $\pm$  X regulatory approach to setting prices. Within this approach, maximum prices for the determination period have been set by:

- establishing the revenue required by each water agency to efficiently provide water and related services for each year of the determination period using the 'building block method',<sup>16</sup> and
- setting maximum prices and a CPI ± X price path that take account of this revenue requirement, the demand for water services, and the other matters the Tribunal must consider under Section 15 of the IPART Act.

An overview of this approach is shown in Figure 1.1.



Figure 1.1 Tribunal's approach to setting prices

<sup>&</sup>lt;sup>16</sup> The building block methodology is the main method used by economic regulators in Australia and abroad for determining prices for monopoly services. The building block methodology was used at each of the previous metropolitan water reviews conducted by the Tribunal. For information on the building block methodology see *Sydney Water Corporation – Prices of Water Supply, Wastewater and Stormwater Services – From 1 July 2003 to 30 June 2005,* May 2003, Appendix 4, available on <u>www.ipart.nsw.gov.au</u>.

#### 1.5 Structure of this report

This report explains the Tribunal's determination in detail, including how and why it reached its decisions and what those decisions mean for the water agencies, their customers and other stakeholders:

- Chapter 2 discusses the background and context for this price review, including outlining the metropolitan water industry, the current supply position in metropolitan NSW, and recent government policy and other initiatives aimed at achieving a sustainable balance between supply and demand
- Chapter 3 sets out the Tribunal's decisions on the regulatory framework to apply for the 2005 determination period, including the length of the determination period; the need for mechanisms to manage risks associated with consumption volatility, unforeseen costs, uncertainty about the cost and timing of the Shoalhaven Transfer Scheme, and uncertainties about some Sydney Water costs including preliminary costs associated with a desalination plant; and the regulatory arrangements for recycled water
- Chapter 4 sets out the Tribunal's assumptions on metered water sales and customer numbers that affect the agencies' expenditure requirements and their ability to recover revenue
- Chapter 5 describes the building block method the Tribunal used to calculate the agencies' notional revenue requirements, and provides an overview of its decisions on the notional revenue requirement for each agency
- Chapters 6 to 8 discuss the findings related to the calculation of the notional revenue requirement over the 2005 determination period in more detail:
  - Chapter 6 explains the Tribunal's assessment of the prudence of the agencies' past capital expenditure and the efficiency of their forecast capital expenditure, which is a key input into the decision on the revenue required for capital investment
  - Chapter 7 explains the Tribunal's findings on the revenue required for capital investment, including an appropriate return on assets and a return of capital (depreciation)
  - Chapter 8 explains the Tribunal's findings on the revenue required for operating expenditure, and for an allowance for the costs associated with working capital
- Chapter 9 sets out the Tribunal's decisions on prices for specific water services, and explains its decisions on changing the structure of water supply charges
- Chapter 10 analyses the impact of the pricing decisions for the agencies, their customers, and the environment.

#### 2 BACKGROUND AND CONTEXT FOR THE REVIEW

This chapter discusses a range of factors that affect the metropolitan water agencies' water, wastewater and stormwater operations. These factors have influenced the Tribunal's decisions in relation to each agency's forecast water sales, and forecast capital and operating expenditures, and ultimately its decisions on the maximum prices agencies can charge over the 2005 determination period:

- section 2.1 describes the roles, functions and key operating statistics for all five metropolitan water agencies, including the Sydney Catchment Authority, Sydney Water, and Hunter Water, which are the subject of this report
- section 2.2 discusses the current water supply position in metropolitan NSW
- section 2.3 outlines the various policy and infrastructure initiatives being developed to address the current imbalance between water supply and demand in this region
- section 2.4 provides an overview of water pricing issues that are relevant to this review, including the current pricing levels and the findings of the Tribunal's earlier investigation into price structures
- section 2.5 outlines the changes to Sydney Water's operating licence, made as a result of the Tribunal's recent review of this licence, that may have implications for costs.

#### 2.1 Structure of the metropolitan water industry

The metropolitan water agencies are responsible for providing water, sewerage and some drainage services to almost five million people. They service a region that stretches from south of Wollongong to north of Newcastle.

The Sydney Catchment Authority is a wholesale water supplier, while Sydney Water is a retailer. Hunter Water, and Gosford and Wyong Council carry out both functions. The geographic areas that the retail suppliers cover vary significantly (see Table 2.1), as do the characteristics of the communities they serve. The structure and functions of each metropolitan water agency are summarised below.

	Sydney Water	Hunter Water	Gosford Council	Wyong Council
Operating area (sq km)	13,000	5,366	1,028	827
Estimated population with water supply service	4,197,527	496,346	147,462	145,000
No. of properties with water supply service (including vacant properties)	1,665,073	216,041	64,932	57,187

Table 2.1 Operating statistics for the metropolitan retail water agencies

#### 2.1.1 Sydney Catchment Authority

The Sydney Catchment Authority's two key functions are to manage and protect the city's drinking water catchments and to provide untreated bulk water of a high standard to Sydney Water and a number of smaller customers. It harvests water from the catchments of four major river systems – the Warragamba, Upper Nepean, Woronora and Shoalhaven. It also manages 21 impounding reservoirs, large diameter water mains and open canals.

#### 2.1.2 Sydney Water

Sydney Water is responsible for providing water and wastewater services to some four million people in the greater Sydney area. It also provides stormwater drainage services to more than half a million properties.

Sydney Water purchases bulk water from the Sydney Catchment Authority. It treats and distributes over 1.5 billion litres of water per day via a network of 260 service reservoirs, 152 water pumping stations, 10 water filtration plants and 20,867 km of water mains. It collects and treats more than 1.3 billion litres of wastewater each day through its 23,014 km of sewer pipes in 28 separate sewerage systems with 31 sewerage treatment plants. Sydney Water also provides stormwater drainage facilities through 436 km of stormwater channels.

#### 2.1.3 Hunter Water

Hunter Water provides water and wastewater services to around half a million people in the Lower Hunter region. This region includes the city of Newcastle, and other local centres distributed along the coast and inland.

Hunter Water draws water from three major water sources (Chichester and Grahamstown Dams and the Tomago Sandbeds), which supply around 200 million litres of water per day. It also has access to groundwater sources at Anna Bay and Lemon Tree Passage.

Its water supply system consists of 4,400 km of pipes, 73 reservoirs and 77 pumping stations. Its wastewater transportation system comprises 4,870 km of sewer main pipes, 17 treatment works and 366 pumping stations. It has close to 100 km of stormwater channels.

#### 2.1.4 Gosford Council and Wyong Council

The Tribunal has previously made a determination of water, sewerage and stormwater drainage prices for the Gosford and Wyong Councils for the 2005/06 financial year. These Councils are to submit to the Tribunal in the latter part of the year to enable the Tribunal to determine prices for the period 1 July 2006 to 30 June 2009. As a consequence, the activities and price levels for these Councils do not feature in this report.

#### 2.2 The current water supply position in metropolitan NSW

The capacity of the water system is a major issue for the greater Sydney region. Over the past 20 years, the demand for water in the region has regularly exceeded the current estimate of the sustainable yield of existing infrastructure. In addition, the region is currently experiencing a prolonged drought, which has left many of the dams on which the agencies rely at historically low levels. As a consequence of this, mandatory water restrictions were introduced in October 2003 for Sydney Water customers and level 3 restrictions have recently been announced. Furthermore, Sydney's population is expected to grow considerably over the next 25 years, which will place further pressure on the already stretched infrastructure base.

The Hunter region has been less affected by the drought. Hunter Water's reservoirs are at or close to capacity, and no mandatory water restrictions are in place. However, water demand is close to the sustainable yield of the existing supplies and the drought has further increased community awareness that water is a limited resource.

#### 2.3 Government policy and infrastructure initiatives

The State Government is currently developing policies and implementing programs to ensure the long-term sustainability of water supplies and protect the environment. Current initiatives for the Sydney region include the Metropolitan Water Plan for Sydney, the Metropolitan Recycled Water Strategy, the establishment of a demand management fund (the Water Savings Fund), and a review of the structure of the Sydney water industry. New regulatory requirements to reduce the impact of overflows from sewerage systems on the community and environment are also being implemented. These initiatives are discussed below.

#### 2.3.1 Metropolitan Water Plan

The State Government released its Metropolitan Water Plan for Sydney in October 2004.<sup>17</sup> This plan sets out a range of actions to be implemented over the next 25 years to ensure sustainable water supplies. These actions include short-term drought management measures (such as accessing deep water in the dams and establishing emergency supplies) as well as measures to address the long-term water demand-supply imbalance (such as water recycling, securing additional supplies for the greater Sydney region by increasing the frequency of transfers from the Shoalhaven, and the construction of a desalination plant).

In the immediate term, most of these measures will be undertaken by the Sydney Catchment Authority and Sydney Water. However, the plan also aims to encourage private sector involvement, particularly in the provision of recycled water services.

#### 2.3.2 Metropolitan Strategy: Recycled Water

The Metropolitan Water Plan identified the potential for recycled water to substitute for up to 80GL per year of potable water by 2029. To progress this, the Government is developing a metropolitan strategy for recycled water, which aims to maximise the use of recycled water to replace potable water where feasible.

#### 2.3.3 Water Savings fund

The Government is to establish the Water Savings Fund to stimulate private sector investment in water savings measures and water recycling in the Sydney area, and to increase public awareness and acceptance of the importance of these initiatives. The measures are expected to save between 30 and 80 billion litres of water per year, which represents 5 – 12 per cent of Sydney's total water use. Funds of \$30 million per year over four years will be made available on a contestable basis, through regular public calls for expressions of interest, beginning in late 2005. The fund was announced as part of the Metropolitan Water Plan and will be administered by the Department of Energy Utilities and Sustainability (DEUS). Sydney Water will be required to contribute to the fund.

It is possible that Hunter Water will also be required to contribute to the NSW Government's Water Savings Fund during the price path. At the time of this determination, the Government had not made a decision on this matter. The Tribunal has therefore not included any costs associated with the Water Savings Fund in its determination of Hunter

<sup>&</sup>lt;sup>17</sup> State Government, *Meeting the challenges: Securing Sydney's water future, The Metropolitan Water Plan,* October 2004.

Water's prices. However, if a Government decision requires Hunter Water to contribute to the fund in future, the Tribunal's price determination does not preclude the Government imposing an additional charge on Hunter Water's customers to recover this cost.

#### 2.3.4 Review of the industry arrangements for water and wastewater services

One of the key aims of the Metropolitan Water Plan is to encourage the involvement of the private sector in developing innovative solutions to Sydney's water supply/demand imbalance, and in particular the provision of recycled water services. In December 2004, the Government asked the Tribunal (under Section 9 of the IPART Act) to provide independent advice on the pricing and alternative arrangements, including possible private sector involvement, for the delivery of water and wastewater services in the Greater Sydney region.

The Tribunal is examining the way in which Sydney Water provides water and wastewater services in the Greater Sydney region, with a view to recommending options for the efficient, effective and sustainable delivery of services. The Tribunal released an issues paper for this review in May 2005<sup>18</sup> and will be releasing its draft report in September 2005.

### 2.3.5 Environment protection licence requirements to reduce sewer overflows

For the 2005 determination period, expenditure in the wastewater area continues to be a major component of capital programs for Sydney Water and Hunter Water. The key drivers of this expenditure are requirements in the agencies' Environment Protection Licences for higher treatment standards and to address environmental and customer impacts of wet weather sewer overflows.

#### 2.3.6 National Water Initiative

In its review of water prices the Tribunal has also had regard to the requirements of the National Water Initiative endorsed by the Council of Australian Governments and to the earlier Water Reform Framework. Among other things, the National Water Initiative requires progressive moves towards full cost recovery and consumption based pricing.

#### 2.4 Pricing issues

The Tribunal has based its decisions on maximum prices on the notional revenue requirement for each agency established using the building block method. However, these decisions drew on analysis and investigations that formed the wider context for this review – including an assessment of the current relative pricing levels of the NSW metropolitan water retailers, research on customers' attitudes to water pricing, the results of the Tribunal's investigation into pricing structures, and recent analysis of the long run marginal cost (LRMC) of water in Sydney. Each of these matters is discussed below.

<sup>&</sup>lt;sup>18</sup> IPART, Investigation into Water and Wastewater Service Provision in the Greater Sydney Region - Issues Paper, S9-12, May 2005.

#### 2.4.1 Comparison of prices for water and wastewater services

The prices currently charged for water and wastewater services by each of the four metropolitan water retailers vary. For example, a Sydney Water residential customer using 250kL of water per annum pays around \$47 more a year in total water and wastewater charges than a Wyong Council customer using the same amount of water (Table 2.2). Some of the price variations are due to differences in the costs associated with meeting regulatory standards, and differences in Government policy requirements.

	Sydney Water	Hunter Water	Gosford Council	Wyong Council
Water usage price (per kL)	1.013	1.01	0.755	0.755
Water service charge (per annum)	77.62	25.37	72.47	82.82
Wastewater usage price (per kL)	Na	0.42 <sup>19</sup>	Na	Na
Wastewater service charge (per annum)	346.66	239.35	352.02	359.25
Environmental Improvement	Na	48.95	Na	Na
Total water and wastewater bill	677.53	618.67	613.24	630.82
Stormwater charge <sup>20</sup>	Na	Na	42.00	Na
Total estimated bill	677.53	618.67	655.24	630.82

### Table 2.2 Residential water and wastewater charges and bills for a customer using250kL water per annum in year ending 30 June 2005 (\$2004/05)

Compared with the bills in other regions of Australia, current average NSW metropolitan water bills are neither particularly high nor low (Figure 2.1).

<sup>&</sup>lt;sup>19</sup> Only applies to 50 per cent of water consumption.

<sup>&</sup>lt;sup>20</sup> Sydney Water and Hunter Water charge for stormwater services to a limited number of customers. Therefore, their stormwater charge has been excluded for comparison purposes. Wyong Council has no stormwater charge.



Figure 2.1 2004/05 National household water and wastewater bills (250kL/a)

Source: Based on published tariffs for year ending 30 June 2005.

#### 2.4.2 Customer attitudes to water pricing

In late 2004, the Tribunal commissioned Taverner Research to conduct a household survey to provide input to the 2005 metropolitan water price review. The survey was designed to explore customer values and attitudes toward water usage and services, and assess the potential acceptability and effectiveness of various pricing options. It covered households served by Sydney Water, Hunter Water, Gosford Council and Wyong Council.

The results of this survey indicated that:

- Most households support the introduction of a two-tier inclining block pricing structure, with nearly two-thirds of respondents (63 per cent) believing that two-tier pricing is fairer than the current system.
- One-in-four households believe water is too cheap, and more than 33 per cent say they would be prepared to pay more for water.
- Almost 40 per cent of households expect that they will reduce their water consumption as a result of any price changes.
- Just over half of all respondents are opposed to a flexible system where prices are higher during a drought and lower when supplies are plentiful, while 41 per cent are in favour of such a system.
- There is strong support for the current mandatory water restrictions. More than 60 per cent of respondents believe the restrictions are about right, and 28 per cent want even tougher controls. Almost 70 per cent support some form of permanent water restrictions.

These results indicate that the current water restrictions are an appropriate measure to encourage water conservation, but that there is scope for introducing stronger pricing incentives to encourage high water consumers to save water.

#### 2.4.3 Tribunal's investigation into price structures

In September 2003, the Premier asked the Tribunal to investigate alternative structures for retail and wholesale water prices, to assess their potential to reduce demand for water in the Sydney Basin. The investigation was to inform the Government's broad water policy development process, and to provide input to this price review.

A key finding of the investigation was that the most suitable price structure for Sydney at the present time is likely to be an 'inclining block' structure that includes a two-tiered variable usage charge and a lower fixed access charge. The Tribunal found that this price structure could potentially be used to send a strong signal about the need to reduce water consumption that particularly targets discretionary water consumption. In addition, it concluded that the potential adverse impacts of this price structure on vulnerable customers could be minimised by setting the consumption level at which the higher tier 2 usage charge applies (the step quantity) at a level that ensures that the bulk of households can meet their basic, non-discretionary needs without incurring this charge.

The Tribunal concluded that it may be appropriate to increase the level of the usage charge to send a stronger signal about the scarcity of all water and, in particular, to set the charge with reference to a reliable estimate of the long run marginal cost (LRMC) of achieving and maintaining a supply/demand balance.

#### 2.4.4 Long run marginal cost of water supply

Economic theory suggests that water prices should be set at the LRMC of supply to achieve efficiency. The LRMC represents the incremental cost of funding measures to bring the demand and supply of water into balance.

The Tribunal has previously stated that its preference is to set water prices with reference to the LRMC. However, attempting to calculate the LRMC can be complex and uncertain. It involves estimating the costs and water savings associated with available demand management and supply augmentation options.

The Government's Metropolitan Water Plan provides a basis for determining these costs. The Tribunal engaged a consultant to undertake preliminary work to estimate a range for the LRMC based on different scenarios for the Greater Sydney region. This preliminary work suggests that the LRMC of water supply in Sydney is likely to be in the range of \$1.20 to \$1.50/kL (\$2004/05), which means that current water usage prices are lower than the LRMC of water supply.<sup>21</sup>

#### 2.5 Operating licence review

The Tribunal is responsible for administering the operating licences for the Sydney Catchment Authority, Sydney Water and Hunter Water, and monitoring the agencies' compliance with these licences. Operating licences are key instruments for regulating the agencies' operating performance and ensuring their accountability. Water and wastewater prices are set to allow the agencies to recover the efficient costs of meeting their operating

<sup>&</sup>lt;sup>21</sup> For further discussion of the issues associated with LRMC, see the Tribunal's Investigation into Price Structures to Reduce Demand for Water in the Sydney Basin (July 2004).

licence obligations, including agreed standards of service and demand management initiatives.

The Tribunal has recently completed its review of Sydney Water's Operating Licence, which led to amendments to the licence. It is currently reviewing the Sydney Catchment Authority's Operating Licence. This review is expected to be completed and a new Licence in place by 1 January 2006.

Key changes to Sydney Water's operating licence that will affect the agency during the 2005 determination period include:

- Asset management. New asset management requirements were introduced into the licence to ensure the maintenance of service delivery capacity over the long term. These requirements comprise an asset management obligation, reporting requirements and auditing arrangements.
- Water leakage. Reducing leakage from Sydney's water supply system is part of the Metropolitan Water Plan. A leakage target for Sydney Water of 105ML/day by 2008/09 was introduced into its licence at the last review. The leakage target is supplemented by performance measures and a requirement to expedite a bulk meter installation program.
- **Response time for water main breaks.** New targets for Sydney Water's response time for water main breaks.
- More closely integrating the Tribunal's water licensing and pricing functions. At present, Sydney Water's compliance with its operating licence is enforced through annual audits and potentially severe statutory penalties for breaches of licence conditions. The Tribunal included a more comprehensive set of indicators in the licence to assist with monitoring performance.

#### **3 DECISIONS ON THE REGULATORY FRAMEWORK**

In addition to deciding on maximum prices for monopoly services over the determination period, the Tribunal has taken a number of other regulatory decisions including decisions on:

- the length of the determination period
- the need for a mechanism to address the risks associated with variations between the agencies' forecast consumptions used in setting prices and their actual consumptions
- the need for a cost pass-through mechanism to address the risks associated with unforseen costs
- the need for a mechanism to address the risks associated with uncertainty about the timing and cost of the Shoalhaven Transfer Scheme
- the need for an ex post review of costs proposed by Sydney Water in its July submission
- the regulatory arrangements for pricing recycled water.

Each of these decisions and the Tribunal's deliberations in reaching them are discussed below.

#### 3.1 Length of determination period

For the Sydney Catchment Authority and Sydney Water, the Tribunal's decision is that the length of the determination period will be 3 years and 9 months, starting on 1 October 2005 and ending 30 June 2009. For Hunter Water, its decision is that the determination period will be 3 years and 8 months, starting from 1 November 2005 and ending on 30 June 2009.

In deciding on the length of the 2005 determination period, the Tribunal considered the incentives for efficiency improvement, the predictability and stability of the regulatory environment, and the effectiveness of regulation. In general, a longer determination period provides:

- greater incentives for achieving increased efficiency, by allowing agencies to retain more of any gains (in the form of higher profits) that arise from cost reductions
- a more stable and predictable regulatory environment, which may lower agencies' business risk and lead to better investment decisions
- lower regulatory costs.

However, a longer determination period can also have undesirable impacts, including:

- delaying the delivery of benefits from efficiency gains to consumers
- increasing the risk that industry and technological changes (and other factors) will create significant disparities between costs and revenues.

As foreshadowed in the issues paper for this review, the Tribunal also took into account agency and shareholder inputs, forward financial projections and the adequacy of available information.<sup>22</sup>

The water agencies prepared submissions based on a four-year determination period. In previous determinations for other industries, the Tribunal has generally opted for a five-year period, but it has decided on shorter periods when the regulated industry is undergoing change or there is uncertainty within the industry or the business.

For this determination, the Tribunal believes that a determination period of approximately four years will strike the appropriate balance between providing incentives for improving efficiency, reducing regulatory uncertainty, and minimising the risk that changes in the industry will affect the appropriateness of the determination.

# 3.2 Mechanism to address metropolitan water agency risks associated with variation between forecast and actual consumption

The Tribunal's finding for each agency is that, where the difference between the forecast water consumption used to set prices for the 2005 determination period and actual water consumption for this period is greater than a defined 'deadband', it may consider adjusting the revenue requirement for the subsequent determination to account for the effect of the difference.

### In addition, the Tribunal's finding is that the manner in which this adjustment is made will be determined during the subsequent determination period.

In its issues paper for this review, the Tribunal noted that it would consider the need for a mechanism to address forecasting risk and revenue volatility of the water agencies. The Tribunal invited comment on the need for, and the form of, possible revenue volatility adjustment mechanisms to address variations between the forecast consumption used to set prices and actual consumption.

Sydney Water proposed an annual revenue adjustment mechanism to account for any revenue excess or shortfall due to a difference between forecast and actual consumption above/below a 10 per cent 'deadband'.<sup>23</sup> It also proposed a final 'wash-up' adjustment as part of the price review for the subsequent determination, to account for any revenue excess/shortfall not already accounted for.

The Sydney Catchment Authority agreed that the Tribunal should consider a mechanism to address forecast risk. It supported an adjustment in the subsequent determination period, based on the cumulative difference between forecast and actual consumption that was above or below a 2–3 per cent deadband. It proposed that the adjustment should be referenced to the cumulative unsmoothed revenue requirement.

<sup>&</sup>lt;sup>22</sup> IPART, Review of Metropolitan Agency Water Prices from 1 July 2005 - Issues Paper, p 5.

<sup>&</sup>lt;sup>23</sup> The "deadband" refers to the consumption variation within which no adjustment would be required. That is, if consumption is less than 90 per cent of the forecast consumption or greater than 110 per cent of the forecast consumption the adjustment would apply.

The Tribunal considered several options to address the impact of consumption volatility, including:

- the current position, where no adjustment is made for demand variation
- price adjustment in the subsequent determination period to account for variation outside a certain deadband
- an annual price adjustment mechanism to account for variation outside a deadband of +/-10 per cent, combined with a final wash-up adjustment as part of the subsequent determination for all variations unrecovered/not passed through (Sydney Water's proposal).

The Tribunal assessed the implications of these options for pricing certainty, efficient risk allocation and financial performance. Its assessment of the customer price implications and the risk allocation is set out in Table 3.1.

### Table 3.1 Price implications and risk allocation for consumption volatilitymechanisms

Option	Price implications for customers	Risk allocation
Status Quo	None	100% to agency
Adjustment in the subsequent determination period	If the deadband is breached, the adjustment occurs in the subsequent determination period	Consumption within the deadband allocated to the agency, the remainder to customers
Sydney Water's proposal	Adjustments in the current determination period for breaches of the deadband, and a wash-up adjustment in subsequent determination period	100% to customers

Based on this assessment, in its draft determination the Tribunal considered that the status quo option may result in excessive risk being borne by the agencies. It considered that Sydney Water's proposal is contrary to its objectives of pricing certainty, and effectively allocates all risk to customers. Therefore, on balance, the Tribunal decided that the following approach is likely to be the most appropriate way to address the risks associated with revenue volatility due to consumption variation:

- To give consideration to adjusting subsequent determination period revenue for losses (or gains) of revenue associated with differences between forecast and actual consumption in the 2005 determination period, but only if variations are above or below a deadband of 10 per cent. The level of the deadband will be based on analysis of variations between:
  - actual and forecast consumption over the last five years
  - forecast consumption over the 2005 determination period based on restricted and unrestricted assumptions.
- The Tribunal will consider and approve the manner of any adjustment under this mechanism during its review of prices for the subsequent determination period.

In its response to the Tribunal's draft report, the Sydney Catchment Authority stated that the 10 per cent deadband would result in a major risk exposure to its revenue, especially in times of drought as it incurs additional operating expenditure for pumping water from the Shoalhaven River. The Sydney Catchment Authority stated that a 10 per cent dead band could amount to a \$60 to \$70 million revenue reduction over the term of the price path. The Tribunal's analysis indicates that a 10 per cent dead band would result in a revenue variation of approximately 60 per cent of that identified by the Sydney Catchment Authority. PIAC also supported a deadband adjustment but thought that a more appropriate figure would be plus or minus five per cent. The Tribunal believes that a deadband at a level lower than 10 per cent transfers too much business risk to customers and is inappropriate in the incentive based regime applicable to the water industry.

Both Sydney Water and Hunter Water supported the Tribunal's draft finding, although they would prefer an annual deadband adjustment. However, annual adjustments do not account for positive and negative differences during the period that offset each other. Therefore, the Tribunal believes that an adjustment over the regulatory period is more appropriate.

On balance, the Tribunal has decided to endorse its finding in the draft report.

#### 3.3 Cost pass-through mechanism for unforeseen costs

The Tribunal's finding is not to introduce a general cost pass-through mechanism. However, it is prepared to consider re-opening the 2005 determination under the IPART Act in the event that there are changes in certain taxation, Government policy or regulatory obligations that give rise to costs or cost savings that are significantly greater than allowed for in this determination.

The Tribunal considered Sydney Water's proposal to introduce a mechanism to deal with material non-controllable external events. It also considered the Sydney Catchment Authority's proposal for a cost pass-through mechanism to manage the risks of material non-controllable external events, such as those relating to regulatory, licence or Government policy obligations. Under this proposal, prices would be adjusted within the determination period in response to pre-specified trigger events.

The IPART Act does not allow the Tribunal to review costs for the water sector during a determination period without reopening the determination. This means that without such a reopening, the costs associated with the pass-through event would be passed through without being subject to scrutiny by the Tribunal. This would be inconsistent with the cost pass-through mechanisms the Tribunal has adopted in the electricity sector, and with the Tribunal's approach to regulation.

For these reasons, the Tribunal's decision is that it will not introduce a mechanism to pass through unforseen costs. However, it is willing to consider an agency request to reopen the determination under the IPART Act in the event that there are material differences in costs associated with changes in certain taxation, Government policy<sup>24</sup> and regulatory obligations.

<sup>&</sup>lt;sup>24</sup> Such as a government direction to construct a desalination plant.

The Tribunal considers that reopening the determination should be possible to address both increases and decreases in costs. That is, if a tax, Government policy or regulatory event occurs that materially decreases a water agency's costs, then the Tribunal may reopen the determination with a view to passing cost savings on to customers.

In its response to the Tribunal's draft determinations, the Sydney Catchment Authority indicated its support for the Tribunal's proposal in relation to unforeseen events.

# 3.4 Mechanism to address risks associated with uncertainty about the Shoalhaven Transfer Scheme

The Tribunal's decision is to adjust the Sydney Catchment Authority's revenue requirement in the subsequent determination period to account for any unspent monies allowed by the Tribunal in this determination for the Shoalhaven Transfer Scheme.

There is significant uncertainty about the timing and level of the Sydney Catchment Authority's forecast capital expenditure on the Shoalhaven Transfer Scheme. To address the risks associated with this uncertainty, the Tribunal considered a number of options for recovering costs and adjusting prices if the agency's actual expenditure on this Scheme is less than that allowed for in the determination.

The Tribunal concluded that it would allow for the efficient forecast costs of the project in the 2005 determination. If changes to the timing and scope of the project result in the actual costs being lower than these forecast costs, the agency's revenue requirement in the subsequent determination period will be adjusted to reflect the cost difference. This means that the cost savings will be passed through to customers in the subsequent determination period.

The Tribunal considers that, in general, an end of period adjustment mechanism may encourage agencies to propose highly uncertain projects and to overstate costs. Therefore, its decision is to limit the scope of this mechanism to exceptional circumstances such as the Sydney Catchment Authorities Shoalhaven Transfer Scheme.

# 3.5 Review of additional expenditure proposed in Sydney Water's July submission

The Tribunal's decision is that Sydney Water is required to report on expenditure associated with specified activities. The expenditure will also be reviewed on an ex post basis against relevant outputs.

As part of its response to the Tribunal's draft determination, Sydney Water submitted additional operating and capital expenditure forecasts. The costs allowed for by the Tribunal in this determination are:

- \$94 million capital expenditure over the 2005 determination period for preliminary work for a desalination plant (see section 6.4.3)
- \$6.2 million capital expenditure over the 2005 determination period to meet new licence requirements (see section 6.4.3)
- \$2.2 million operating expenditure over the 2005 determination period to meet new licence requirements (see section 8.5.2)

- \$4 million operating expenditure per annum for new operating licence requirements associated with main break responses (see section 8.5.2)
- \$3.5 million operating expenditure over the 2005 determination period for additional land tax liabilities introduced in the May 2005 Budget (see section 8.5.2).

Given the lateness of Sydney Water's submission of these costs, Atkins/Cardno have not reviewed them as part of their final review. The Tribunal has also not analysed these costs in detail. The Tribunal is, however, aware of the importance of the additional expenditure for drought measures and the need for Sydney Water to meet its obligations. The Tribunal also notes that there is considerable uncertainty on the timing and cost of the desalination plant, the largest component of the expenditure, but recognises that it is a very important Government initiative.

Therefore, the Tribunal has decided to allow for the forecast costs for the above specified activities in the 2005 determination. However, the Tribunal requires Sydney Water to report on these items separately and will conduct an ex post review of the expenditure at the next determination.

#### **3.6** Regulatory arrangements for pricing recycled water

Other than for Sydney Water's Rouse Hill development, the Tribunal has not previously set recycled water charges even though it has accepted the view that it has the power to do so. In the issues paper for this review, it foreshadowed that it would reconsider its approach to pricing recycled water after considering the pricing principles that Sydney Water submitted to the review and any other proposals related to recycled water.

However, since the issues paper was released, the State Government has released its Metropolitan Water Plan (see section 2.3.2), which identified the potential for recycled water to substitute up to 80GL per year of potable water. To progress this issue, DIPNR is currently leading a taskforce to develop a metropolitan strategy for recycled water.

In addition, the Tribunal has been asked to undertake a Section 9 review of the Sydney's water industry structure. This review is considering the pricing and alternative arrangements for the delivery of water and wastewater services in the greater Sydney region, which will have implications for recycled water pricing. It is scheduled for completion in late 2005.

Both of these developments have important implications for recycled water pricing. Accordingly, the Tribunal has decided that, apart from the Rouse Hill development, it will not consider recycled water pricing as part of the 2005 review of metropolitan water prices. Rather, it will make a determination on recycled water pricing following the completion of its Section 9 inquiry.

#### 4 TRIBUNAL'S FINDINGS ON FORECAST METERED WATER SALES AND CUSTOMER NUMBERS

The Tribunal needs to consider the agencies' forecast metered water sales and customer numbers over the determination period for two reasons:

- First, under the building block method for calculating notional revenue requirements, underlying assumptions about how the demand for water and wastewater services will grow over the determination period affect the agencies' forecast capital and operating costs. The Tribunal's findings on efficient levels of capital and operating expenditure (discussed in Chapters 6 and 8) need to reflect reasonable assumptions about this growth particularly growth in the number of water and sewerage connections and the volume of water sales.
- Second, once the Tribunal has decided on the revenue requirement for each agency, it sets the prices of individual services (discussed in Chapter 9) by taking into account this revenue requirement and forecast water sales and customer numbers. If these forecasts are not reasonable, there is a risk that the prices the Tribunal sets will lead to the agency significantly over or under recovering its required revenue.

The Tribunal is concerned that forecasts that unduly understate demand will result in customers paying prices that exceed efficient levels, while unduly high forecasts may result in the agencies not earning a sustainable revenue stream over the determination period. Therefore, it has sought to ensure that the forecasts on which the pricing determinations are based have been subject to rigorous, systematic and objective review. It engaged McLennan Magasanik Associates (McLennan Magasanik) to independently review the agencies' forecasts for the period 2004/05 to 2009/10, and to provide alternative forecasts where necessary. McLennan Magasanik finalised its report and recommendations in December 2004.

This chapter explains the Tribunal's findings on the metered water sales forecasts and customer numbers to be used in establishing the cost building blocks and setting prices for the respective agencies. Section 4.1 provides a summary of its findings on forecast metered water sales. Section 4.2 discusses the key factors that influence metered sales, and the uncertainty surrounding many of these factors. The remaining sections explain the Tribunal's considerations in making its findings on each agency's forecasts for metered sales and customer numbers.

#### 4.1 Summary of Tribunal's findings on metered water sales

The Tribunal's finding is to adopt the metered water sales forecasts shown in Table 4.1 when setting prices for 2005/06 to 2008/09.

Financial year	2005/06	2006/07	2007/08	2008/09
Sydney Water	491,502	504,350	529,589	525,686
Hunter Water	62,697	62,752	63,128	63,646
Sydney Catchment Authority	556,600	566,500	586,700	577,800

Table 4.1 Metered water sales forecasts adopted in determination (ML)

#### 4.2 Key factors influencing water consumption

As part of its review, McLennan Magasanik noted a range of key factors that will influence the demand for water, wastewater and stormwater drainage services over the 2005 determination period. These factors include:

- **Population growth**, which is a key driver of growth in residential water demand. Sydney Water has forecast population growth of 1.0 per cent per annum over the 2005 determination period, compared with the historical 0.8 per cent per annum growth. Hunter Water has forecast population growth of 0.5 per cent in the 2005 determination period, compared with approximately 0.7 per cent growth during the 2003 determination period.
- **Household formation patterns and dwelling density**, particularly the shift towards multi-unit dwellings and flats, which affect residential water consumption. The proportion of multi-unit dwellings has increased over the last 10 years. In addition, the trend towards smaller households increases internal water usage on a per capita basis (although the difference is likely to be relatively small),<sup>25</sup> and potentially reduces external water usage.
- **Economic growth rates,** which affect water usage in several ways. High economic growth will accelerate other trends such as the purchase of more efficient appliances. Economic growth and process and plant efficiency are significant factors in determining the future trends of non-residential water consumption. Conversely, experience shows that higher real incomes brought about by favourable economic conditions result in increased water use.
- **Pricing structure and level.** The price structures and levels that the Tribunal determines will have some effect on water consumption.
- **Trends in appliance purchases and usage,** which affect residential water consumption. There has been a move towards the installation of larger appliances in residences, such as spa baths, which can increase water usage. The installation of automatic sprinkler systems is also likely to increase water usage.<sup>26</sup> Countering this has been the trend towards more water efficient appliances, such as dual-flush toilets and low-flow showerheads and, more recently, front-loading washing machines.
- **Demand management programs**. There has been an increased effort by most agencies to invest in actions and programs that will reduce demand. Examples include Sydney Water's Every Drop Counts program. In addition, Government initiatives such as the BASIX program also seek to reduce demand.
- Weather and the impact of current and proposed water restrictions. External water usage is strongly influenced by weather and water restrictions, while internal water usage is affected to a lesser degree. Water restriction policies affect consumption while the restrictions are in place, and have a residual effect for a period after the restrictions are lifted.

<sup>&</sup>lt;sup>25</sup> WA Water Corporation, 2003, *Domestic Water Use Study in Perth, Western Australia* 1998-2001, Perth, March.

<sup>&</sup>lt;sup>26</sup> Ibid.
However, there is considerable uncertainty about the likely impact of several of these drivers. This price review was undertaken during a period of extensive debate about water resources and conservation measures in NSW. There is uncertainty about the duration of the drought currently affecting the Sydney Basin, and whether the water restrictions imposed on customers in these areas will continue to apply, be strengthened or be removed over the determination period.

# 4.3 Tribunal's considerations on metered sales forecasts

In making its decisions on each agency's metered water sales forecasts, the Tribunal considered the submissions it received from the agencies and other stakeholders, McLennan Magasanik's findings and recommendations, and its own analysis. In relation to Sydney Water and the Sydney Catchment Authority, the Tribunal also took into account the impact that its decisions on prices are likely to have on forecast sales.

### 4.3.1 Agency submissions

In its response to the Tribunal's draft determination, Sydney Water questioned the Tribunal's draft finding on metered sales forecasts which assumed that water restrictions would be removed in the first year of the price path. Based on water storage levels at June 2005 Sydney Water believes that there is a low probability of demand returning to normal levels during 2005/06 and 2006/07. Sydney Water submitted revised sales forecasts to the Tribunal for its consideration.

The Sydney Catchment Authority resubmitted its metered sales forecasts adjusted for Sydney Water's revised metered sales forecasts.

### 4.3.2 Analysis of agencies' historic demand and forecasting performance

As Table 4.2 shows, the Sydney Catchment Authority's and Sydney Water's actual and projected metered sales were lower than the forecasts the agencies submitted for the 2003 mid-term review and 2003 determination respectively. They were also lower than the forecasts the Tribunal adopted for those determinations. Both the agencies and the Tribunal did not take into consideration the impact of the water restrictions on metered sales.

Hunter Water's actual and projected metered sales were very similar to the forecasts submitted by the agency and adopted by the Tribunal. This may be because Hunter Water's area of operations was not as severely affected by the drought as the Sydney Basin, as it has had more rain and its water storages are at reasonable levels.

Financial Year	2002/03	2003/04	2004/05
Sydney Catchment Authority			
Agency forecast 2003	616	606	588
Tribunal mid-term review 2003	616	606	588
Actual (2002/03 and 2003/04) and projected (2004/05) sales	636	560	562
Sydney Water			
Agency forecast 2003	533	533	517
Tribunal determination 2003	533	533	517
Actual (2002/03 and 2003/04) and projected (2004/05) sales	550	492	496
Hunter Water			
Agency forecast 2003	64	61	62
Tribunal determination 2003	64	62	62
Actual (2002/03 and 2003/04) and projected (2004/05) sales	65	62	60

# Table 4.2 Forecast and actual metered water sales over the current determinationperiod (GL)

In making its findings on metered water sales to be used for setting prices for the 2005 determination, the Tribunal has taken account of:

- the impact of the current drought on the Sydney Catchment Authority and Sydney Water
- the impact of the measures Sydney Water is undertaking to manage demand
- the longer term history of consumption patterns and drought cycles
- the relative stability of Hunter Water's metered sales volumes
- comments received in relation to the draft report.

# 4.3.3 Agency forecasts, McLennan Magasanik findings and Tribunal's findings on metered water sales forecasts

Table 4.3 sets out the metered water sales forecasts submitted by the agencies, those recommended by McLennan Magasanik, and the Tribunal's findings on the metered water sales to be used to set prices for the 2005 determination period.

Financial Year	2005/06	2006/07	2007/08	2008/09
Sydney Water				
Sydney Water original submission <sup>27</sup>	527,041	521,768	515,993	508,554
McLennan Magasanik base case without IBT <sup>28</sup>	531,476	533,920	532,904	529,289
McLennan Magasanik base case with IBT	527,702	529,857	529,589	525,686
Tribunal draft finding	527,702	529,857	529,589	525,686
Sydney Water further submission July 2005	454,941	468,769	516,835	511,463
Tribunal finding	491,502	504,350	529,589	525,686
Hunter Water				
Hunter Water submission	61,640	62,250	63,220	64,190
McLennan Magasanik baseline	62,902	63,191	63,838	64,782
McLennan Magasanik with Demand Management	62,697	62,752	63,128	63,646
Tribunal finding	62,697	62,752	63,128	63,646
Sydney Catchment Authority				
Sydney Catchment Authority submission	591,100	583,100	573,100	561,100
McLennan Magasanik base case (without SWC IBT)	595,576	596,020	590,004	581,389
McLennan Magasanik base case (with SWC IBT)	591,802	591,957	586,689	577,786
Tribunal draft finding	591,802	591,957	586,689	577,786
Sydney Catchment Authority further submission July				
2005	521,100	577,100	574,100	564,100
Iribunal finding	556,600	566,500	586,700	577,800

Table 4.3	Metered water sales forecasts submitted by agencies versus	Tribunal's
	findings (ML)	

The agencies' forecasts reflect the agencies views on restrictions and the effect of demand management measures (which become more effective in the latter years of the 2005 determination period) over the forecast period. However, as McLennan Magasanik noted, the agencies use different approaches to forecasting.

The Sydney Catchment Authority's forecasts are based on the forecasts of its customers, particularly Sydney Water. McLennan Magasanik found this to be appropriate, given Sydney Water buys 99 per cent of the water the Sydney Catchment Authority supplies. However, McLennan Magasanik also noted that the Sydney Catchment Authority should play a greater role in critically reviewing Sydney Water's forecasts, particularly in the area of demand management.

Sydney Water's forecasts in its original submission are consistent with the Metropolitan Water Strategy, in that they are based on the assumption that restrictions will be lifted before the commencement of the 2005 determination period. McLennan Magasanik's noted the uncertainty surrounding the duration of restrictions. Therefore it recommended two forecasts based on different assumptions—the first assumed that water restrictions are in place and calculated consumption scenarios with and without an inclining block tariff (IBT);

<sup>&</sup>lt;sup>27</sup> The metered water sales forecast in Sydney Water's original submission was consistent with the Metropolitan Water Strategy and assumed that restrictions would be lifted before the commencement of the new price path. The agency subsequently provided a supplementary forecast incorporating the impact of restrictions in the first year.

<sup>&</sup>lt;sup>28</sup> Inclining block tariff.

the second mirrored Sydney Water's assumption that water restrictions are lifted and calculated consumption scenarios with and without an inclining block tariff.

While Sydney Water does not contest most of McLennan Magasanik's analysis, it disagrees about the following two issues:

- The effect of the BASIX initiative for new houses on water savings. McLennan Magasanik has incorporated a lower saving (35 per cent) compared to Sydney Water's assumption of 40 per cent relative to the average household. The different assumptions are driven by different views on factors such as the use of recycled water and the effect of dual-flush toilets. In addition, McLennan Magasanik has applied the reduced saving to a lower number of households; it based its household growth assumption on the mid-point between DIPNR's and the Housing Industry Association's forecast. Sydney Water's forecasts are based on the DIPNR forecast.
- The savings from Every Drop Counts (EDC) program. McLennan Magasanik noted that there are two valid approaches for calculating savings from the EDC program: estimated savings based on expenditure (Sydney Water's approach) and savings based on current experience. The two approaches provide different results. In the absence of any further information indicating which is better, McLennan Magasanik has taken the mid-point between the two results.

Hunter Water's forecast did not consider demand management and water savings programs. The forecast was derived using estimated average consumption figures. McLennan Magasanik developed a baseline forecast for Hunter Water and then adjusted this forecast to take account of demand management programs.

The Tribunal notes that McLennan Magasanik's final report ultimately found that the forecasts submitted by each agency were reasonable. However, it did differ in its application of some elements of the forecasts and provided alternative forecasts for each agency for the purposes of the 2005 price review.

The Tribunal believes that it is important that the metered water sales forecasts used to set prices reflect consistent underlying assumptions and approaches. One important assumption relates to how the implications of the current drought and water restrictions are factored into the agencies' forecasts. When considering this issue, the Tribunal was mindful of its previous position that consumers should not face increased prices because of temporary restrictions.

In the case of Sydney Water and the Sydney Catchment Authority, at the time the Tribunal made its draft determination the agencies' expectations were that restrictions would be lifted approximately one year into the 2005 determination period. Therefore, the Tribunal decided that the restrictions should be seen as temporary restrictions and that they should not be factored into the agencies' forecasts to be used in setting prices for the 2005 determination.

Since the Tribunal made its draft determinations, Sydney Water has indicated that it believes that there is a low probability of demand returning to normal levels during 2005/06 and 2006/07 based on water storage levels at June 2005. Therefore, Sydney Water has submitted revised sales forecasts to the Tribunal for its consideration. The Sydney Catchment Authority has also revised its metered sales forecasts to account for Sydney Water's revision.

For all the reasons outlined above, the Tribunal decided to adopt McLennan Magasanik's recommended forecasts assuming that stage 2 restrictions will apply for the Sydney Catchment Authority<sup>29</sup> and Sydney Water for 2005/06 and 2006/07<sup>30</sup>, and for 2007/08 and 2008/09 it has adopted McLennan Magasanik's recommended forecasts assuming that no restrictions will apply. For Hunter Water, the Tribunal's recommended forecasts take into account the effect of demand management.

## 4.4 Tribunal's assumptions on growth in customer numbers

To set prices for the 2005 determination period, the Tribunal needs to make assumptions about the growth in customer numbers. The Tribunal bases its findings about what assumptions are reasonable on the forecasts and information about growth in residential and non-residential property numbers provided by the agencies as part of their annual information returns. The Tribunal considers that each agency's forecast is generally appropriate for the purposes of this determination.

Table 4.4 below summarises Sydney Water's and Hunter Water's forecasts of growth in residential and non-residential properties in their areas of operations. The Tribunal has used these projections in setting prices for the 2005 determination.

<sup>&</sup>lt;sup>29</sup> In reviewing the consumption forecasts, the Tribunal noted a small error in McLennan Magasanik's calculation of Sydney Catchment Authority's forecast. The McLennan Magasanik model had assumed all of Sydney Water's bulk water requirements would be provided by Sydney Catchment Authority. However, Sydney Water does receive a small amount of bulk water from other sources. Therefore, the Tribunal has adjusted the McLennan Magasanik forecast for the Sydney Catchment Authority to reflect this.

<sup>&</sup>lt;sup>30</sup> Sydney Water has assumed that restrictions will be lifted in January 2007. Therefore, in completing the 2006/07 metered sales forecasts the Tribunal has accepted Sydney Water's allowance for a six month lag effect before metered sales are at non-restricted levels.

Financial year	2005/06	2006/07	2007/08	2008/09
Sydney Water				
Customer base - water supplies Total residential properties Total non-residential properties Total properties	1,625,617 121,246 <b>1,746,863</b>	1,652,871 123,246 <b>1,776,117</b>	1,679,871 125,246 <b>1,805,117</b>	1,706,871 127,246 <b>1,834,117</b>
Customer base - wastewater services Total residential properties Total non-residential properties Total properties	1,578,327 111,747 <b>1,690,074</b>	1,605,327 113,747 <b>1,719,074</b>	1,632,327 115,747 <b>1,748,074</b>	1,659,327 117,747 <b>1,777,074</b>
Customer base - stormwater drainage services Total residential properties Total non-residential properties Total properties	432,139 41,899 <b>474,038</b>	442,139 43,899 <b>486,038</b>	452,139 45,899 <b>498,038</b>	462,139 47,899 <b>510,038</b>
Hunter Water				
Customer base - water supplies Total residential properties Total non-residential properties Total properties	208,278 13,286 <b>221,564</b>	210,787 13,336 <b>224,123</b>	213,429 13,386 <b>226,815</b>	216,071 13,436 <b>229,507</b>
Customer base - wastewater services Total residential properties Total non-residential properties Total properties	199,743 10,886 <b>210,629</b>	202,252 10,929 <b>213,181</b>	204,894 10,973 <b>215,867</b>	207,536 11,016 <b>218,552</b>
Customer base - Stormwater drainage services Total residential properties Total non-residential properties Total properties	60,851 3,607 <b>64,458</b>	61,248 3,607 <b>64,855</b>	61,644 3,607 <b>65,251</b>	62,041 3,607 <b>65,648</b>

### Table 4.4 Agency forecasts of residential and non-residential properties

## 5 ESTABLISHING THE NOTIONAL REVENUE REQUIREMENT FOR REGULATED SERVICES

One of the key inputs to the Tribunal's decisions on maximum prices is its calculation of the amount of revenue required by each agency to efficiently provide water, wastewater and stormwater drainage services and earn a return on its asset base. This amount is known as the agency's 'notional revenue requirement'.<sup>31</sup>

As Chapter 1 discussed, the Tribunal used the building block method to calculate each agency's notional revenue requirement for the 2005 determination period. This method entails estimating the amount of revenue the agency needs to cover its 'cost blocks', then adding these amounts together. The cost blocks include:

- **Operating and maintenance expenditure.** This cost block represents the Tribunal's assessment of the agency's efficient level of operating and maintenance costs associated with providing regulated water services to the required standards
- Capital investment, which is based on two cost blocks:
  - An allowance for a return on assets. This cost block represents the Tribunal's assessment of the opportunity cost of capital invested in the agency by its owner. It is derived by multiplying the value of the agency's regulatory asset base (RAB) by an appropriate rate of return. The value of the RAB is established by 'rolling forward' the RAB used in making the current determination, to incorporate the agency's past capital expenditure that the Tribunal deems was prudent and its forecast capital expenditure that the Tribunal considers to be efficient (net of asset disposals and regulatory depreciation). The rate of return is established by using the Weighted Average Cost of Capital approach to determine a range for this rate, then making a judgement about what rate within the range is most appropriate, having regard to the matters in Section 15 of the IPART Act.
  - **A return of capital (depreciation).** This cost block represents the Tribunal's assessment of the agency's efficient level of costs in maintaining its capital asset base. It is calculated using straight-line depreciation on the RAB.
- An allowance for the costs associated with working capital. This cost block represents the Tribunal's assessment of the agency's costs of maintaining an investment in working capital. It is derived by calculating the agency's working capital, then multiplying it by the rate of return used for calculating the allowance for a return on assets.

The sections below provide a summary of the Tribunal's findings on the notional revenue requirement to be used in setting prices for each agency, and compare these findings to the agencies' forecast revenue requirements. Detailed discussion of the Tribunal's findings in relation to the revenue required to recover the individual cost blocks is provided in the following chapters. Chapters 6 and 7 explain findings related to revenue required for capital investment, including those on the prudence of past capital expenditure and the efficiency of forecast capital expenditure, an allowance for a return on assets, and a return of capital

<sup>&</sup>lt;sup>31</sup> The "notional revenue requirement" is an input to the price setting process whereas the "target revenue" is an output of the price setting process. The Tribunal uses the notional revenue requirement in conjunction with assumptions about each agency's metered sales (see in Chapter 4) in setting prices. It also considers the factors listed in Section 15 of the IPART Act (see section 1.2). The target revenue is the actual revenue that the Tribunal expects the agency to recover based on the prices it has set.

(depreciation). Chapter 8 explains findings on efficient operating expenditure and an allowance for the costs associated with working capital.

### 5.1 Summary of findings on notional revenue requirements

The Tribunal's findings on the agencies' notional revenue requirements to be taken into account in setting prices for the 2005 determination period are set out in Table 5.1.

The Tribunal considers that these notional revenue requirements will enable each agency to recover the efficient costs of providing the services on a sustainable basis while maintaining appropriate standards of quality, reliability and safety, and to earn an appropriate rate of return.

Table 5.1 Tribunal's finding on notional revenue requirements for Sydney CatchmentAuthority, Sydney Water and Hunter Water (\$ million, 2004/05)

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority	149.8	160.6	167.7	174.5	652.5
Sydney Water	1,505.8	1,533.4	1,559.3	1,583.2	6,181.7
Hunter Water	153.7	156.0	159.3	162.6	631.6

While the determination will apply from 1 October 2005 for the Sydney Catchment Authority and Sydney Water, and from 1 November for Hunter Water, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

The Tribunal notes that these findings specifically recognise the significant adjustments to prices required in the longer term, to reflect fundamental changes in expenditure requirements and/or consumption. These findings also recognise the need for transitional arrangements to balance and manage the impact of these adjustments on customers and other stakeholders.

# 5.2 Tribunal's findings compared with agencies' proposed revenue requirements

Table 5.2 sets out the forecast revenue requirements included in the agencies' proposals based on their revised forecasts<sup>32</sup> broken down into cost blocks, and compares them with the Tribunal's findings on the base case notional revenue requirements.<sup>33</sup>

In relation to the Sydney Catchment Authority, the Tribunal's finding on the overall revenue requirement is \$14.1 million (or 2.1 per cent) less than the agency's revised forecast for the whole determination period. For Sydney Water, it is \$92.3 million (or 1.5 per cent) less and for Hunter Water it is around \$16.7 million (or 2.7 per cent) more than the agencies' revised forecasts for the whole determination period. In all cases, the Tribunal's findings reflect its views on the efficient level of operating expenditure and efficient costs of financing capital investment for each agency.

<sup>&</sup>lt;sup>32</sup> Although SCA slightly updated its supplementary information, Table 5.2 data is based on its supplementary information.

<sup>&</sup>lt;sup>33</sup> This revenue requirement reflects a case where the full rate of return is recovered in every year. It does not reflect the price structure determined by the Tribunal.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority					
Agency supplementary submission forecast <sup>34</sup>					
Operating expenditure	79.2	80.6	80.8	79.7	320.4
Return of capital (depreciation)	12.8	14.4	15.8	17.0	60.0
Allowance for return on assets	60.1	69.7	77.7	84.4	292.0
Allowance for costs associated with working capital	-0.6	-	0.1	0.5	0.1
Less other regulatory revenue	-1.5	-1.5	-1.5	-1.5	-6.0
Notional revenue requirement	150.1	163.3	173.0	180.2	666.5
Tribunal's finding					
Operating expenditure	79.2	79.1	77.7	76.3	312.4
Return of capital (depreciation)	12.8	14.2	15.5	16.7	59.1
Allowance for return on assets	59.8	68.5	75.8	82.5	286.6
Allowance for costs associated with working capital	-0.5	0.1	0.1	0.4	0.1
Other regulatory revenue	-1.5	-1.5	-1.5	-1.5	-6.0
Notional revenue requirement	149.8	160.6	167.7	174.5	652.5
Difference between Tribunal's finding and Agency forecast	-0.3	-2.8	-5.4	-5.7	-14.1
Sydney Water					
Agency revised forecast <sup>35</sup>					
Operating expenditure (including Sydney Water estimates of bulk water costs)	903	899	889	891	3,583
Return of capital (depreciation)	110	114	119	124	467
Allowance for return on assets (including working capital)	517	543	569	595	2,223
Notional revenue requirement	1,530	1,556	1,577	1,611	6,274
Tribunal's finding					
Operating expenditure (including the Tribunal's determination of bulk water costs)	884.9	884.5	884.2	881.8	3535.3
Return of capital (depreciation)	107.7	112.0	116.3	120.5	456.5
Allowance for return on assets	509.1	531.7	553.2	573.9	2168.0
Allowance for costs associated with working capital	4.1	5.2	5.7	6.9	21.9
Notional revenue requirement	1505.8	1533.4	1559.3	1583.2	6181.7
Difference between Tribunal's finding and Agency forecast	-24.2	-22.6	-17.7	-27.8	-92.3

# Table 5.2 Agencies' forecast notional revenue requirements compared to Tribunal'sfindings, 2006 to 2009(\$ million, 2004/05)

<sup>35</sup> Ibid.

<sup>&</sup>lt;sup>34</sup> Agency forecast has been adjusted to reflect the Tribunal's inflation estimates for comparison purposes.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Hunter Water					
Agency revised forecast <sup>36</sup>					
Operating expenditure	72.1	71.1	71.8	72.7	287.7
Return of capital (depreciation)	15.0	15.7	16.5	17.2	64.4
Allowance for return on assets	60.0	63.2	67.0	70.1	260.3
Allowance for costs associated with working capital	0.6	0.5	0.6	0.8	2.5
Notional revenue requirement	147.7	150.5	155.9	160.8	614.9
Tribunal's finding					
Operating expenditure	70.2	68.8	68.5	68.4	275.9
Return of capital (depreciation)	14.9	15.5	16.1	16.7	63.1
Allowance for return on assets	68.0	70.9	73.9	76.6	289.3
Allowance for costs associated with working capital	0.7	0.8	0.8	0.9	3.2
Notional revenue requirement	153.7	156.0	159.3	162.6	631.6
Difference between Tribunal's finding and Agency forecast	6.0	5.5	3.4	1.8	16.7

The differences between the agencies' forecasts and the Tribunal's findings on their overall revenue requirements are primarily due to the Tribunal deciding that it was appropriate to:

- apply additional efficiencies to the forecast operating expenditure, which reduced the required revenue for operating expenditure
- re-phase some of the forecast operating expenditure for Sydney Water
- adjust Sydney Water's estimate of its bulk water costs to reflect the Tribunal's decision on the Sydney Catchment Authority's charges
- apply efficiencies to the forecast capital expenditure, which reduced the required revenue for a return on assets and a return of capital (depreciation)
- re-phase some capital expenditure for Sydney Water, the main effect of which was to change the profile of the required revenue for the capital expenditure cost block within the 2005 determination period.

<sup>&</sup>lt;sup>36</sup> Ibid.

### 6 TRIBUNAL'S ASSESSMENT OF AGENCIES' PAST AND FORECAST CAPITAL EXPENDITURE

The Tribunal considered each agency's actual capital expenditure during the current determination period and forecast expenditure for the 2005 determination period, as an input to its finding on the revenue required by the agency for capital investment. Past capital expenditure that the Tribunal deems to be prudent and forecast capital expenditure that it considers to be efficient are incorporated into the regulatory asset base (RAB) when rolling it forward to establish its value at the start of each year in the determination period.<sup>37</sup> These opening values are then used in calculating the allowance for a return on assets and a return of capital (see Chapter 7).

This chapter explains the Tribunal's findings on the prudent past capital expenditure and efficient forecast capital expenditure to be included when rolling forward the RAB. Section 6.1 summarises the Tribunal's findings for each agency. Section 6.2 outlines the approach it used to assess past and forecast capital expenditure. Sections 6.3 and 6.4 discuss its findings on prudent past capital expenditure and efficient forecast capital expenditure in detail, including the key issues the Tribunal considered in making these findings. Section 6.5 discusses a range of other issues the Tribunal considered in relation to the agencies' capital programs.

## 6.1 Summary of Tribunal's finding

The Tribunal's finding is that the capital expenditure for the period 2002/03 to 2004/05 shown in Table 6.1 was prudent, and the forecast capital expenditure shown on Table 6.2 is efficient.

Financial Year	2002/03	2003/04	2004/05	Total			
Sydney Catchment Authority	12.2	18.9	33.1	64.2			
Sydney Water	477.6	469.9	379.0	1,326.5			
Hunter Water	30.9	30.4	60.8	122.1			

Table 6.1 Prudent past capital expenditure net of capital contributions(\$ million, 2004/05)

	Table 6.2	Forecast ca	pital ex	penditure (	\$ million.	2004/05)
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Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority	184.2	118.9	139.9	107.3	550.3
Sydney Water	578.7	576.2	582.8	499.6	2,237.2
Hunter Water	76.7	84.4	83.4	77.4	321.9

<sup>&</sup>lt;sup>37</sup> Capital expenditure included in the RAB is net of growth capital expenditure funded by developer charges.

### 6.2 Tribunals' approach to assessing capital expenditure

As foreshadowed in the issues paper for this review, the Tribunal's approach to assessing capital expenditure for the purpose of rolling forward the RAB includes a backward-looking prudency test of the agencies' actual capital expenditure in the current determination period, and an assessment of the efficiency of their forecast capital expenditure for the 2005 determination period.

As part of this assessment, the Tribunal commissioned a consultant, Atkins/Cardno, to undertake an independent review of the agencies' proposals on capital expenditure. Specifically, it asked Atkins/Cardno to provide advice on:

- the prudence of each agency's capital expenditure findings in the period from 1 July 2003 to 30 June 2005
- the efficiency of each agency's capital expenditure program for the period from 2005/2006 to 2009/2010.

Atkins/Cardno evaluated the prudence of past expenditure by sampling completed schemes and reviewing the project management and cost outcomes. In assessing the efficiency of forecast capital expenditure, it specifically considered both the quantum and timing of this expenditure, and assessed the efficiency of the expenditure by considering the concepts of continuing and catch-up efficiency.<sup>38</sup>

The Tribunal considered Atkins/Cardno's recommendations when making its own findings on the amount of past capital expenditure that was prudent and the amount of forecast capital expenditure that is efficient. It also considered:

- the agencies' initial and supplementary submissions on their actual capital expenditure during the current determination period and proposed capital expenditure for the 2005 determination period
- other stakeholders' submissions that commented on these expenditures
- its own analysis of issues related to capital expenditure
- important contextual factors, particularly the short- and long-term balance between demand and supply
- the factors set out in Section 15 of the IPART Act.

### 6.3 **Prudence of past capital investment**

To decide what portion of each agency's capital expenditure in the current determination period was prudent, the Tribunal considered each agency's actual expenditure over this period and Atkins/Cardno's advice. It also compared these expenditures with the forecast expenditure for 2002/03 to 2004/05 submitted by the agency during the 2003 price review, and the capital expenditure it allowed for in its 2003 determination. Table 6.3 sets out each of these expenditures and the Tribunal's finding for each agency on the amount of actual expenditure that was prudent.

<sup>&</sup>lt;sup>38</sup> Atkins/Cardno defined continuing efficiency as the scope for top performing or frontier companies (agencies) to continue to improve their efficiency and catch-up efficiency as the scope for all other utilities to reach the performance of a frontier utility.

Financial Year	2002/03	2003/04	2004/05	Total
Sydney Catchment Authority				
Agency forecast 2003	24.7	35.9	36.7	97.2
Tribunal mid-term review 2003	24.7	36.1	37.0	97.9
Actual/(2002/03 and 2003/04) projected (2004/05) expenditure	13.0	19.4	73.1 <sup>39</sup>	105.4
Tribunal's draft finding on prudent expenditure	12.2	18.9	72.9	104.2
Tribunal's final finding on prudent expenditure	12.2	18.9	33.1 <sup>40</sup>	64.2
Sydney Water				
Agency forecast 2003	548.7	557.0	573.7	1,679.5
Tribunal determination 2003	Na	526.3	515.5	Na
Actual/(2002/03 and 2003/04) projected (2004/05) expenditure	539.2	519.1	506.7	1,565.1
Tribunal's draft finding on prudent expenditure	539.2	519.1	506.7	1,565.1
Tribunal's final finding on prudent expenditure	539.2	519.1	420.0 <sup>41</sup>	1,478.3
Hunter Water				
Agency forecast 2003	57.0	67.0	77.6	201.6
Tribunal determination 2003	Na	64.9	73.4	Na
Actual/(2002/03 and 2003/04) projected (2004/05) expenditure	50.6	52.5	78.7	181.8
Tribunal's finding prudent expenditure	50.0	52.5	78.7	181.2

# Table 6.3 Capital expenditure over the current determination period(\$ million, 2004/05)

In making these findings, the Tribunal considered Atkins/Cardno's recommendations and advice. In its draft determination, the Tribunal noted that the Sydney Catchment Authority's capital expenditure over the period from 1 July 2002 to 30 June 2005 was forecast to be significantly higher than the expenditure allowed for in the Tribunal's 2003 mid-term review of the current determination. This was due to much higher forecast expenditure in the 2004/05 year.

<sup>&</sup>lt;sup>39</sup> The \$35 million difference between forecasts made in 2002/03 and 2004/05 for the Sydney Catchment Authority's 2004/05 expenditure is due to the rephasing of expenditure over the period and unanticipated expenditure of \$24.4 million relating to the State Government's Metropolitan Water Plan.

<sup>&</sup>lt;sup>40</sup> Between the publication of the Tribunal's draft report and this final report, the Sydney Catchment Authority has advised the Tribunal that its actual capital expenditure outcome for the 2004/05 year was significantly less than it originally anticipated.

<sup>&</sup>lt;sup>41</sup> Between the publication of the Tribunal's draft report and this final report, the Sydney Water has advised the Tribunal that its actual capital expenditure outcome for the 2004/05 year was significantly less than it originally anticipated.

Since the draft determination, the Sydney Catchment Authority has revised its 2004/05 forecast capital expenditure to \$47 million. Atkins/Cardno reviewed the revised forecast and concluded that further slippage was likely to result in the 2004/05 capital expenditure being \$33.1 million. The Tribunal is concerned at the significant changes in the 2004/05 forecast and at the overall level of capital underspend relative to the levels allowed for in the 2003 determination. The Tribunal is also concerned at the significant forecast increase during the 2005 determination period relative to the 2003 determination period. The Tribunal will carefully monitor the Sydney Catchment Authority's actual capital expenditure over the period to 30 June 2009 compared with the allowances made by it in this determination.

The Tribunal notes that during the 2003 determination period, the Sydney Catchment Authority met the water quality compliance targets set in its operating licence and provided an uninterrupted supply of water to its direct customers, and therefore indirectly to retail customers in the Sydney area. It also upgraded the Upper Canal and refurbished the Warragamba Pipelines. In addition, it constructed the Warragamba Spillway, which is intended to ensure the integrity of the dam wall in the event of a probable maximum flood.

In relation to Sydney Water, Atkins/Cardno noted that actual capital expenditure on water asset renewal was lower than forecast, while expenditure on wastewater asset renewal was 4 per cent higher than planned. It was not able to confirm whether this under or over-expenditure was due to scheme slippage, cost overruns or efficiency, as it was not possible to verify the actual outputs against those planned. However, it concluded that all actual capital expenditure was prudent and should be included when rolling forward the RAB.

For Hunter Water, Atkins/Cardno found that while total capital expenditure was slightly lower than that allowed by the Tribunal under the current determination, actual capital expenditure in relation to water services was greater than planned, while expenditure in relation to wastewater services was \$23 million less than planned due to slippage of some schemes within this program. It also noted that actual capital expenditure on corporate services had slipped, specifically the Head Office Accommodation project, which has moved beyond the end of the 2003 determination period and into 2006. Other expenditure was slightly higher than forecast, particularly expenditure on meter replacements and information technology. Atkins/Cardno concluded that all actual capital expenditure was prudent, except for \$0.6 million of corporate services expenditure on the purchase of land at the Tillegra Dam site.

On balance, based on its consideration of Atkins/Cardno's conclusions, agency submissions and its own analysis, the Tribunal decided that for the purpose of rolling forward the RAB:

- all of the Sydney Catchment Authority's actual capital expenditure over the current determination period was prudent, except for expenditure related to upgrading historic cottages and recreational facilities
- all of Sydney Water's actual expenditure during this period was prudent
- all of Hunter Water's actual expenditure during this period was prudent, except for \$0.6 million related to land purchases for the Tillegra Dam.

In its submission on the draft report and determination, Hunter Water argued that although there are no plans to build Tillegra Dam in the short to medium term, there is a community expectation that Hunter Water will purchase land in the dam catchment area as it comes on the market. Hunter Water argued that in the absence of a decision to abandon Tillegra Dam as a future storage option, the ongoing land purchase should be regarded as a reasonable obligation on the Corporation. Capital expenditure on this land therefore should not be excluded from the asset base.

The Tribunal reviewed this submission and was of the view that while the Tillegra Dam is a future supply option, on current demand forecasts, there will be no need to build it for another 30 years. In addition to this, Hunter Water's Integrated Water Resource Plan states that on a levelised cost basis, building the Tillegra Dam would be far less cost effective than many demand management initiatives and alternative supply options.

On this basis, the Tribunal decided that the land purchases are not prudent at this time and excluded the cost from the RAB. The Tribunal may reconsider such land purchases in the future.

## 6.4 Efficient forecast capital expenditure for 2006 to 2009

The Tribunal considered the forecast capital expenditure each agency included in its submission to the price review, to decide how much of that expenditure is efficient. As part of its review process, the Tribunal took into account Atkins/Cardno's recommendations on the proposed capital expenditure programs across the agencies' water, wastewater and stormwater drainage businesses and undertook extensive public consultation.

The Tribunal's determination of efficient capital expenditure was not straightforward for Sydney Water and the Sydney Catchment Authority, as decisions about significant capital projects contained in the Metropolitan Water Plan are yet to be made (see Chapter 2). This creates uncertainty about the exact magnitude and timing of the capital expenditure projects that Sydney Water and the Sydney Catchment Authority will need to undertake to implement the Plan over the determination period.

The next section provides an overview of the agencies' forecast capital expenditure for 2005/06 to 2008/09 and the Tribunal's draft and final findings on their efficient level of capital expenditure for this period. The following section discusses the Tribunal's considerations in making its draft and final findings for each agency.

# 6.4.1 Overview of agencies' forecast capital expenditure compared with the Tribunal's findings

Table 6.4 below compares each agency's forecast capital expenditure for 2005/06 to 2008/09 with Atkins/Cardno's recommendations and the Tribunal's findings on their level of efficient capital expenditure over this period.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority					
Agency forecast	164.7	125.1	136.9	85.6	512.3
Atkins/Cardno draft recommendation	152.2	29.2	57.7	102.6	341.7
Tribunal's draft finding	152.4	109.7	122.5	84.6	469.1
Agency supplementary submission	193.0	139.9	142.2	104.3	579.4
Atkins/Cardno final recommendation	184.2	118.9	139.9	107.3	550.3
Tribunal's finding	184.2	118.9	139.9	107.3	550.3
Sydney Water					
Agency forecast	671.8	711.1	669.8	547.3	2,600.0
Atkins/Cardno draft recommendation	553.7	577.0	592.0	553.3	2,276.0
Tribunal's draft finding	553.7	577.0	592.0	553.3	2,276.0
Agency supplementary submission	510.0	604.0	652.0	578.0	2,344.0
Atkins/Cardno final recommendation	464.0	555.0	600.0	519.0	2,138.0
Agency July revised forecast	599.7	612.5	653.0	579.0	2,444.2
Tribunal's finding	578.7	576.2	582.8	499.6	2,237.2
Hunter Water					
Agency forecast	84.0	88.1	86.7	80.3	339.1
Atkins/Cardno draft recommendation	73.6	70.6	77.4	73.6	295.2
Tribunal's draft finding	73.6	70.6	77.4	73.6	295.2
Agency supplementary submission <sup>42</sup>	88.1	92.0	86.4	84.3	350.8
Agency June 2005 information	81.8	107.1	99.3	90.3	378.5
Atkins/Cardno final recommendation	76.7 <sup>43</sup>	84.4	83.4	77.4	321.9
Tribunal's finding	76.7	84.4	83.4	77.4	321.9

Table 6.4	Agencies'	forecast ca	apital ex	xpenditure	compared	with T	ribunal's fi	ndings on
	-	efficient car	pital ex	penditure (	\$ million, 2	2004/05	)	_

<sup>&</sup>lt;sup>42</sup> Hunter Water's supplementary submission deducted approximately \$4M from total capital expenditure to reflect adjustments due to the adoption of International Financial Reporting Standards. However, this adjustment was made for the draft determination. The correct total for capital expenditure from the supplementary submission is \$354.8M.

<sup>&</sup>lt;sup>43</sup> Atkins/Cardno's report on Hunter Water's supplementary submission shows a total of \$80.9M in 2005/06, but subsequent correspondence has indicated that there was an error in this table and that the value should be \$76.7M.

#### 6.4.2 Tribunal's findings in relation to the Sydney Catchment Authority

In its supplementary submission, the Sydney Catchment Authority proposed significant increases in capital expenditure for 2005/06 to 2008/09. On average, it forecast that this expenditure would increase from \$35 million<sup>44</sup> per annum over the 2003 determination period to \$145 million per annum over the 2005 determination period.

The next sections discuss the Tribunal's considerations and draft and final findings in relation to major capital expenditure items within the agency's forecast capital expenditure program and the potential for additional efficiency gains within this program, as well as the overall effect of the Tribunal's findings on the program.

#### Major capital expenditure items - draft findings

The Sydney Catchment Authority's initial forecast capital expenditure program assumed the continuing supply of bulk water to Sydney Water while managing and protecting the various water catchments integral to that supply. The forecast was consistent with the Metropolitan Water Plan.

The forecast capital expenditure program includes a number of large ongoing projects designed to maintain the supply and quality of bulk water and also protect the catchments. For example, one project is a response to the requirement from the Department of Fisheries to provide a by-pass around Tallowa Dam<sup>45</sup> to allow fish to migrate to the upper reaches of the Shoalhaven River. There are also a number of projects for maintaining water supply from the Warragamba Dam, including work on major outlet valves, electrical support systems and a project to ensure pipeline spare parts are quickly available in the event of damage to the Warragamba pipelines. Other projects include the construction of the Prospect Reservoir Raw Water Pumping Station to ensure back-up supply in the event of damage to the Upper Canal or Warragamba Pipeline, and the Fish River Water Supply Scheme (FRWS) pipeline to provide increased supplies to the Blue Mountains.

The Shoalhaven Transfer Scheme is the largest component of the Sydney Catchment Authority's forecast capital expenditure program. It involves \$267 million<sup>46</sup> in expenditure over the 2005 determination period, and the construction of new infrastructure including the installation of gates, new pumps and the construction of pipelines from Burrawang to Avon Dam. It is intended to enhance the catchment yield (by allowing the transfer of water at times of high flow in the Shoalhaven River), and to reduce the impact of abstractions on the environment.

Finalising details of the Shoalhaven Transfer Scheme depends on the outcome of technical studies, economic analysis, environmental evaluations and community consultation. This means that, at this stage, the costs of implementing the scheme remain uncertain. Decisions on the approach to and staging of implementation are not expected until part way through the 2005 determination period.

<sup>&</sup>lt;sup>44</sup> \$2004/05 - to allow comparison of past and forecast expenditures, unless otherwise stated, all amounts are expressed in \$2004/05. This means that past expenditure amounts has been "inflated" to the equivalent \$2004/05 amount.

<sup>&</sup>lt;sup>45</sup> Since the Tribunal's draft determination, the Tallowa Dam fishway project has been delayed until the business case for the Shoalhaven Transfer project has been completed.

<sup>&</sup>lt;sup>46</sup> Real \$2004/05, before capital expenditure efficiencies. The total cost of the project is forecast to be \$280 million.

Atkins/Cardno recommended the scope of the Shoalhaven Transfer Scheme be changed from twin pipelines to one pipeline, and that the costs involved be re-phased to defer major expenditure until 2008 (a year after the Sydney Catchment Authority's proposed commencement of the Shoalhaven Transfer Scheme). This would reduce the Sydney Catchment Authority's capital expenditure by \$85 million in 2007 and \$70 million in 2008, and would increase its capital expenditure by \$20 million in 2009.<sup>47</sup>

In response to Atkins/Cardno's recommendations, the Sydney Catchment Authority noted that the Government's consultation and preliminary design process is expected to be finished by the end of calendar year 2006. In relation to the recommendations for re-phasing the Shoalhaven Transfer Scheme, it did not see any particular technical difficulties with the proposed Stage 1 works. In relation to the recommendations on re-scoping the scheme, it noted that Atkins/Cardno's reduced cost estimates are based on one pipeline, rather than two, and suggested that it would be premature to reduce total cost expectations at this stage. At the public hearing, it also noted that its cost estimates are based on the advice of its consultant (Halcrow Management Science Limited).

In addition to the major capital program outlined above, the Sydney Catchment Authority proposed to upgrade and/or demolish cottages at dam sites as part of its wider heritage and legacy obligations, and to upgrade conference facilities at Warragamba Dam.

Atkins/Cardno recommended that the forecast expenditure on cottages should be excluded from the level of efficient capital expenditure, as it falls outside the Sydney Catchment Authority's regulated business. It recommended that the forecast expenditure on conference facilities should also be excluded because it would be more efficient to incorporate conference facilities in the new Head Office or rent rooms for specific functions.

The Sydney Catchment Authority subsequently advised the Tribunal that it was the primary user of the Warragamba conference facilities, and that spare capacity is rented out as a responsible approach to defraying costs.

The Tribunal carefully considered the Sydney Catchment Authority's submissions, Atkins/Cardno's recommendations and other factors. In its draft determination, it decided to base its findings on the Atkins/Cardno's recommendations but with the following major adjustments:

- In relation to the Shoalhaven Transfer Scheme, it decided not to accept its consultant's recommendations on re-scoping and re-phasing the scheme at this stage. Rather, as set out in Chapter 3, it decided to address the specific risks associated with the timing and cost of the scheme by adjusting the agency's revenue requirement in the subsequent determination period to account for any unspent monies allowed by the Tribunal in this determination. Therefore, its draft finding reflects the Sydney Catchment Authority's original costing and timing for the Shoalhaven Transfer Scheme.
- In relation to the expenditure on upgrading the Warragamba Dam conference facilities, it decided not to accept Atkins/Cardno's recommendation to exclude this expenditure for the purpose of rolling forward the RAB. The Tribunal considered that, on the basis that the facility continues to be primarily used by the Sydney Catchment Authority, it is appropriate that this expenditure be included.

<sup>&</sup>lt;sup>47</sup> Real \$2004/05, before capital expenditure efficiencies.

### Supplementary submission and findings

In its supplementary submission, the Sydney Catchment Authority proposed an additional \$67<sup>48</sup> million in capital expenditure above its initial submission for the 2005 determination period to account for updated estimates relating to the Metropolitan Water Plan and other projects. The main changes proposed by the Sydney Catchment Authority to its capital expenditure forecasts include:

- deep storage schemes (\$10.1 million)
- Shoalhaven Transfer Project (-\$11.6 million)
- Prospect pumping station and dam (\$16 million)
- Wingecarribee dam (\$8.5 million)
- General facility projects (\$13.1 million)
- Business efficiency (\$16.9 million)
- Tallowa dam fishpass (-\$6.2 million).

In its response to the Tribunal's draft determination, the Sydney Catchment Authority noted that the Government's announcement to accelerate the Shoalhaven Transfer Project may significantly increase its capital expenditure over the 2005 determination period.

Atkins/Cardno reviewed the Sydney Catchment Authority's supplementary submission and generally accepted the updated changes proposed by the Sydney Catchment Authority. In their final report, Atkins/Cardno incorporated the Tribunal's findings in the draft determination.

#### Potential for capital efficiency gains

# The Tribunal has accepted Atkins/Cardno's recommendations on additional capital efficiency gains.

Based on its assessment of the Sydney Catchment Authority's main processes for managing capital expenditure, Atkins/Cardno recommended that the agency's forecast capital expenditure be reduced to factor in higher capital efficiency savings. Its recommended total efficiencies range from 3.5 per cent in 2005/06 to 9.5 per cent in 2008/09.

In its response to these recommendations, the Sydney Catchment Authority argued that cumulative capital expenditure efficiencies of 9.5 per cent by 2008/09 are unwarranted, as its capital expenditures are unique (for example, the Warragamba Spillway) and it already uses open competitive procurement for design and construction of capital works.

Further, in its submission on the Tribunal's draft determination, the Sydney Catchment Authority stated that it had concerns with the robustness and validity of the Atkins/Cardno approach. It also argued that construction costs are increasing at a rate greater than the CPI, and that this should be taken into account when calculating efficiency levels (see section 6.5.4 for more detail).

On balance, the Tribunal decided to accept Atkins/Cardno' recommendations on the efficiency gains (see Table 6.5).

<sup>&</sup>lt;sup>48</sup> Excludes non-core capital expenditure increases.

Financial Year	2005/06	2006/07	2007/08	2008/09
Atkins/Cardno recommendation	3.5	5.5	7.5	9.5
Tribunal's finding	3.5	5.5	7.5	9.5

# Table 6.5 Tribunal's findings on capital efficiency gains for Sydney Catchment Authority (per cent per annum)

#### Overall effect of Tribunal's findings on level of efficient forecast capital expenditure

The net effect of the Tribunal's findings is that the total level of efficient capital expenditure for the purpose of rolling forward the RAB is 5 per cent or \$29.1 million lower than the Sydney Catchment Authority's supplementary submission forecast capital expenditure (see Table 6.6).

The Tribunal notes this level of capital expenditure is still significantly greater than the Sydney Catchment Authority's current program. It is also mindful that the Sydney Catchment Authority has a track record of under-expenditure on its capital program.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority forecast	164.7	125.1	136.9	85.6	512.3
Atkins/Cardno recommendation	152.2	29.2	57.7	102.6	341.7
Tribunal's draft findings	152.4	109.7	122.5	84.6	469.1
Sydney Catchment Authority supplementary submission	193.0	139.9	142.2	104.3	579.4
Including:					
Shoalhaven Transfer Project	9.7	47.4	120.1	90.2	267.4
Atkins/Cardno final recommendation	184.2	118.9	139.9	107.3	550.3
Including:					
Shoalhaven Transfer Project (before efficiencies)	9.7	47.4	120.1	90.2	267.4
Tribunal's findings	184.2	118.9	139.9	107.3	550.3
Including:					
Shoalhaven Transfer Scheme (before efficiencies)	9.7	47.4	120.1	90.2	267.4

#### Table 6.6 Sydney Catchment Authority's forecast capital expenditure compared with Tribunal's findings (\$ million, 2004/05)

#### 6.4.3 Tribunal's findings in relation to Sydney Water

Sydney Water proposed significant increases in capital expenditure for 2005/06 to 2008/09. Based on its supplementary and subsequent submissions, it forecast that this expenditure would increase from an average of \$469.6 million<sup>49</sup> per annum over the 2003 determination period, to \$611<sup>50</sup> million per annum for the 2005 determination period.

The next sections discuss the Tribunal's draft and final considerations and findings in relation to Sydney Water's forecast capital expenditure for each of its service areas and the potential for additional efficiency gains within its total capital expenditure program, as well as the overall effect of the Tribunal's findings on this program.

#### Capital expenditure for water services – draft findings

In its initial submission, Sydney Water proposed a significant increase in capital expenditure for water services over 2005/06 to 2008/09, particularly in relation to growth and asset renewals. The asset renewal program will improve service reliability, improve water pressure and reduce the potential for mains breaks and leakages.

Sydney Water's capital program for water intends to meet regulatory standards and also assist customers in reducing consumption of potable water through the implementation of large-scale recycling schemes in new development areas. The originally submitted capital program for water involves a total cost of \$806 million over the 2005 determination period.

Based on its review, Atkins/Cardno found that the increase in expenditure related to water service asset renewal was efficient, as it is based on detailed asset management studies and is comparable to the expenditure of other agencies and companies with similar assets and operating environments. However, it considered that the program to replace critical water mains was too ambitious.

Atkins/Cardno also found that the growth-driven capital expenditure program was also ambitious, and questioned the achievability of some of the planned works. It commented on the gap between this growth expenditure and the forecast contributions from developers in the 2005 determination period.

Overall, Atkins/Cardno's draft recommendation was that the forecast water services capital expenditure should be adjusted to re-phase:

- critical and distribution mains replacement to reflect a more gradual increase in activity over the period
- expenditure for growth funded by developers to reflect the revised expenditure proposals provided by Sydney Water
- expenditure for water recycling funded by developers to reflect the revised expenditure proposals provided by Sydney Water.

In its draft report, the Tribunal accepted Atkins/Cardno's recommendations.

<sup>&</sup>lt;sup>49</sup> In 2004/05 dollars.

<sup>&</sup>lt;sup>50</sup> Ibid.

#### Capital expenditure for wastewater services – draft findings

Sydney Water's initial forecast capital expenditure for wastewater services totals \$1.4 billion over the 2005 determination period. On average, this translates to about \$363 million per year, which is less than its actual capital expenditure for wastewater services in 2003 and 2004.

A great proportion of this expenditure (\$422.1 million over the 2005 determination period) is due to expected growth in the Sydney area. The expected population increase requires an expansion of the network, which means considerable investment needs to be made in sewerage transport, treatment and disposal.

Atkins/Cardno found the Sydney Water's proposed expenditure related to wastewater asset renewal was efficient. It noted that this expenditure is equivalent to about 0.4 per cent of the agency's asset stock per annum (which is higher than nearly all other utilities in Australia and England except City West Water) but that Sydney Water is performing at a level relatively close to its operating licence value for uncontrolled sewage overflows. The Tribunal noted in its draft determination that Sydney Water appears to have improved its performance against this standard over the past year. Therefore, the Tribunal agreed with Atkins/Cardno's draft assessment of expenditure to meet this standard.

In relation to Sydney Water's proposed expenditure of \$165 million for eliminating dry weather overflows to meet DEC standards, Atkins/Cardno assessed the options currently identified for meeting these standards. These include rehabilitating private sewers (which has legal constraints) and the use of storage systems and amplification of sewers. It concluded that regardless of the approach taken, actual costs are likely to exceed those included in Sydney Water's forecasts. However, it did not recommend an amount to be added to Sydney Water's level of efficient forecast capital expenditure to address this issue.

In relation to growth-driven capital expenditure for wastewater services, Atkins/Cardno noted that the timing of expenditure for new water mains, sewer and sewage treatment was uncertain, and that the proposed program was ambitious. It recommended that this expenditure be phased more evenly over a longer period.

Atkins/Cardno also observed that the forecast growth-driven capital expenditure was higher than the forecast level of developer contributions for the determination period. In particular, the increase in growth expenditure is not reflected in an increase in forecast developer contributions, which are steady over this period.

In its draft determination, the Tribunal decided to accept Atkins/Cardno's recommendations.

#### Capital expenditure for stormwater drainage services – draft findings

Sydney Water's initial forecast capital expenditure related to stormwater drainage services was \$31.5 million over the 2005 determination period. Atkins/Cardno found that this expenditure is efficient.

The Tribunal noted that historically Sydney Water has underspent against its stormwater capital expenditure allocation. The Tribunal acknowledged that this is most likely due to the uncertainty surrounding the institutional arrangements for stormwater drainage services.<sup>51</sup> However, it now appears that the current arrangements for providing stormwater drainage services are to remain for the foreseeable future. That being the case, the Tribunal believed that there was less incentive for Sydney Water to underspend. Furthermore, the Tribunal noted that ongoing renewal work, specific schemes associated with the Stormwater Environmental Improvement Program, and discretionary work on the Alexandra Canal had been agreed with DIPNR and therefore should be considered in that context.

In its draft determination, the Tribunal accepted Atkins/Cardno's recommendations.

#### Capital expenditure for corporate services – draft findings

Sydney Water's forecast capital expenditure for corporate services relates to the new head office, further rationalisation of offices and depots, new IT projects and costs associated with borrowing to fund capital projects. Atkins/Cardno recommended that the costs of borrowing be excluded from the level of efficient forecast expenditure, but that the remainder of this expenditure was efficient.

In its draft determination, the Tribunal decided to accept Atkins/Cardno's recommendations.

#### Supplementary submission and findings

# The Tribunal has accepted Atkins/Cardno's recommendations on the capital expenditure forecasts, adjusted for additional capital expenditures for the desalination plant and new licence provisions.

In its supplementary submission, Sydney Water proposed a reduction of \$176 million in capital expenditure from its initial submission for the 2005 determination period mainly reflecting the recommendations of Atkins/Cardno on the phasing of expenditure.

Sydney Water agreed with Atkins/Cardno's recommended rephasing except for water recycling. Atkins/Cardno reviewed the recycled water variation and has accepted all committed schemes. However, Atkins/Cardno believes that only half of all other recycled water schemes will be constructed in the 2005 determination period. Therefore, Atkins/Cardno has applied a 50 per cent probability to possible schemes in its final review. The balance of the schemes is to be re-phased to the 2009 determination period.

Since its supplementary submission, Sydney Water has submitted a further \$100.2 million in capital expenditure proposals. \$94 million reflects Sydney Water's initial estimate for preliminary work on a desalination plant for Sydney. However, there is still significant uncertainty about the timing and level of capital expenditure on the desalination plant. The Tribunal may need to reopen the Sydney Water determination when the plant proceeds.

<sup>&</sup>lt;sup>51</sup> It had previously been expected that a new authority would be created to provide stormwater services for the Sydney area. This would have required stormwater assets from Sydney Water and the relevant municipalities to be transferred to the agency.

The remaining increase of \$6.2 million in Sydney Water's capital expenditure forecasts is to meet new targets for water recycling at most of its sewage treatment plants as required in its Operating Licence. At the time of the Tribunal's draft determination, the Operating Licence provisions had just been finalised and not factored into the Tribunal's draft determination.

The Tribunal decided to accept Atkins/Cardno's final recommendations adjusted for the additional capital expenditure of \$100.2 million proposed by Sydney Water for the desalination plant and new licence provisions.

Sydney Water's capital program, adjusted for the revisions proposed by it, is set out in Table 6.7.

Project Goals		2005/06	2006/07	2007/08	2008/09	Total
Cle	ean, Safe Drinking Water					
•	Improve Water Distribution and Treatment Systems	91.7	121.9	117.5	104.9	436.0
•	Water Meter Replacement Program	5.3	5.1	5.8	5.8	22.0
•	Desalination costs	89.0	5.0	0.0	0.0	94.0
Su	stainable Drinking Supplies					
•	Recycled Water Projects	3.9	32.4	67.5	79.5	183.3
Cle	ean Beaches, Rivers and Harbours					
•	Blue Mountains Sewerage	2.4	33.2	27.1	0.0	62.7
•	Brooklyn Dangar Island Sewerage Scheme	4.9	20.0	7.3	0.0	32.2
•	Mulgoa Wallacia Silverdale Sewerage Scheme	40.1	2.0	0.0	0.0	42.2
•	Menangle / Menangle Park Sewerage Scheme	0.0	0.8	3.5	0.0	4.3
•	Priority Sewerage Program (Other)	3.4	1.3	3.6	2.9	11.1
•	Overflow Abatement	36.4	42.8	63.1	75.4	217.7
•	Upgrade Illawarra Sewage Treatment Plants	10.8	0.0	0.0	0.0	10.8
•	Upgrade Hawkesbury/Nepean Sewage Treatment Plants	48.7	44.0	37.9	13.5	144.0
•	Bondi STP RIAMP	24.4	3.3	0.0	0.0	27.7
•	Upgrade Warriewood Sewage Treatment Plant	0.5	1.4	2.9	0.0	4.8
•	North Head STP Performance and Reliability	23.9	39.4	21.6	2.9	87.8
•	Richmond STP Upgrade	0.1	0.3	0.0	0.0	0.4
•	Upgrade reliability of sewage treatment plants	17.3	15.7	15.8	17.5	66.4
•	Sewer Network Reliability Upgrades	73.9	67.0	75.7	99.6	316.1

Table 6.7 Sydney Water's revised proposed capital program (\$ million, 2004/05)

Pr	oject Goals	2005/06	2006/07	2007/08	2008/09	Total
•	South Western Sydney Sewerage	15.5	37.0	48.5	6.8	107.8
•	Potable water reuse	0.7	3.5	1.0	1.0	6.2
٠	Improve Stormwater Systems	16.6	7.1	6.0	6.0	35.7
Smart Growth						
•	Growth Works to Service Urban Development	27.8	62.9	87.2	119.7	297.6
Business Management						
•	Security, Safety and Property Upgrades	29.0	33.3	27.0	9.7	98.9
•	Information Technology Projects	13.1	14.8	14.6	14.5	57.0
•	Capitalised Borrowing Costs	20.3	18.5	19.4	19.3	77.6
		600.0	613.0	653.0	579.0	2,444.0

#### Potential for capital efficiency gains

# The Tribunal has accepted Atkins/Cardno's recommendation on additional capital efficiency gains.

Based on its assessment of Sydney Water's main processes for managing capital expenditure, Atkins/Cardno recommended that the agency's forecast capital expenditure be reduced to factor in capital efficiency savings. Its recommended total efficiencies ranging from 3.5 per cent in 2006 to 9.0 per cent in 2009.

In response to these recommendations, Sydney Water commented while it agrees there is potential for some additional capital efficiency savings, it does not agree with Atkins/Cardno's assessment about the continuing efficiency gains. It argued that construction costs are increasing at a rate greater than the CPI, and that this should be taken into account when calculating efficiency levels. The Tribunal believes the issue of construction costs is different from that of efficiency levels and has therefore considered it separately (see section 6.5.4 for more detail).

In the absence of any further arguments from Sydney Water, the Tribunal decided to accept Atkins/Cardno' recommendations on efficiency gains.

# Table 6.8 Tribunal's findings on capital efficiency gains for Sydney Water(per cent per annum)

Financial Year	2005/06	2006/07	2007/08	2008/09
Atkins/Cardno recommendation	3.5	5.0	7.5	9.0
Tribunal's finding	3.5	5.0	7.5	9.0

#### Overall effect of Tribunal's findings on level of efficient forecast capital expenditure

The net effect of the Tribunal's findings is that the total level of efficient capital expenditure for the purpose of rolling forward the RAB is 4.6 per cent or \$107 million lower than Sydney Water's March supplementary submission forecast capital expenditure (see Table 6.9) and \$207 million lower than its July Supplementary submission.

#### **Financial Year** 2005/06 2006/07 2007/08 2008/09 Total Sydney Water original forecast 671.8 711.1 669.8 547.3 2,600.0 Atkins/Cardno draft 553.7 577.0 591.8 553.3 2,275.8 recommendation Tribunal's draft finding 553.7 577.0 591.8 553.3 2,275.8 Sydney Water March supplementary submission 240.0 258.0 799.0 Water service 118.0 183.0 Wastewater service 328.0 357.0 357.0 283.0 1325.0 Stormwater drainage service 15.0 9.0 6.0 6.0 36.0 Corporate services 49.0 55.0 49.0 31.0 184.0 Total 510.0 604.0 652.0 578.0 2344.0 Atkins/Cardno final recommendation 103.0 155.0 206.0 225.0 689.0 Water service Wastewater service 300.0 343.0 261.0 339.0 1,243.0 Stormwater drainage service 15.0 9.0 6.0 6.0 36.0 Corporate services 47.0 52.0 45.0 28.0 172.0 Total 465.0 555.0 600.0 519.0 2,139.0 Sydney Water July Submission 207.0 240.0 Water service 188.0 258.0 893.0 Wastewater service 328.7 358.0 360.5 284.0 1331.2 Stormwater drainage service 15.0 36.0 9.0 6.0 6.0 Corporate services 49.0 55.0 49.0 31.0 184.0 599.7 653.0 579.0 2444.2 Total 612.5 Tribunal's finding Water service 199.8 172.9 200.7 207.5 780.9 Wastewater service 317.2 342.5 331.2 258.4 1249.3 Stormwater drainage service 14.5 8.6 5.6 5.5 34.0 Corporate services 47.3 52.3 28.2 173.1 45.3

# Table 6.9 Sydney Water's forecast capital expenditure compared with Tribunal'sfinding, by service (\$ million, 2004/05)

576.2

582.8

499.6

2237.2

578.7

Total

#### 6.4.4 Tribunal's findings in relation to Hunter Water

In its supplementary submission, Hunter Water proposed significant increases in capital expenditure for 2005/06 to 2008/09. It forecast that this expenditure would increase from an average of \$65.6 million<sup>52</sup> per annum in the 2003 determination period to \$88.7 million per annum in the 2005 determination period.

The next sections discuss the Tribunal's draft and final considerations and findings in relation to Hunter Water's forecast capital expenditure for each of its service areas, and the potential for additional efficiency gains within its total capital expenditure program, as well as the overall effect of the Tribunal's findings on this program.

#### Capital expenditure for water services – draft findings

Apart from the completion of the Grahamstown Dam augmentation project, Hunter Water's initial submission to the price review proposed capital expenditure on water services during the 2005 determination period focused on work on the water delivery system to cater for growth and to replace assets.

Major projects in Hunter Water's proposed program in its initial submission include completion of the Grahamstown dam spillway, replacement of the trunk water main from Chichester Dam between Tarro and Shortland, and the construction of a new trunk main on Kooragang Island to cater for growth. The program also included a range of other upgrades to reservoirs and water mains to improve security of supply (in line with operating licence requirements), to optimise asset whole-of-life costs, and cater for growth.

In its initial report, Atkins/Cardno found that Hunter Water's approach to distribution main renewal is consistent with good practice and demonstrates a minimum cost approach. It also found that expenditure on the major trunk main from Tarro to Shortland is appropriate to improve security of supply based on Hunter Water's risk assessment, and cater for growth.

Atkins/Cardno noted in its initial report that proposed capital expenditure relating to forecast growth showed a significant increase in 2007/08 and 2008/09, with a significantly increasing gap between the level of this expenditure and the expected level of capital contributions from developers over this period. Atkins/Cardno could find no clear reason for this marked increase, as forecasts for growth in new properties are lower than historic rates. In light of uncertainties associated with growth estimates and costs of projects, Atkins/Cardno recommended that growth expenditure in the final two years of the 2005 determination period should continue at levels similar to the first two years, which is similar to historic trends.

Hunter Water strongly objected to this recommendation in its response to Atkins/Cardno's initial report. It argued that the investment is essential because the water distribution system is nearing capacity, and that the work must proceed at the proposed timing or it may not meet its operating licence requirements. In its submission, the Urban Development Industry Association also opposed Atkins/Cardno's recommendation. It argued that forecast "higher than high" levels of growth in the Lower Hunter create the need for a significant increase in

<sup>&</sup>lt;sup>52</sup> \$2004/05 - to allow comparison of past and forecast expenditures, unless otherwise stated, all amounts are expressed in \$2004/05. This means that past expenditure amounts have been "inflated" to the equivalent \$2004/05 amount.

investment in social and physical infrastructure, to provide the appropriate services to an increasing population.

Atkins/Cardno reviewed its draft recommendations in response to additional information provided by Hunter Water. It noted that because of the lag between expenditure and receipt of developer contributions for the proposed growth areas, existing customers will fund this development in the interim. Based on its review of Hunter Water's growth capital expenditure, it concluded in its initial report that there are considerable uncertainties in the timing of new development and, as a result, recommended that growth expenditure be rephased from 2006/07.

The Tribunal reviewed all the available evidence for the draft determination. Given the uncertainties associated with forecasts towards the end of the 2005 determination period and the considerable size of proposed capital expenditure, it accepted Atkins/Cardno's recommendations for the purposes of the draft determination.

#### Capital expenditure for wastewater services – draft findings

As for water services, Hunter Water's initial submission proposed significant increases in capital expenditure for wastewater services, peaking in 2006/07. It argued that the key drivers of this expenditure are new and existing standards, growth and backlog sewerage schemes. In its initial report Atkins/Cardno noted that Hunter Water has no special procedure to determine the priority of projects but considered that the entire capital program is necessary within the 2005 determination period.

The proposed wastewater expenditure to cater for growth in Hunter Water's initial submission peaked in 2006/07 and 2008/09. Based on its review of progress and cost estimates of sample schemes, certainty in timing and scope of the work and trends in new property development in the Hunter, Atkins/Cardno recommended in its initial report that growth capital expenditure on wastewater schemes be re-phased to smooth the investment profile.

Hunter Water's initial submisison also proposed significant capital expenditure on works to address dry and wet weather overflows in its sewerage system to meet DEC requirements. It proposed that this expenditure would peak in 2005/06 and 2006/07, and be dramatically reduced in 2007/08 and 2008/09. Atkins/Cardno found that the magnitude and timing of these works were uncertain, and its initial report recommended that the expenditure be reprofiled.

Hunter Water strongly objected to some of this re-profiling, arguing that the works are required to meet its Environment Protection Licence requirements. Subsequent consultation with the DEC confirmed that two of Hunter Water's five pollution reduction programs (in Belmont and Newcastle wastewater transport systems) are due for completion by 1 July 2007 to meet licence requirements. The Tribunal asked Atkins/Cardno to review its assessment of capital expenditure to meet DEC licence requirements for the final determination.

Based on the available evidence, and given the uncertainties associated with the scope and timing of some projects, the Tribunal accepted Atkins/Cardno's recommendations for the purposes of the draft determination.

#### Capital expenditure for stormwater drainage services – draft findings

In its initial submission Hunter Water proposed to double its capital expenditure on drainage works compared with the past two years. It claimed this increase is in response to a State Government directive to consult with the community for the next stormwater management-planning period, which in turn has increased the amount of channel renaturalisation required. Atkins/Cardno found that the drainage program expenditure was efficient, and recommended that the Tribunal include it in the level of efficient forecast capital expenditure. The Tribunal accepted this recommendation in its draft determination.

#### Capital expenditure for corporate services – draft findings

Atkins/Cardno's initial report noted that, with the exception of the costs associated with the new head office accommodation, Hunter Water's forecast corporate capital expenditure is on average lower than in the past. It recommended that the expenditure<sup>53</sup> be included in the forecast capital expenditure. The Tribunal accepted this recommendation in its draft determination.

#### Supplementary submission and findings

# The Tribunal has accepted the recommendation in Atkins/Cardno's final report on the capital expenditure forecasts.

In its supplementary submission, Hunter Water proposed an additional \$15.6<sup>54</sup> million in capital expenditure above its initial submission for the 2005 determination period.

In June 2005, Hunter Water also identified additional new capital expenditure of \$27.8 million mainly reflecting changes to expenditure on Cessnock and Belmont wastewater treatment works, additional watermain replacements and sewer rehabilitation. A summary of Hunter Water's proposed capital program as at June 2005 is shown in Table 6.10.

<sup>&</sup>lt;sup>53</sup> After adjusting for efficiency savings.

<sup>&</sup>lt;sup>54</sup> In its supplementary submission, Hunter Water calculated its additional capital expenditure as \$11.6 million, but \$4 million for the change to International Financial Reporting Standards was inadvertently deducted twice in Hunter Water's calculation.

# Table 6.10 Hunter Water's proposed capital program (\$ million, 2004/05)

		2005/06	2006/07	2007/08	2008/09	Total
Wa	ter Services:					
•	Improve water distribution	14.3	11.7	22.2	30.8	79.0
•	Improve water treatment systems	1.3	1.8	0.7	2.6	6.4
•	Water resource projects	3.9	4.4	1.1	1.2	10.6
Wa	astewater Services:					
Wa	astewater transport system upgrades					
•	Burwood Beach	5.2	15.5	15.8	8.2	44.7
•	Belmont	6.2	6.5	0.9	1.2	14.8
•	Boulder Bay	0.1	0.1	0.4	1.2	1.8
•	Branxton	0.1	0.8	0.3	0.4	1.6
•	Cessnock	1.4	2.3	0.8	1.8	6.3
•	Dora Creek	0.1	0.5	1.5	2.0	4.1
•	Edgeworth	1.0	1.9	1.9	2.8	7.6
•	Farley	0.1	0.3	1.0	2.9	4.3
•	Kurri	0.0	0.0	0.0	0.1	0.1
•	Morpeth	0.6	7.3	4.1	0.5	12.5
•	Raymond Terrace	0.5	0.6	1.8	1.3	4.2
•	Shortland	0.9	0.9	1.4	0.8	4.0
•	Toronto	0.3	0.0	0.1	0.3	0.7
•	Minor wastewater transport projects	5.7	4.9	5.1	5.2	20.9
Wa	astewater treatment plant upgrades					
•	Belmont	0.7	11.2	8.0	0.0	19.9
•	Bolder Bay	0.7	0.6	4.8	1.0	7.1
•	Branxton	0.1	0.4	0.1	0.2	0.8
•	Burwood Beach	0.7	0.9	0.4	1.3	3.3
•	Cessnock	8.0	14.0	2.7	0.0	24.7
•	Dora Creek	1.0	0.9	5.0	7.7	14.6
•	Edgeworth	0.4	1.1	1.3	0.3	3.1
•	Farley	0.0	1.2	0.3	1.2	2.7
•	Morpeth	0.5	0.3	0.5	2.5	3.8
•	Paxton	0.1	0.1	0.0	0.0	0.2
•	Raymond Terrace	0.1	0.4	3.1	0.9	4.5
•	Tanilba Bay	0.0	0.0	0.2	0.3	0.5
•	Toronto	0.0	0.0	0.1	0.3	0.4
•	Minor wastewater treatment projects	0.5	0.4	0.4	0.5	1.8
Ва	cklog Sewer	5.1	10.6	8.4	5.8	29.9
Ste	ormwater Services:					
•	Stormwater system refurbishment	0.3	0.7	1.0	0.6	2.6
Co	rporate Services:					
•	Information technology projects	6.2	2.0	1.1	1.6	10.9
•	Head office accommodation	12.0	0.0	0.0	0.0	12.0
•	Plant, equipment & other corporate projects	3.7	2.8	2.8	2.8	12.1
To		81.8	107.1	99.3	90.3	378.5

In its response to the Tribunal's draft finding on the level of efficient capital expenditure, Hunter Water highlighted the real cost increases in capital projects reflected in tender prices received in the latter half of 2004 and early 2005 and as seen in engineering cost indices (see section 6.5.4 for more comment on the indices). Hunter Water stated that Atkins/Cardno's and the Tribunal's draft finding on forecast capital expenditure would affect its performance against regulatory outcomes and its ability to provide infrastructure for growth. In particular, Hunter Water's concerns were:

- the re-phasing of wastewater capital expenditure does not take account of works to meet the DEC licence conditions required by 1 July 2007
- the re-phasing of water and wastewater capital projects required for population growth
- unrealistic assumptions on potential capital efficiency gains (see below).

In its review of Hunter Water's supplementary submission, Atkins/Cardno reconsidered its proposed re-phasing of the capital expenditure to meet DEC licence requirements. Its final report on Hunter Water's supplementary submission accepted that works on the Newcastle and Lake Macquarie wastewater transport systems were needed to meet the licence requirements. Atkins/Cardno revised its recommendations to reflect this. However, it expressed concern that Hunter Water may not be able to deliver the projects on time and that the level of contingency built into Hunter Water's cost estimates is too high.

Atkins/Cardno also reviewed the capital expenditure proposed by Hunter Water to service new developments. Hunter Water's supplementary submission provided updated information about the scope and cost of projects to service growth areas. Upon examination of this information, Atkins/Cardno was satisfied that capital expenditure on the Morpeth, Boulder Bay, Belmont and Cessnock wastewater treatment works will be needed during the price path.

In addition, Atkins/Cardno re-phased the capital expenditure on the Newcastle wastewater transport system to reflect slippage in the project based on Hunter Water's revised forecasts. Lastly, in both its submissions, Hunter Water asserted that from 1 July 2005 new International Financial Reporting Standards require research expenditure that was formerly capitalised to be reported as operating expenditure. The change in treatment has been confirmed for the Tribunal by PriceWaterhouseCoopers.

The Tribunal accepts this view and this transfer is reflected in the capital and operating expenditure used to set prices (see Section 8.6.2 for more information).

In July 2005, Hunter Water informed the Tribunal that a recycled water scheme is proposed to service a new development in the Hunter. Hunter Water expects that customers will connect to this scheme during the price path. If the development goes ahead, the Tribunal may consider re-opening the determination to set prices for it.

#### Potential for capital efficiency gains

# The Tribunal has accepted Atkins/Cardno's recommendation on additional capital efficiency gains.

In both its initial and final reports, Atkins/Cardno recommended that Hunter Water's forecast capital expenditure be adjusted to incorporate capital efficiency gains that range from 3.5 per cent in 2006 to 9.0 per cent in 2009.

In its response to the Tribunal's draft determination, Hunter Water disagreed with the Tribunal's draft finding on the capital efficiency targets of 3.5 per cent in 2005/06 increasing to 9.0 per cent in 2008/09. Hunter Water commented while it agrees there is potential for some additional capital efficiency savings, it did not agree with Atkins/Cardno's assessment about the continuing efficiency gains. It argued that construction costs are increasing at a rate greater than the CPI (see section 6.5.4 for more detail) and that it makes no provision for unforseen capital expenditure such as new Occupational Health and Safety requirements. Hunter Water believes that these matters should be taken into account when calculating efficiency levels.

In response to Hunter Water, Atkins/Cardno noted that it felt that the capital efficiency targets are achievable, especially having regard to the high contingency allowances Hunter Water has included in its capital expenditure forecasts and uncertainties associated with some projects in the latter years of the price path.

On balance, the Tribunal decided to accept Atkins/Cardno's recommendations (see Table 6.11).

(per cent per annum)							
ancial Year	2005/06	2006/07	2007/08	2008/09			

Table 6.11 Tribunal's findings on capital efficiency gains for Hunter Water

Financial Year	2005/06	2006/07	2007/08	2008/09
Atkins/Cardno recommendation	3.5	5.5	7.5	9.0
Tribunal's finding	3.5	5.5	7.5	9.0

#### Overall effect of Tribunal's findings on level of efficient forecast capital expenditure

The net effect of the Tribunal's findings is that the total level of efficient capital expenditure for the purpose of rolling forward the RAB is 9.2 per cent or \$32.8 million lower than Hunter Water's revised forecast capital expenditure (see Table 6.12). This is largely due to the efficiency targets and some re-phasing of expenditure to reflect its concerns about Hunter Water's ability to deliver some programs in the proposed timeframe.

Table 6.12 Hunt	er Water's forecast	capital expenditure	compared with	Tribunal's
	finding, by se	ervice (\$ million, 200	4/05)	

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Hunter Water initial submission	84.0	88.1	86.8	80.4	339.1
Atkins/Cardno draft recommendation	73.6	70.6	77.4	73.6	295.2
Tribunal's draft finding	73.6	70.6	77.4	73.6	295.2
Hunter Water supplementary submission					
Water service	18.1	16.4	28.2	36.0	98.7
Wastewater service	57.8	71.4	53.8	43.5	226.5
Stormwater drainage service	0.1	0.7	1.0	0.6	2.3
Corporate services	12.1	3.5	3.5	4.3	23.5
Total	88.1	92.0	86.4	84.3	<b>350.8</b> <sup>55</sup>
Hunter Water June 2005 information					
Water service	19.4	17.9	23.9	34.5	95.7
Wastewater service	39.9	83.7	70.5	50.7	244.8
Stormwater drainage service	0.3	0.7	1.0	0.6	2.6
Corporate services	22.2	4.8	3.9	4.5	35.4
Total	81.8	107.1	99.3	90.3	378.5
Atkins/Cardno revised recommendation					
Water service	17.5	15.5	23.1	28.1	84.2
Wastewater service	47.6	64.9	56.1	44.9	213.5
Stormwater drainage service	0.1	0.6	0.9	0.5	2.1
Corporate services	11.6 <sup>56</sup>	3.3	3.3	3.9	22.1
Total	76.7	84.3	83.4	77.4	321.9
Tribunal's finding					
Water service	17.5	15.5	23.1	28.1	84.2
Wastewater service	47.6	64.9	56.1	44.9	213.5
Stormwater drainage service	0.1	0.6	0.9	0.5	2.1
Corporate services	11.6	3.3	3.3	3.9	22.1
Total	76.7	84.4	83.4	77.4	321.9

Note: These tables may not add due to rounding.

<sup>&</sup>lt;sup>55</sup> Hunter Water's supplementary submission deducted approximately \$1M per annum from total capital expenditure to reflect adjustments due to the IFRS. However, this adjustment was made for the draft determination. The correct total for capital expenditure from the supplementary submission is \$354.8M.

<sup>&</sup>lt;sup>56</sup> Atkins/Cardno's report on Hunter Water's supplementary submission shows a total of \$15.8M in 2005/06, but subsequent correspondence has indicated that there was an error in this table and that the value should be \$11.6M.

## 6.5 Other factors

The Tribunal also considered several other factors in relation to agencies' forecast capital programs. These included project delivery, asset management and output measures.

### 6.5.1 **Project delivery**

One of the key issues the Tribunal considered was whether the agencies have the resources and capability to deliver their proposed capital projects on the proposed timelines. In previous reviews, the Tribunal's consultant, Halcrow Management Science Limited (Halcrow), raised concerns about the ability of water agencies to deliver on proposed projects within the determination period.

In this review, Atkins/Cardno commented that these concerns have been borne out and that the same concerns apply for the 2005 determination period. Therefore, the Tribunal's finding has taken account of Atkins/Cardno's recommendations to re-phase programs and, in some instances, reduce the level of activity.

The Sydney Catchment Authority is implementing several processes to improve its program management capabilities. These improvements should deliver efficiencies in the medium term. It also intends to employ additional staff and consultants to assist it in delivering the proposed capital program.

Sydney Water's capital program is managed through its established Capital Project Delivery Management System. Atkins/Cardno noted significant slippage of capital maintenance schemes and considered that there were opportunities to improve the program management to reduce slippage and monitor the delivery of efficiencies. However, it concluded that Sydney Water has the resources to complete the proposed capital program.

### 6.5.2 Asset management

The Tribunal considers that sound asset management practices are critical to meeting system performance standards in the most efficient manner. For this reason, it continues to take a close interest in the practices and performance of regulated businesses in this area.

The Tribunal asked Atkins/Cardno, as part of its review, to consider and comment on the agencies' asset management practices. Atkins/Cardno noted that:

- The Sydney Catchment Authority has established a framework for asset management that is consistent with the State Government total asset management guidelines and with best practice in this area. This framework includes an Asset Strategy and approach to risk that are appropriate. However, the Strategy is being updated and the link from the Investment Plan through to the capital program is not yet complete.
- Sydney Water and Hunter Water are applying asset management practices that are consistent with best practice.

#### 6.5.3 Output measures

# The Tribunal's decision is that the agencies are to report to the Tribunal on progress against output measures as recommended by Atkins/Cardno in their review.

In its draft review, Atkins/Cardno noted that it was difficult to assess whether past projects were prudent as it was not possible to verify actual outputs against those planned. It recommended that the Tribunal specify outputs for each agency to facilitate a more robust review as part of the next determination. The Tribunal noted in its draft determination that Halcrow raised similar concerns during the 2003 price review.

In its draft report the Tribunal identified a number of specific outputs for Sydney Water. Sydney Water sought minor variations to the outputs proposed. The Tribunal has accepted the proposed variations.

In its response to the Tribunal's draft determination, Hunter Water raised a number of concerns with the proposed output measures, including the already onerous reporting requirement and the lack of transparency as to how the output measures will be used. It said that it would prefer to work with the Tribunal on developing more meaningful assessment procedures for the next determination period or failing that, would expect the final determination to include more detail on the application of the outputs measures.

Since its draft determination, the Tribunal has worked with Hunter Water to refine the output measures listed in the draft determination. The output measures will act as a starting point for the assessment of prudent expenditure, and the basis for reporting on any deviation from the targets.

The final output measures for all agencies are detailed in Appendix 2.

In its response to the draft determination, Sydney Water also sought greater clarity as to how the outputs would be used. The Tribunal requires the agencies during the 2005 determination period to report progress against these key outputs or deliverables associated with the capital expenditure forecasts and asset management plans. Agencies will report in 2006/07 and 2007/08 as well as 2008/09. This will provide information for the Tribunal and the consultant reviewing expenditure going into the next price review. Outputs may vary during the price path due to changing circumstances and priorities. Agencies will be given an opportunity to explain these variations during the next price review process. The Tribunal considers that these output measures will help ensure that decisions taken on capital expenditure are more accountable. However, the intent is that agencies should still maintain the flexibility to reallocate expenditure to match changing priorities.

#### 6.5.4 Construction costs

The Tribunal's decision is to not make special allowance for increases in construction costs during the 2005 determination period above those already contained in agency forecasts.

In their submissions on the Tribunal's draft determination, the water agencies raised concerns about construction costs increasing at a faster rate than movements in the Consumer Price Index.

Sydney Water engaged Evans and Peck, an engineering consulting firm, to analyse price movements that were likely to impact its capital works program during the period 2002 to 2005. Evans and Peck investigated a series of industry indices and analysed cost adjustment factors that affect Sydney Water's capital works (such as increases in contractor labour costs and prices for engineering design). Evans and Peck concluded that Sydney Water's portfolio of capital works during the period 2002 to 2005 required annual price increases in the range of 5.9 to 12.3 per cent in order for Sydney Water to deliver on the projects it had proposed. This compares with annual inflation ranging between 2.4 and 3.0 per cent over the same period.

Sydney Water submitted that the Evans and Peck analysis demonstrates that construction costs are increasing in real terms and that it will be forced to absorb significant cost increases during the determination period. Sydney Water claimed these cost increases would absorb the efficiency savings identified by Atkins.

Similarly, the Sydney Catchment Authority noted that its capital program is "vulnerable to cost fluctuations in the construction sector." It noted that since September 2003, construction costs have been increasing at a faster rate than the movement in the Consumer Price Index.

For its part Hunter Water commented that "at the price hearings in March 2005, both Sydney Water and Hunter Water presented evidence showing that non-dwelling construction costs are increasing at rates higher than inflation measured by the CPI." Hunter Water also commented that it was surprised that the Tribunal made its draft determination on capital efficiencies without any comment on recent trends in construction costs.

Figure 6.1 sets out the Tribunal's analysis of changes in construction costs and the movement in the Sydney CPI over the period September 1985 to March 2005 based on data from the Australian Bureau of Statistics.
Figure 6.1 Quarterly change in Sydney CPI vs Quarterly Change in National Accounts - Total Non-dwelling Construction (Chain price index)



Figure 6.1 shows that while the quarterly growth in Total Non-dwelling Construction has outstripped the quarterly growth in the Sydney CPI since the March quarter of 2002, there have also been a number of instances since September 1985 where quarterly growth in the CPI has significantly exceeded that of Total Non-dwelling Construction.

Moreover, the Tribunal notes that for much of the period from the September quarter of 1985 to the March quarter of 2005, on average, growth in the CPI has outstripped growth in Total Non-dwelling Construction (Chain price index). This is clearly demonstrated in Figure 6.2 below.

Figure 6.2 Sydney CPI vs National Accounts - Total Non-dwelling Construction (Chain price index) (Base = September quarter 1985)



Figure 6.2 compares the CPI with Total Non-dwelling Construction costs (Chain price index) index values over the period September 1985 to March 2005 with a common base at 100 as at the September quarter of 1985. Figure 6.2 highlights a period of equality between movements in the two indices between the September quarter of 1985 and the June quarter of 1989. Since then, a gap between the indices is apparent. Although this gap has closed since the December quarter of 2002, the total cumulative movement in construction costs is still less than the cumulative movement in the inflation rate.

Having carefully considered the evidence available to it, the Tribunal believes that while there may be short-term variations in the rate of growth in the CPI and Total Non-dwelling Construction costs, both of these price indices are likely to follow general movements in the Australian economy as a whole. With this in mind the Tribunal does not consider that the recent higher rate of growth in Total Non-dwelling Construction costs represents a long term trend which requires special consideration in the 2005 determination period.

Moreover, the Tribunal is of the view that it is appropriate for water agencies, in the face of rising costs, to reassess the costs and benefits of all the capital projects they have planned. Where expected benefits no longer outweigh costs it would be appropriate for agencies to defer projects rather than participate in the market and potentially contribute to further bidding up construction costs.

Therefore, the Tribunal does not propose that the water agencies be granted special consideration for escalation in construction costs at this time.

### 7 TRIBUNAL'S FINDINGS ON REVENUE REQUIREMENT FOR CAPITAL INVESTMENT

As set out in Chapter 5, the revenue requirement related to capital investment comprises two cost blocks: an allowance for a return on assets, and an allowance for a return of capital, or depreciation. Together, these allowances make up around 40 – 45 per cent of each water agency's total notional revenue requirement and therefore have a significant impact on water prices. The Tribunal considered each agency's revenue requirement for capital investment by:

- determining the value of its RAB for each year of the determination period, taking into account a range of factors, including its findings on the level of past capital expenditure that was prudent and forecast capital expenditure that is efficient (discussed in Chapter 6)
- determining an appropriate allowance for a return on assets by deciding on an appropriate rate of return and multiplying the opening value of the RAB by this rate
- determining an appropriate allowance for depreciation, by determining the depreciation method and asset lives to be applied, then calculating depreciation on the RAB.

This chapter explains the Tribunal's findings on the agencies' revenue requirements for capital investment. Section 7.1 summarises the Tribunal's findings on this revenue requirement for each agency. Sections 7.2 to 7.4 explain the key inputs to those findings – including the Tribunal's findings on the methodology used in rolling forward the RAB, and on the rate of return, depreciation method and asset lives applied in determining the allowances for a return on assets and depreciation.

## 7.1 Summary of Tribunal's finding on revenue requirement for capital investment

The Tribunal's finding is that the allowances for a return on assets and for depreciation used to calculate the total notional revenue requirement for each agency will be those shown Table 7.1 below.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority					
Allowance for return on assets	59.8	68.5	75.8	82.5	286.6
Allowance for depreciation	12.8	14.2	15.5	16.7	59.2
Total revenue requirement associated with capital investment	72.6	82.7	91.3	99.2	345.8
Sydney Water					
Allowance for return on assets	509.1	531.7	553.2	573.9	2,168.0
Allowance for depreciation	107.7	112.0	116.3	120.5	456.5
Total revenue requirement associated with capital investment	616.8	643.7	669.5	694.4	2624.4
Hunter Water					
Allowance for return on assets	68.0	70.9	73.9	76.6	289.4
Allowance for depreciation	14.9	15.5	16.1	16.7	63.2
Total revenue requirement associated with capital investment	82.9	86.4	90.0	93.3	352.6

Table 7.1 Revenue requirement associated with capital investment (\$million, 2004/05)

Note: These tables may not add due to rounding.

### 7.2 Rolling forward the RAB

The Tribunal determined the value of each agency's RAB by rolling forward the opening value of its RAB at the 2003 determination, to reflect its findings on prudent actual capital expenditure over the 2003 determination period (net of any capital contributions), and efficient forecast capital expenditure for 2004/05 to 2008/09 (less actual disposals for 2002/03 and 2003/04 and forecast disposals for 2004/05 and for each year of the 2005 determination period, and less regulatory depreciation).

The next sections outline the Tribunal's findings on:

- the methodology used in rolling forward the RAB
- the level of capital contributions to be deducted when rolling forward the RAB
- the resulting values for each agency's RAB over the determination period.

#### 7.2.1 Tribunal's findings on methodology used in rolling forward the RAB

### The Tribunal's finding is that it will determine the value of each agency's opening regulatory asset base at 1 July 2005 by:

- rolling forward the 1 July 2002 RAB to 30 June 2004 on the basis of actual prudent capital expenditure over this period (as discussed in Chapter 6) (net of capital contributions)
- rolling forward the 30 June 2004 RAB to 30 June 2005 on the basis of the estimated efficient capital expenditure for this period (as discussed in Chapter 6) (net of capital contributions)<sup>57</sup>
- deducting regulatory depreciation as allowed for in the 2003 determination
- deducting actual/forecast disposals
- indexing the annual closing regulatory asset base for actual / forecast inflation.

### The Tribunal's finding is that it will roll forward each agency's RAB for each year from 1 July 2005 to 30 June 2009 by:

- adding the forecast efficient capital expenditure for that year (net of capital contributions) to the opening RAB. Half the capital expenditure is assumed to occur at the start of the year and is indexed by the movement in the CPI, the remaining half is assumed to occur at the end of the year and is not indexed
- deducting the regulatory depreciation for that year allowed by the Tribunal in the 2005 determination
- deducting forecast disposals for that year
- indexing the annual closing RAB for forecast inflation.

This methodology is largely the same as that used in rolling forward the RAB for the 2003 determination, except that regulatory rather than actual depreciation is deducted. For the 2003 determination, 'actual' depreciation was calculated using regulatory asset lives and actual capital expenditure. 'Regulatory' depreciation refers to the depreciation amounts allowed for in the 2003 determination (adjusted for inflation) and in the 2005 determination.

The Tribunal used regulatory depreciation in rolling forward the RAB for its 2004 electricity network determination and 2005 review of AGLGN's access arrangement. It considered that this approach was more appropriate, because it ensures that any benefit or loss to the agency as a result of under or over expenditure on capital compared with the forecast capital expenditure used to set prices in the previous determination is limited to the return it earns on this expenditure. This means that any over expenditure is rolled into the RAB at its undepreciated value, so the agency will be able to recoup the depreciation on the assets associated with this expenditure from future customers. However, if there is under expenditure on capital, the RAB will be depreciated by more than the actual level of depreciation, creating an incentive for agencies not to over estimate their forecast expenditure at price reviews.

<sup>&</sup>lt;sup>57</sup> Given that the actual expenditure for this year is not fully known at the time of the determination, the Tribunal has used the estimated expenditure for this year. This estimate has been assessed by the Tribunal as part of the review and adjusted where appropriate (see Chapter 6). At the next review, the RAB will be adjusted to reflect the difference between this estimate and actual expenditure for 2004/05.

## 7.2.2 Tribunal's findings on level of capital contributions to be deducted when rolling forward the RAB

As noted above, the Tribunal deducts the value of any capital contributions from the prudent actual and forecast capital expenditure it incorporates when rolling forward the RAB. For the water agencies, 'capital contributions' refers to the revenue they receive from developers in accordance with the Tribunal's Determination No.9, 2000, *Developer Charges from 1 October 2000*.

### The Tribunal's finding is that Sydney Water's and Hunter Water's forecasts for developer capital contributions are appropriate.

In making this finding, it considered the agencies' forecasts for developer contributions and the comments of its consultant, Atkins/Cardno on these forecasts. As discussed in Chapter 6, Atkins/Cardno noted that the agencies' proposed increases in growth-related capital expenditure is not matched by a similar increase in their forecasts of the revenue they will receive from developer charges. As a result, there appears to be an increasing gap between this revenue and the growth-related capital expenditure that is rolled into the RAB (and therefore funded by existing customers).

The Tribunal's analysis shows that the relationship between developer contributions and growth-related capital expenditure is highly variable, with no strong trend evident. In addition, there is no strong relationship between the historical data and the forecast data.

The Tribunal stated in its draft determination that it was concerned about the level of developer contributions and the apparently increasing gap between growth-related capital expenditure and developer charges. At the time of its draft determination, Sydney Water and Hunter Water provided the Tribunal with further information to support their forecasts for these items. The Tribunal has reviewed this further information and is satisfied that variations in the growth-related capital expenditure and developer charges largely reflects that around half of the capital expenditure is recovered indirectly through the operating profit<sup>58</sup> and timing differences between growth expenditure and development take up. Therefore, the Tribunal is now satisfied at the level of developer charges for the 2005 determination period.

However, the Tribunal is concerned with the regulatory treatment of developer charges, in particular whether:

- the timing differences between periodic charges and developer charges results in customers funding more than their fair share
- the risk of late or delayed development is being inappropriately passed on to existing customers.

Therefore, the Tribunal will consider conducting a review of the treatment of developer contributions within the regulatory framework. The review is likely to take place in 2006 with the formation of an industry working group.

<sup>&</sup>lt;sup>58</sup> In accordance with the Tribunal's Determination No. 9, 2000, Developer Charges from 1 October 2000.

#### 7.2.3 Resulting values for each agency's RAB

The Tribunal has applied the methodology set out in section 7.2.1, using the capital expenditure set out in Chapter 6 and the forecasts for developer contributions discussed in section 7.2.2. The resulting closing RAB value for each water agency over the 2005 determination period is shown in Table 7.2.

Financial Year	2005/06	2006/07	2007/08	2008/09
Sydney Catchment Authority	1,040.5	1,146.0	1,271.5	1,362.7
Sydney Water	8,311.0	8,658.0	8,999.4	9,320.4
Hunter Water	1,105.9	1,155.4	1,202.2	1,241.4

Table 7.2 Closing RAB value for 2005 determination period (\$2004/05, million)

### 7.3 Tribunal's finding on rate of return

There are several approaches for calculating the appropriate rate of return on the RAB. The Tribunal's preferred approach is to use the Weighted Average Cost of Capital (WACC) to determine an appropriate rate of return range. As with previous determinations, the Tribunal has used a real pre-tax WACC. The WACC is a weighted average of the cost of debt and equity. The Tribunal has used the Capital Asset Pricing Model to derive the cost of equity, and calculated the cost of debt as a margin over the risk free rate.

In making its finding on the rate of return, the Tribunal has exercised its judgement to determine the rate of return, taking into consideration the requirements of the IPART Act – particularly Sections 15(1)(b) dealing with the protection of consumers from abuses of monopoly power; 15(1)(c) dealing with an appropriate rate of return including payment of dividends; and 15(1)(k) dealing with the social impact of its determinations and recommendations. It investigated the implications of its chosen rate of return on the average bills paid by customers with differing characteristics, and on the financial viability of the businesses estimated by changes in key financial ratios.

The following sections outline the Tribunal's finding on the rate of return for each agency, and the agencies' proposals on the rate of return. The Tribunal's considerations on each of the parameters used to calculate the WACC range are set out in Appendix 3.

### 7.3.1 Summary of the Tribunal's findings on the rate of return

The Tribunal's finding is that for the purposes of calculating the allowance for a return on assets, a real pre-tax rate of return of 6.5 per cent will be applied. This finding reflects the Tribunal's view that the industry weighted average cost of capital is in the range of 5.7 to 7.1 per cent.

The parameters it used to calculate this WACC range are shown in Table 7.3.

Parameter	Draft finding	Final finding*
Nominal risk free rate	5.4%	5.2%
Real risk free rate	2.6%	2.6%
Inflation	2.7%	2.5%
Market risk premium	5.5-6.5%	5.5-6.5%
Debt margin and allowance for debt raising costs	1.13-1.22%	1.17-1.27%
Debt to total assets	60%	60%
Dividend imputation factor, or gamma	0.5-0.3	0.5-0.3
Tax rate	30%	30%
Asset beta	0.26-0.37	-
Debt beta	0	0
Equity beta	0.65-0.90	0.80-1.0
Cost of equity (nominal post-tax)	9.1-11.3%	9.6-11.7%
Cost of debt (nominal pre-tax)	6.5-6.6%	6.4-6.5%
WACC (real pre-tax)	5.4-6.9%	5.7-7.1%

Table 7.3 Metropolitan water industry weighted average cost of capital range

\* Market parameters are calculated to 2 August 2005.

#### 7.3.2 Summary of agencies' rate of return proposals

Hunter Water and the Sydney Catchment Authority submitted the parameter values shown in Table 7.4 below as the basis for their proposals on the rate of return. Within this range, the Sydney Catchment Authority submitted that the midpoint of 6.5 per cent is appropriate for its pricing proposal. Hunter Water proposed a higher industry rate of return of 6.8 per cent, although given its current low rate of return it proposed that its prices be based on a rate of return of 5.6 per cent by 2008/09 with a transition towards the industry rate by 2013.

Parameter	Values proposed by Hunter Water and the Sydney Catchment Authority
Nominal risk free rate	5.5%
Real risk free rate	2.9%
Inflation	2.5%
Market Risk Premium	6.0%
Debt Margin	0.9 - 1.1%
Allowance for debt raising costs	0.125%
Debt to total assets	50%
Dividend imputation factor, or gamma	0.5 - 0.3
Tax rate	30%
Asset beta	0.35– 0.45
Debt beta	0.00 - 0.06
Equity Beta	0.63 – 0.89
WACC (real pre-tax)	6.1 – 7.5%

Table 7.4 Parameters and weighted average cost of capital range proposed by Hunter
Water and the Sydney Catchment Authority

Sydney Water did not submit values for each WACC parameter. However, it assumed a real pre-tax rate of return of 6.5 per cent for the purposes of its pricing submission. It also argued that there should not be a material difference in the underlying rate of return provided for electricity and water infrastructure assets in NSW. (The Tribunal's decision on the 2004 electricity network determination and AGLGN's 2005 access agreement applied a real pre-tax rate of return of 7 per cent.) To support this argument, it noted that the ACT's Independent Competition and Regulatory Commission's recent decisions (2004) had applied a common rate of return of 7.0 per cent to both ACTEW AGL's electricity and water businesses.

The metropolitan water agencies submitted that their risk profile has changed since the 2003 determination, and that this should result in a higher rate of return. In particular, they argued that they are facing increases in risks associated with:

- uncertainty surrounding their water demand forecasts due to uncertainty associated with the likely length of the current droughts in Sydney, and
- uncertainty associated with the expected impact of demand management programs on water demand.

To manage this uncertainty, some of the water agencies sought a revenue volatility adjustment mechanism and a cost pass-through mechanism (as discussed in section 3.3).

#### 7.3.3 Submissions on Tribunal's draft determinations

The Sydney Catchment Authority argued that the target WACC used in the Tribunal's draft determination of 5.9 per cent to 6.1 per cent did not reflect a commercial return required to invest in water infrastructure. It believes that a rate of return of 6.5 per cent is appropriate.

The Sydney Catchment Authority's believes that the Tribunal's equity beta range of 0.65 to 0.90 does not reflect the systematic risk of the water agencies. It argued that there is the potential for significant volatility in actual earnings relative to the ex-ante target determined by the Tribunal, especially given the significant forecasting uncertainty associated with the current supply-demand imbalance. It believes that these risks are at least equal to those faced by the regulated gas and electricity network businesses and that the Tribunal should adopt an equity beta at least equivalent to the 0.90 mid-point made in recent gas and electricity decisions.

Sydney Water submitted that the draft determination would result in an average return on assets of just 5.0 per cent over the 2005 determination period given that the costs are largely fixed and any revenue shortfall would flow almost entirely through to Sydney Water's earnings. It also noted that the financial impacts of the Tribunal's decision were modelled under an actual gearing assumption. If a 60 per cent notional gearing was used, consistent with the WACC calculation, its projected credit rating would deteriorate to BB+.

Hunter Water stated in its response that there should not be a material difference in the underlying WACC used in the regulated gas and electricity industries. Further, Hunter Water noted that although the Tribunal's draft determination on WACC was consistent with its proposals, the level of WACC was offset by the Tribunal's decision to reduce the capital expenditure forecasts.

NSW Treasury submitted that the Tribunal's draft determination of a 6.1 per cent rate may be insufficient to justify future investment in water infrastructure. It also noted that the draft rate of return of 6.1 per cent for NSW metropolitan water businesses is well below the 7.0 per cent rate of return adopted by the Tribunal in recent gas (AGLGN) and electricity determinations. NSW Treasury was of the opinion that there was insufficient variation in the underlying risk of these sectors to justify the difference in rates of return provided by the Tribunal.

Furthermore, NSW Treasury did not believe that the proposed equity beta range of 0.65 to 0.90 reflects the potential earnings volatility of NSW water businesses, especially given the Tribunal's 60 per cent gearing assumptions. It noted that stakeholders often make comparisons between the equity betas of regulated businesses and the market as a whole. However, it is invalid to suggest that a regulated water business must have an equity beta below 1.0 even if it has below average business risk. The equity beta reflects both the underlying business risk associated with a firms assets and the financial risk borne by shareholders due to the firm's use of debt finance.

NSW Treasury was also critical of the Tribunal's use of UK equity beta estimates in its draft determination on the equity beta. It referred to the recent OFWAT decision, which also used UK evidence in its equity beta decision. OFWAT recognised however, that the current decrease in equity betas for UK water business was unlikely to be a real decrease in the riskiness of the water sector but was more likely to be a statistical product of the increase in

market volatility. Despite market evidence of declining betas, OFWAT adopted an equity beta of 1 (based on 55 per cent gearing) for UK water businesses.

NSW Treasury also noted the potential for significant revenue volatility in actual earnings relative to the ex-ante target determined by the Tribunal, especially given the significant forecasting uncertainty associated with the current supply-demand imbalance (magnified by the level of operating and financial leverage faced or assumed for water agencies). NSW Treasury argued that these issues were at least equal to those faced by regulated gas and electricity network businesses. Accordingly, NSW Treasury believed that the Tribunal should adopt an equity beta at least equivalent to the 0.9 midpoint adopted in recent gas and electricity decisions.

Using an equity beta range of 0.8 to 1.0, NSW Treasury argued that the appropriate rate of return was in the order of 6.5 per cent.

### 7.3.4 The Tribunal's final analysis

The only parameter that changed from the Tribunal's draft determinations is the equity beta. The parameters that have not changed<sup>59</sup> since the draft determinations are considered in Appendix 3.

### The Tribunal's finding is that for the purposes of determining a real pre-tax rate of return an equity beta in a range of 0.8 to 1.0 is appropriate for this determination.

The equity beta is a measure of the extent to which the return of a security varies in line with the return of the market. The equity beta represents the systematic or market-wide risk of a security. It does not take into account business specific or unsystematic risks.

A business with an equity beta greater than the market average of one would be expected to have a higher rate of return compared with the market average, as it represents a higher level of systemic risk than the market average. Equally, a business with an equity beta of less than one would be expected to have a lower rate of return than the market, as it represents a lower level of systemic risk.

Estimating betas empirically requires information on the economic returns to a particular entity. This information is available only for entities that are listed on the stock exchange. In the absence of such information, the Tribunal has to exercise its discretion. It does so by considering other information available at the time of the decision, such as relative risk analysis with comparable traded companies, relative risk analysis with other regulated industries and overseas evidence.

The Tribunal has given consideration to the matters raised by stakeholders in response to its draft determinations.

<sup>&</sup>lt;sup>59</sup> The interest rates, inflation and debt margin have been updated to reflect current market conditions. There has been no change since the draft decision in the methodology used to estimate these parameters.

The key criticism of the Tribunal's draft determinations is its assumption of the relative riskiness of the water agencies compared with gas and electricity network businesses, and therefore the level of the equity beta. As noted in the Tribunal's draft determinations, there is a lack of historical revenue data and the absence of any traded pure play energy network or water businesses.

Considering the submissions, the Tribunal considers that there is no evidence to suggest that the water agencies face more or less systematic risk than the Australian gas and electricity network businesses. This suggests that the equity beta for the water agencies should be at the same or similar level to that of Australian regulated gas and electricity network businesses. The Tribunal notes that this is a move away from its previous position on equity betas for the water agencies but feels that this position best reflects the current available information.

An equity beta in a range of 0.8 to 1.0 is consistent with the Tribunal's recent final decision on AGLGN's access arrangement (although it is lower than the equity beta range used in the Tribunal's 2004 electricity network determination of 0.78 to 1.11).

On balance, the Tribunal believes that an equity beta in a range of 0.8 to 1.0 is appropriate for these determinations.

### The Tribunal's finding is that an appropriate real pre-tax rate of return to be applied to the RAB of the metropolitan water businesses is 6.5 per cent.

The Tribunal found that the WACC range for use in its final determination is with the range of 5.7 to 7.1 per cent (Table 7.3) with a midpoint of 6.4 per cent. In making its decision on the final rate of return to apply, the Tribunal took into consideration the requirements of the IPART Act - particularly Sections 15(1)(b), 15(1)(c) and 15(1)(k).

In making its final decision, the Tribunal considered the arguments presented in submissions from the water businesses and NSW Treasury. It undertook further analysis of the implications of alternative rates of return on the financial indicators for each of the water businesses, using both actual and notional gearing assumptions.<sup>60</sup> This analysis allowed the Tribunal to consider the financial impact of its rate of return decision and its implications for the businesses' investment decision.

The financial impact on Sydney Water, the Sydney Catchment Authority and Hunter Water<sup>61</sup> under actual and notional gearing assumptions can be seen in Tables **7.5**, **7.6 and 7.7**.

<sup>&</sup>lt;sup>60</sup> Notional gearing assumes a debt / equity ratio of 60:40.

<sup>&</sup>lt;sup>61</sup> Using the Tribunal's model as at 4 August 2005.

Rate of return	2006 (actual)	2009 (actual)	2006 (notional)	2009 (notional)					
	EBITDA interest cover								
6.1%	3.0	3.0	1.7	1.9					
6.5%	3.1	3.1	1.8	2.0					
Fund flow to net debt payback									
6.1%	6.5	7.3	12.7	13.8					
6.5%	6.2	6.9	12.1	12.9					
Internal financing ratio									
6.1%	0.13	0.50	0.22	0.23					
6.5%	0.16	0.53	0.24	0.24					

Table 7.3 Syuney Waler – Financial Indicators	Table 7.5	Svdnev	Water -	Financial	indicators
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 Table 7.6 Sydney Catchment Authority – Financial indicators

Rate of return	2006 (actual)	2009 (actual)	2006 (notional)	2009 (notional)		
	EB	ITDA interest co	over			
6.1%	4.5	2.5	2.0	1.9		
6.5%	4.7	2.7	2.2	2.0		
Fund flow to net debt payback						
6.1%	9.4	14.6	22.1	22.1		
6.5%	8.9	13.5	20.3.	20.2		
Internal financing ratio						
6.1%	0.11	0.23	0.34	0.32		
6.5%	0.11	0.24	0.35	0.32		

#### Table 7.7 Hunter Water – Financial indicators

Rate of return	2006 (actual)	2009 (actual)	2006 (notional)	2009 (notional)			
EBITDA interest cover							
6.1%	5.7	4.0	1.8	1.9			
6.5%	6.0	4.2	1.9	2.0			
Fund flow to net debt payback							
6.1%	3.1	4.4	10.8	10.6			
6.5%	3.0	4.2	10.5	10.0			
Internal financing ratio							
6.1%	0.02	0.34	0.19	0.22			
6.5%	0.02	0.37	0.22	0.25			

On balance, the Tribunal concluded that an appropriate real pre-tax rate of return to be applied to the RAB of the metropolitan water businesses is 6.5 per cent.

### 7.4 Tribunal's findings on depreciation method and asset lives

The allowance for a return of capital, or depreciation, represents the revenue each agency requires to maintain the value of its assets. Depreciation represents around 7 to 10 per cent per cent of a water agency's total notional revenue requirement.

To determine this allowance, the Tribunal has made findings on the depreciation method and the asset lives to be applied. The following sections discuss each of these findings.

#### 7.4.1 Depreciation method

### The Tribunal's decision is that it will use the straight-line depreciation method to calculate the return of capital (depreciation) allowance for each water agency.

The Tribunal believes that this approach is superior to alternatives in terms of simplicity, consistency and transparency. It used a straight line depreciation profile in the 2003 determination. The water agencies support the continued use of this approach.

#### 7.4.2 Asset lives to be applied

For this determination, the Tribunal has decided to calculate depreciation using the asset lives shown in Table 7.8. These asset lives are consistent with those proposed by the water agencies.

Existing assets	New Assets
70 years	100 years

Table 7.8 Asset lives used in calculating depreciation allowance

For Sydney Water and Hunter Water, these average assets lives are consistent with those used in the 2003 determinations. For the Sydney Catchment Authority, they are different because the 2003 mid term review incorrectly used asset lives of 100 and 190 years.

### 8 REVENUE REQUIRED FOR OPERATING EXPENDITURE AND WORKING CAPITAL

As Chapter 5 discussed, the Tribunal considers the amount of revenue each agency requires to recover these cost blocks by:

- assessing the level of efficient operating and maintenance costs the agency will incur in providing water, sewerage (and in some cases, stormwater drainage) services over the determination period
- assessing the amount of working capital it will require over the determination period, then multiplying this amount by the rate of return used in calculating the allowance for a return on assets (discussed in Chapter 7).

This chapter explains the Tribunal's findings on the agencies' required revenue for operating expenditure and working capital. Section 8.1 and 8.2 summarise its findings for each agency, and the approach it used to assess the agencies' efficient operating costs. Section 8.3 sets out the forecast operating expenditure proposed by each agency, the level of efficient operating costs recommended by the Tribunal's consultants, and the Tribunal's findings on the level of efficient operating costs. Sections 8.4 to 8.6 explain the Tribunal's considerations in making its findings for each agency. Section 8.7 discusses the Tribunal's considerations and findings in relation to working capital.

## 8.1 Summary of Tribunal's finding on operating expenditure and working capital

The Tribunal's finding is that the operating expenditures used to calculate the total notional revenue requirement for each agency will be those shown in Table 8.1. It considers that these operating expenditures represent the efficient level of operating and maintenance costs associated with the agencies providing regulated water and wastewater services over the 2005 determination period.

	(+, .	,			
Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority	79.2	79.1	77.7	76.3	312.4
Sydney Water (excluding bulk water)	741.1	731.3	718.5	708.0	2,899.0
Hunter Water	70.2	68.8	68.5	68.4	275.9

Table 8.1 Required revenue for operating expenditure(\$ million, 2004/05)

The Tribunal's finding is that the allowances for the costs associated with working capital used to calculate the total notional revenue requirements for each agency will be those shown in Table 8.2.

	(+	, <b>,</b>			
Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority	(0.5)	0.2	0.1	0.5	0.3
Sydney Water	4.1	5.2	5.7	6.9	21.9
Hunter Water	0.7	0.8	0.8	0.9	3.2

Table 8.2 Required revenue for working capital allowance(\$ million, 2004/05)

### 8.2 Tribunal's approach to assessing efficient operating costs

As foreshadowed in the issues paper,<sup>62</sup> the Tribunal's approach to assessing each agency's level of efficient operating costs involved:

- obtaining proposals from the agencies on their forecast operating expenditure for the 2005 determination period and their potential to make future efficiency gains
- engaging a consultant to independently review these proposals
- obtaining updated proposals from the agencies on their forecast operating expenditure for the 2005 determination period and having them independently reviewed
- considering the agencies' proposals, the consultants advice and other stakeholder submissions in relation to operating expenditure
- analysing other information, including the agencies' past operating expenditure.

The Tribunal engaged Atkins/Cardno to review the water agencies' proposals and:

- provide its opinion on the efficiency of each agency's proposed level of operating expenditure for each year between 2005/06 and 2009/10
- make recommendations (with supporting reasons) on the level of operating expenditure each agency requires for each of these years to efficiently undertake its regulated functions
- identify and analyse each agency's potential for cost reductions for each function, and make recommendations (with supporting reasons) on each agency's potential for efficiency gains
- where it assesses current expenditure in an area of operations as inadequate, specify and quantify the recommended additional expenditure required.<sup>63</sup>

Atkins/Cardno assessed the agencies' forecast operating expenditure by service area, and considered the agencies' management structures, the processes they used to manage operating costs, and specific issues affecting their operating costs. It also assessed each agency's potential for additional operating efficiency gains, using a similar approach to the one it used to assess their potential for capital efficiency gains (see Chapter 6). This approach considered the concepts of continuing efficiency and catch-up efficiency.<sup>64</sup> Atkins/Cardno

<sup>&</sup>lt;sup>62</sup> Refer p 12, Discussion paper DP75, *Review of Metropolitan Water Agency Prices*, July 2004.

<sup>&</sup>lt;sup>63</sup> Atkins/Cardno, IPART Capex, Asset Management and Opex Reviews, Overview Report, Final, February 2005, p 4.

<sup>&</sup>lt;sup>64</sup> Atkins/Cardno defined continuing efficiency as the scope for top performing or frontier companies (agencies) to continue to improve their efficiency, and catch-up efficiency as the scope for all other utilities to reach the performance of a frontier utility.

released their report in February 2005 on the initial submissions and undertook a final review based on supplementary information supplied by the businesses in March 2005. Their final report on the review of the supplementary submissions was released in July 2005. Full details of Atkins/Cardno approach and analysis on the initial and supplementary submissions can be found in its final report, which is available on the IPART website.<sup>65</sup>

## 8.3 Overview of agency forecasts, expert findings and Tribunal's findings on operating expenditure

Table 8.3 sets out the forecast operating expenditure proposed by the agencies, efficient operating costs recommended by Atkins/Cardno (incorporating potential efficiencies), and the Tribunal's findings on the operating expenditure to be used in calculating each agency's notional revenue requirements and for setting prices for the 2005 determination period.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority					
Agency initial forecast	79.7	81.1	81.3	80.2	322.3
Atkins/Cardno recommendation	80.1	80.5	79.0	76.9	316.5
Tribunal's draft finding	79.6	79.7	78.2	76.1	313.6
Agency supplementary submission	79.7	81.1	81.3	80.2	322.3
Atkins/Cardno recommendation	79.2	78.6	76.7	75.3	309.8
Tribunal's finding	79.3	79.1	77.7	76.3	312.4
Sydney Water 66					
Agency forecast	744.6	733.3	723.0	715.6	2,916.5
Atkins/Cardno recommendation	733.8	725.7	717.9	705.1	2,882.5
Tribunal's draft finding	733.8	725.7	717.9	705.1	2,882.5
Agency supplementary submission	757.3	739.7	720.2	717.4	2,934.6
Atkins/Cardno recommendation	739.2	723.9	710.9	700.4	2,874.4
Agency further submission	770.4	753.5	731.8	728.5	2,984.2
Tribunal's finding	741.1	731.3	718.5	708.0	2,899.0
Hunter Water					
Agency forecast	68.9	69.5	70.5	71.5	280.3
Atkins/Cardno recommendation	68.8	68.7	69.2	69.1	275.8
Tribunal's draft finding	68.8	68.7	69.2	69.1	275.8
Agency supplementary submission	72.1	71.1	71.8	72.7	287.7
Atkins/Cardno recommendation67	70.1	68.9	68.8	68.8	276.6
Tribunal's finding	70.2	68.8	68.5	68.4	275.9

Table 8.3 Agencies' forecasts compared with Tribunal's findings on operating<br/>expenditure (\$ million, 2004/05)

<sup>&</sup>lt;sup>65</sup> IPART Capex, Asset Management and Opex Review, Overview Report, Final, February 2005, and IPART Supplementary Submission Review, Final Reports, July 2005, Atkins in association with Cardno. Available on www.ipart.gov.nsw.au.

<sup>&</sup>lt;sup>66</sup> Excluding bulk water costs.

<sup>&</sup>lt;sup>67</sup> The difference between the Tribunal's finding and the recommendation of Atkins/Cardno is due to amendments by the Tribunal to correct for rounding errors and double counting of energy costs.

## 8.4 Tribunal's findings in relation to the Sydney Catchment Authority

In its initial and supplementary submissions, the Sydney Catchment Authority proposed annual operating expenditure for the 2005 determination period that ranged from \$79.7 million for 2005/06 to \$81.3 million for 2007/08. This forecast expenditure is lower than the forecast annual expenditure it submitted for the 2003 mid-term review of its current determination, and is similar to its actual and projected expenditure for 2003/04 and 2004/05 (Table 8.4).

	2002/03	2003/04	2004/05	Total
Sydney Catchment Authority				
Agency forecast 2003 (2003 mid term review)	85.5	87.6	89.1	262.2
Tribunal mid term review 2003	79.2	79.9	79.4	238.5
Actual (2002/03 and 2003/04)/projected (2004/05) expenditure	84.1	78.2	79.2	241.5

### Table 8.4 Operating expenditure over the 2003 determination period(\$ million, 2004/05)

Since 2003, the Sydney Catchment Authority has made significant progress in ensuring a reliable bulk water supply and adhering to the catchment management requirements of its licence. Although the agency's actual operating expenditure over this period was less than it forecast, Atkins/Cardno commented it has developed processes and programs that will allow it to undertake its core business activities. Atkins/Cardno also commented that the Sydney Catchment Authority is at the forefront of implementing scientifically based catchment management activities aimed at optimising the quality of surface water harvested for drinking water purposes. While the Tribunal accepts Atkins/Cardo's comments, it notes that the operating licence auditor has previously raised some concerns about the transparency and reporting of Sydney Catchment Authority's catchment management activities.<sup>68</sup>

Since the 2003 mid-term review, the Sydney Catchment Authority's performance has met the requirements of its water management licence and operating licence. It has met or exceeded water quality compliance standards and provided an uninterrupted supply of water to customers over the period. In addition, it has:

- developed a Drought Response Plan
- developed an adaptive long-term demand and supply strategy for consideration by the Minister for Environment
- developed new programs for water quality monitoring and asset improvement and reliability
- addressed catchment management through a number of initiatives, including establishing a five-year Accelerated Sewerage Scheme to fast-track upgrades to sewage treatment plants in the catchment, develop the Healthy Catchments program as the

<sup>&</sup>lt;sup>68</sup> IPART, Sydney Catchment Authority's Operational Audit, 2003/04.

umbrella program for catchment protection, and contributed funds to DEC to purchase private lands within the Warragamba Special Area.

The next sections discuss the Tribunal's draft and final considerations and findings in relation to the agency's forecast operating expenditure and the potential for efficiency gains within the forecasts, as well as the overall effect of the Tribunal's findings on the forecasts.

### 8.4.1 The Tribunal's draft findings

For the 2005 determination period, the Sydney Catchment Authority initially proposed that its operating expenditure be capped at \$322.3 million (\$2004/05) in real terms. Most of its proposed expenditure relates to its core operating activities, including maintenance of the assets responsible for providing bulk water supplies and the protection of the catchment environs. The Sydney Catchment Authority also highlighted additional expenditure needed to maintain equipment for accessing deep storages of dams<sup>69</sup> and to measure environmental improvements from increased environmental flows, and for additional pumping from the Shoalhaven system.<sup>70</sup>

The Sydney Catchment Authority's proposal to increase water pumping from the Shoalhaven was a major concern of some submissions to the Tribunal.<sup>71</sup> Some of these submissions argued that increased water pumping from the Shoalhaven will simply have the effect of transferring some of the environmental impact of Sydney's unsustainable water use to other catchments. Others commented that the extra costs associated with this pumping (and other proposed supply augmentation options) are a reflection of the failure of previous pricing arrangements to adequately reflect true environmental costs.

Based on its review, Atkins/Cardno was concerned about two components of the Sydney Catchment Authority's forecast operating expenditure – the expenditure associated with catchment yield management and with accessing deep storages. It also identified the potential for the agency to make additional efficiency gains. The Tribunal's considerations and findings on each of these matters are discussed below.

#### Catchment yield management

Atkins/Cardno recommended that additional operating expenditure of \$1 million in 2005/06 and \$2 million per annum in subsequent years be provided for increased activity to enhance catchment yield management processes, including the operation of telemetry systems currently carried out by Sydney Water.

As part of its response to the Tribunal's draft determination, the Sydney Catchment Authority provided a confidential preliminary draft of its proposed scope of works.

<sup>&</sup>lt;sup>69</sup> The expenditure proposed for deep storage access relates to general maintenance of the equipment needed to access the deep water. It does not include associated pumping costs because these costs will only be incurred if storage levels fall below 10 per cent.

<sup>&</sup>lt;sup>70</sup> The Sydney Catchment Authority included updated estimates of the potential frequency of this pumping in its forecast expenditure. It is intended that their will be less pumping during low flow periods and more during periods of high flows.

<sup>&</sup>lt;sup>71</sup> The Total Environment Centre, submission to IPART, January 2005 and the Nature Conservation Council of NSW, submission to IPART, February 2005.

After considering this recommendation and the preliminary scope of works, the Tribunal's finding is not to provide for the recommended increased expenditure. The Sydney Catchment Authority has not provided it with a business case to support the additional expenditure. In addition, the arrangements for transferring the operation of telemetry systems from Sydney Water to the Sydney Catchment Authority have not yet been made.

#### Accessing deep storages

Atkins/Cardno recommended that the Sydney Catchment Authority's fixed operating cost estimates for the deep storage scheme be reduced from \$0.8 million per annum to \$0.5 million per annum, given the preliminary nature of the estimates. In addition, it recommended that the agency's operating cost estimate for environmental flows be reduced from \$0.7 million in 2005/06 and \$1.4 million in subsequent years, to a more 'realistic' \$0.5 million per annum.

The Tribunal's draft finding was to adopt the Sydney Catchment Authority's operating cost estimates for the deep storage scheme for the purposes of the 2005 price review, as these estimates are consistent with the Metropolitan Water Plan.

### 8.4.2 Supplementary submission

The Tribunal has accepted Atkins/Cardno's recommendation that the revised forecast operating expenditure be adjusted for savings identified by the Sydney Catchment Authority.

In its supplementary submission, the Sydney Catchment Authority proposed no adjustment to its forecast operating expenditure from its original submission. However, as part of its response to the Tribunal's draft determination, it submitted savings of \$0.5 million per annum resulting from a change in its motor vehicle and Information Technology policy with a corresponding increase in its capital expenditure forecast.

Atkins/Cardno accepted the Sydney Catchment Authority's forecast operating expenditure savings.

The Tribunal has confirmed its draft finding to adopt the Sydney Catchment Authority's operating cost estimates for accessing water deep in existing water storages.

### 8.4.3 Potential for additional operating efficiency gains

### The Tribunal has accepted Atkins/Cardno's recommendation on additional operating efficiency gains.

In its initial report, Atkins/Cardno found that the Sydney Catchment Authority could achieve higher operating efficiencies than those the agency had factored into its forecast expenditures. It considered that the Sydney Catchment Authority could achieve additional continuing efficiencies of 0.8 per cent per annum over the determination period, and additional catch-up efficiencies of 1 per cent per annum from 2006/07. It therefore recommended that additional efficiency gains ranging from 0.8 per cent in 2005/06 to 5.3 per cent in 2008/09 be applied to the agency's operating expenditure forecasts. The Tribunal accepted the Atkins/Cardno recommendation in its draft report and determination.

In its response to the Tribunal's draft report, the Sydney Catchment Authority stated that its operating expenditure forecasts did not include real increases. Further, it believes that real costs are likely to increase in the current drought conditions and therefore operating efficiencies should not be applied during the 2005 determination period. It also noted the impact of major increases in insurance and security costs that did not appear to be included in Atkins/Cardno's assessment.

Since the Tribunal's draft determination, Atkins/Cardno has amended their decision to take account of the Sydney Catchment Authority's \$0.5 million saving associated with a change in its motor vehicle and Information Technology policy. The Sydney Catchment Authority noted that the operating expenditure savings will be made with a corresponding increase in capital expenditure.

Atkins/Cardno's revised additional operating efficiency gains, which take account of the identified savings, are set out in Table 8.5.

### Table 8.5 Atkins/Cardno's recommended additional operating efficiencies for Sydney Catchment Authority (per cent)

Financial Year	2005/06	2006/07	2007/08	2008/09
Net efficiency (cumulative)	0	1.9	3.8	4.3

On balance, the Tribunal's finding is that the additional operating efficiencies recommended by Atkins/Cardno for the Sydney Catchment Authority are appropriate, and should be incorporated into expenditure forecasts for the Sydney Catchment Authority.

### 8.4.4 Overall effect of Tribunal's findings on forecast operating expenditure

The net effect of the Tribunal's findings is that the level of efficient forecast operating expenditure used in calculating the Sydney Catchment Authority's notional revenue requirement for the 2005 determination period is \$312.4 million. This amount is \$9.9 million or 3.1 per cent less than the agency's capital expenditure forecast in its supplementary submission (see Table 8.6).

### Table 8.6 Sydney Catchment Authority's forecast compared with Tribunal's finding on<br/>efficient operating expenditure (\$ million, 2004/05)

	2005/06	2006/07	2007/08	2008/09	Total
Sydney Catchment Authority forecast	79.7	81.1	81.3	80.2	322.3
Atkins/Cardno draft recommendation	80.1	80.5	79.0	76.9	316.5
Tribunal draft finding	79.6	79.7	78.2	76.1	313.6
Sydney Catchment Authority supplementary submission	79.7	81.1	81.3	80.2	322.3
Atkins/Cardno final recommendation	79.2	78.6	76.7	75.3	309.9
Tribunal finding	79.2	79.1	77.7	76.3	312.4

#### 8.5 Tribunal's findings in relation to Sydney Water

Sydney Water's supplementary submission proposed revised annual operating expenditures (excluding bulk water purchases) which ranged from \$757 million for 2005/06 to \$717 million for 2008/09. The forecast expenditure for 2005/06 is higher than its projected expenditure for 2004/05 of \$699 million (excluding bulk water purchases) (Table 8.7).

#### Table 8.7 Operating expenditure\* over the current determination period (\$ million, 2004/05)

Financial Year	2002/03	2003/04	2004/05	Total
Sydney Water Corporation				
Agency forecast 2003	697.1	690.1	683.7	2,070.9
Tribunal determination 2003	697.1	685.9	674.2	2,057.2
Actual (2002/03 and 2003/04)/projected (2004/05) expenditure	822.0	631.8	698.5	2,152.3
* Excludes bulk water costs				

Excludes bulk water costs.

Sydney Water's proposed operating expenditures also include a pass-through cost of \$30 million per annum as its contribution to the Water Savings Fund. It noted in its proposal that it expects the fund will finance around \$15 million of its demand management activities undertaken each year.

In its review of these proposed expenditures, Atkins/Cardno noted some significant variations in the forecast operating expenditure for the 2005 determination period and actual expenditure over the current determination period, including :

- ongoing reduction in employee provisions and labour costs
- reduction in other costs
- increased expenditure on demand and drought management issues •
- increased expenditure on energy, Build, Own and Operate (BOO), and hire and • contract services.

Atkins/Cardno also found that Sydney Water's capitalisation policy materially affects its future operating costs. The current capitalisation policy assumes a low threshold (\$5,000), but in practice the capitalisation criteria depend on the level at which assets are recorded on the fixed assets register. Sydney Water could influence the operating and capital expenditure balance by using a more detailed asset register.

In addition, it made specific recommendations related to re-phasing Sydney Water's operational project expenditure, and identified the potential for the agency to make additional operational efficiency gains. These recommendations are discussed below.

The next sections discuss the Tribunal's draft and final findings in relation to the Sydney Water's forecast operating expenditure and the potential for efficiency gains, as well as the overall effect of the Tribunal's findings.

### 8.5.1 The Tribunal's draft findings

In its initial report of February 2005, Atkins/Cardno noted that Sydney Water had provided significant justification for its forecast operational project expenditure. However, it was not confident that the forecast levels of expenditure for 2005/06 and 2006/07 were efficient, or that Sydney Water would be able to deliver the projects planned for these years within the allowed timeframe. It therefore recommended that Sydney Water's expenditure on operational projects over 2005/06 and 2006/07 be re-phased (see Table 8.8).

In response to these findings, Sydney Water stated that it has a report that confirms the business need for and deliverability of the planned operational projects, but did not provide the report to the Tribunal as further evidence. However, the Tribunal understands that the agency did provide significant information to Atkins/Cardno in relation to project delivery.

While Atkins/Cardno accepted the need for the operational projects, it remained unconvinced that the projects planned for 2005/06 and 2006/07 represented efficient levels of expenditure and were achievable in the planned timeframe. In its draft report, the Tribunal therefore found Atkins/Cardno's recommendation to re-phase expenditure on these projects to be appropriate.

Financial Year	2005/06	2006/07	2007/08	2008/09
Sydney Water's proposal	29.1	28.2	28.2	28.3
Atkins/Cardno recommendation	20.4	24.0	28.2	28.3
Difference	(8.7)	(4.2)	-	-

Table 8.8 Atkins/Cardno's recommendations on re-phasing operation projects(\$ million, 2004/05)

### 8.5.2 Supplementary and further information

### The Tribunal has accepted Atkins/Cardno's recommendation on the revised forecast operating expenditure with adjustments for late costs submitted by Sydney Water.

In its supplementary submission, Sydney Water sought an additional \$18.3 million in operating expenditure, represented by an increase in operating expenditure of \$26.6 million for water services and a reduction of \$8.3 million for wastewater services.

Atkins/Cardno recommended adjustments to provide for Sydney Water's supplementary submission are set out in Table 8.9.

	2005/06	2006/07	2007/08	2008/09	Total
Sydney Water's supplementary submission	757.3	739.7	720.5	717.3	2,934.8
Growth rephasing	-1.6	-2.6	-3.3	-4.2	-11.7
Re-phasing of operational projects	-11.0	-6.0	2.1	0.0	-14.9
Recycled water schemes	-1.5	-2.6	-3.0	-3.0	-10.1
Opex due to Capex efficiency savings	-0.3	-0.5	-0.9	-1.1	-2.8
Opex efficiencies	0.0	-0.7	-1.0	-5.0	-6.7
Adjustment to base cost	-3.7	-3.7	-3.7	-3.7	-14.8
Atkins/Cardno recommendation	739.2	723.6	710.7	700.3	2,873.8

### Table 8.9 Sydney Water's supplementary forecast operating expenditure compared with Atkins/Cardno recommendation (\$ million, 2004/05)

The rationale for Atkins/Cardno's adjustments is as follows:

- Re-phasing of operational projects re-phased expenditure due to significant underexpenditure on operational projects in 2004/05.
- Recycled water schemes increased operating expenditure was excluded on the basis that the expenses would be addressed by the recycled water price review later this year.
- Further efficiency savings add back of Sydney Water's target efficiencies for stormwater operating expenditure given that Atkins/Cardno has separately accounted for efficiencies.
- Demand management costs offset some of Sydney Water's additional funding for demand management and restrictions against expected savings in bulk water purchases. In addition, Atkins/Cardno accepted the level of expenditure associated with water patrols and restrictions however noted the lack of information to rigorously review these costs.
- Adjustment to base cost Sydney Water did not adequately explain the rationale for the under spend in 2004/05. Therefore, Atkins/Cardno reduced forecast operating expenditure over the 2005 determination period by half of the unexplained savings made in 2004/05.

The Tribunal has accepted Atkins/Cardno's recommended adjustments above, except for:

- Recycled water schemes until there is a specific recycled water scheme, the increased operating expenditure should be included in the 2005 determination period. In the event that the proposed recycled water price review recommends a stand-alone recycled water price, an adjustment will be made at the next determination for any resulting double counting
- Demand management costs the Tribunal believes that an adjustment is inappropriate given that bulk water costs are determined by the Tribunal's decision on metered sales. However, the Tribunal believes that the additional expenditure sought by Sydney

Water is excessive and that only a \$2.1 million adjustment be made in 2005/06 to add back forecast advertising costs.

In its response to the Tribunal's draft determination, Sydney Water sought an additional \$49.6 million of operating expenditure to cover the cost of new provisions in its operating licence (\$18.2 million), changes to the accounting standards relating to superannuation (\$23.5 million), increases in land tax rates (\$3.5 million) and implementation costs for the step price (\$4.4 million). Given the lateness of Sydney Water's submission, Atkins/Cardno was not able to review these additional forecast costs.

Based on its review of the additional forecast operating costs, the Tribunal has decided to allow for the following:

- \$2.2 million over the 2005 determination period to cover the cost of new provisions in the operating licence associated with potable water reuse plants and to undertake audits at Sydney Water's Sewerage Treatment Plants (STPs), as required by the new targets
- \$4 million per annum to cover the cost of new operating licence requirements associated with response to main breaks
- \$3.5 million over the 2005 determination period to cover the cost of increased land tax rates introduced in the May 2005 State Budget.

The Tribunal has not allowed \$23.5 million for the change in accounting standards relating to superannuation as it is of the view that the adjustment is of an accounting nature only. The Tribunal has also not allowed implementation costs of a stepped water price of \$4.4 million as it was not convinced of its accuracy.

#### 8.5.3 Potential for additional efficiency gains

### The Tribunal has accepted Atkins/Cardno's recommendations on additional operating efficiency gains.

In its report of February 2005, Atkins/Cardno found that Sydney Water had not applied a consistent methodology for deriving operating expenditure driven by new capital expenditure. It considered that the accuracy of Sydney Water's forecast operating expenditure would be improved by implementing activity based costing.<sup>72</sup> In the interim, it recommended that the additional efficiency factors it recommended be applied to Sydney Water's forecast capital expenditure also be applied to the portion of the agency's forecast operating expenditure that is driven by this capital expenditure (Table 8.10).

 Table 8.10 Atkins/Cardno's recommended additional efficiencies for Sydney Water's operating expenditure driven by capital expenditure (percentage)

Financial Year	2005/06	2006/07	2007/08	2008/09
Net efficiency (cumulative)	3.5	5.0	7.5	9.0

<sup>&</sup>lt;sup>72</sup> Atkins/Cardno noted that although Sydney Water is moving to an activity based costing system, it found no evidence of this in the sample of projects that it reviewed.

In its draft report, the Tribunal found that Atkins/Cardno's recommendation to apply the proposed capital expenditure efficiencies to forecast operating expenditure that is driven by capital expenditure to be appropriate. On balance, the Tribunal supports its draft finding.

In relation to the forecast operating expenditure that is *not* driven by capital expenditure, Atkins/Cardno, in its initial report, wrote that there was potential for Sydney Water to achieve relatively small 'catch up' and 'continuing' efficiency gains in addition to the efficiencies the agency proposed (see Table 8.11). Atkins/Cardno recommended that these additional efficiencies be applied to forecast operating expenditures associated with controllable costs only – that is, it recommended that it not be applied to expenditure associated with bulk water costs and Sydney Water's contribution to the Water Savings Fund. Atkins/Cardno's endorsed its initial finding in its final report of July 2005.

The Tribunal's finding is that Atkins/Cardno's recommended additional operating efficiencies in relation to forecast operating expenditure, not driven by capital expenditure, are appropriate.

Table 8.11 Atkins/Cardno's recommended additional efficiencies for Sydney Water's forecast operating expenditure that is not driven by capital expenditure (% cumulative)

Financial Year	2005/06	2006/07	2007/08	2008/09
W	ater 0.0	0.1	0.1	0.6
Wastew	ater 0.0	0.0	0.1	0.7
Stormwater drain	1 <b>age</b> 0.0	0.0	0.0	1.0
Corpo	orate 0.0	0.0	0.0	0.0

### 8.5.4 Overall effect of Tribunal's findings on forecast operating expenditure

The net effect of the Tribunal's findings is that the level of efficient forecast operating expenditure used in calculating Sydney Water's notional revenue requirement is \$2,899.0 million. This amount is \$35.8 million or 1.2 per cent less than Sydney Water's revised forecast operating expenditure (see Table 8.12).

#### 2005/06 2006/07 **Financial Year** 2007/08 2008/09 Total Sydney Water 's original 744.6 733.3 723.0 715.6 2,916.6 proposal Atkins/Cardno draft 733.8 725.7 705.1 717.9 2,882.5 recommendation Tribunal's finding 733.8 725.7 705.1 717.9 2,882.5 Sydney Water's supplementary submission Water 321.3 312.0 299.3 298.7 1,231.3 283.6 283.3 Wastewater 284.0 284.5 1,135.4 Stormwater drainage 7.6 7.8 7.8 7.8 31.0 Corporate 144.8 135.9 130.1 126.3 537.1 Total 757.3 739.7 720.2 717.4 2,934.6 Atkins/Cardno final recommendation Water 312.1 303.0 293.8 288.3 1,197.2 Wastewater 274.7 277.1 279.2 278.1 1,109.1 30.4 Stormwater drainage 7.6 7.6 7.6 7.6 Corporate 144.8 135.9 130.1 126.3 537.1 Total 739.2 723.6 710.7 700.3 2,873.8 Sydney Water's further submission 325.3 302.7 Water 316.0 303.3 1,247.3 Wastewater 284.0 284.6 283.9 285.1 1,137.6 Stormwater drainage 7.6 7.8 7.8 7.8 31.0 153.5 145.1 137.1 132.8 568.5 Corporate 770.4 753.5 732.1 728.4 2,984.2 Total **Tribunal decision** Water 313.1 309.1 300.1 294.5 1,216.8 Wastewater 275.1 277.7 279.8 278.6 1,111.2 Stormwater drainage 7.6 7.6 7.6 7.6 30.4 Corporate 145.3 136.9 131.1 127.3 540.6 741.1 731.3 718.5 708.0 2,899.0 Total

### Table 8.12 Sydney Water's forecast compared with Tribunal's finding on efficient operating expenditure\* (\$ million, real 2004/05)

Excluding bulk water costs.

\*

### 8.6 Tribunal's findings in relation to Hunter Water

In its supplementary submission, Hunter Water proposed annual operating expenditure that ranged from \$72.1 million for 2005/06 to \$72.5 million for 2008/09. The forecast expenditure for 2005/06 is similar to its projected expenditure for 2004/05 of \$68 million (Table 8.13).

Financial Year	2002/03	2003/04	2004/05	Total
Hunter Water Corporation				
Agency forecast 2003	63.4	62.1	60.9	186.4
Tribunal determination 2003	na	60.3	58.7	Na
Actual (2002/03 and 2003/04)/projected (2004/05) expenditure	65.6	64.7	68.0	198.3

## Table 8.13 Operating expenditure over the current determination period(\$ million, 2004/05)

In its initial submission, Hunter Water mentioned that it has made improvements in operating efficiency of 45 per cent since 1991, during a time when there had also been a 15 to 20 per cent increase in costs required to meet higher regulatory standards, particularly in the areas of wastewater and drinking water quality. Hunter Water identified a small net reduction in operating costs per property over the 2005 determination period.

Hunter Water also identified a number of factors contributing to increased costs over the 2005 determination period. These include the need to meet the customer service obligations in its operating licence, and higher energy costs of \$0.9 million per annum from 2007/08, when its existing energy contracts are due to be renewed. It also identified an increase in operating costs of around \$1 million per annum related to the application of International Accounting Standards, which will reduce the extent to which costs can be capitalised.

The next sections discuss the Tribunal's draft and final findings in relation to the Hunter Water's forecast operating expenditures and the potential for efficiency gains within the forecasts, as well as the overall effect of the Tribunal's findings on the forecasts.

### 8.6.1 The Tribunal's draft findings

In its initial review of February 2005, Atkins/Cardno noted that Hunter Water has high levels of water main breaks and sewer chokes and breaks compared to other agencies, and that its ratio of reactive to planned maintenance was also very high. It suggested that Hunter Water develop a business case for optimising maintenance expenditure with a view to improving customer service standards.

Atkins/Cardno recommended that the Tribunal accept Hunter Water's proposed operating costs but that efficiency gains, in addition to those proposed by Hunter Water, be incorporated.

#### 8.6.2 Supplementary submission

### The Tribunal has accepted Atkins/Cardno's recommendation on the revised forecast operating expenditures.

In its supplementary submission, Hunter Water proposed a \$6.7<sup>73</sup> million increase in operating expenditures over the 2005 determination period. The increase in operating expenditures was driven by the introduction of new International Financial Reporting Standards, increases in hire and contract services, a correction to operating expenditures required to service new developments (chemicals and energy), and renewal of its electricity supply contract.

In its supplementary submission, Hunter Water sought guidance from the Tribunal on the treatment of research in new service areas that was previously capitalised. Atkins/Cardno recommended that such costs be recovered through developer charges. Hunter Water supported Atkins/Cardno's recommendation.

Atkins/Cardno accepted the other proposed changes to the forecast operating expenditures in Hunter Water's supplementary submission.

#### 8.6.3 Potential for additional efficiency gains

### The Tribunal has accepted Atkins/Cardno recommended additional operating efficiency gains.

In its initial report of February 2005, Atkins/Cardno identified opportunities for Hunter Water to make additional efficiency gains ranging from 0.2 per cent in 2005/06 to 3.4 per cent in 2008/09. These opportunities included developing activity based costing systems, improving the allocation of labour and hire costs, consolidating operational activities that are currently split between divisions into a single unit, and optimising maintenance expenditure to reduce the risk of supply interruptions (see Table 8.14).

Atkins/Cardno noted that a proportion of Hunter Water's forecast operating expenditure is associated with uncontrollable costs (55 per cent of water service and 75 per cent of wastewater services expenditure). It recommended that its additional efficiency gains not be applied to this expenditure.

In its response to the Tribunal's draft determination and report, Hunter Water objected to the Tribunal's draft finding on the operating efficiency gains and questioned Atkins/Cardno's approach to determining the efficiencies. Hunter Water also argued that it had achieved significant operating efficiencies since 1991 and that upward pressures on input prices was more likely.

In its final review of Hunter Water's supplementary submission, Atkins/Cardno evaluated Hunter Water's arguments but concluded that efficiency gains could still be achieved based on comparisons with similar water authorities. Atkins/Cardno's final recommended efficiency targets (net of efficiencies identified by Hunter Water) are in Table 8.14.

<sup>&</sup>lt;sup>73</sup> Both Hunter Water's supplementary submission and Atkins/Cardno's final report suggest that this amount is \$7.4 million, but this is due to double counting of energy costs.

Financial Year		2005/06	2006/07	2007/08	2008/09
	Water	0.4	1.4	2.3	3.3
	Wastewater	0.7	0.9	1.9	3.1
	Stormwater drainage	0.0	0.0	0.0	0.0
	Corporate	0.3	2.6	3.8	6.1

### Table 8.14 Atkins/Cardno's recommended additional operating efficiencies for Hunter Water (per cent per annum cumulative)

The Tribunal's finding is to adopt the Atkins/Cardno recommended operating efficiencies for Hunter Water for the 2005 price review.

#### 8.6.4 Overall effect of Tribunal's findings on forecast operating expenditures

The net effect of the Tribunal's finding is that the level of efficient forecast operating expenditure used in calculating Hunter Water's notional revenue requirement is \$275.9 million. This amount is \$11.9 million or 4.1 per cent less than the agency's proposed revised forecast operating expenditure (see Table 8.15).

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Hunter Water's proposal	68.9	69.5	70.5	71.5	280.3
Atkins/Cardno draft recommendation	68.8	68.7	69.2	69.1	275.8
Tribunal's draft finding	68.8	68.7	69.2	69.1	275.8
Hunter Water's supplementary submission					
Water	26.5	26.3	26.7	27.2	106.7
Wastewater	28.0	27.2	27.1	27.2	109.5
Stormwater drainage	1.0	1.0	1.0	1.0	4.0
Corporate	16.6	16.6	17.1	17.3	67.6
Total	72.1	71.1	71.8	72.7	287.7
Atkins/Cardno final recommendation					
Water	26.4	26.0	26.1	26.4	104.9
Wastewater	27.8	27.0	26.5	26.4	107.7
Stormwater drainage	1.0	1.0	1.0	1.0	4.0
Corporate	16.5	16.2	16.5	16.2	65.4
Total including developer related research costs	71.7	70.2	70.1	70.0	282.0
Total excluding developer related research costs <sup>74</sup>	70.1	68.9	68.8	68.8	276.6
Tribunal's finding					
Water	26.0	25.6	25.6	25.9	103.0
Wastewater	26.8	26.2	25.7	25.6	104.4
Stormwater drainage	1.0	1.0	1.0	1.0	4.0
Corporate	16.4	16.0	16.3	16.0	64.9
Total	70.2	68.8	68.5	68.4	275.9

### Table 8.15 Hunter Water's forecast compared with Tribunal's finding on efficient operating expenditure (\$ million, 2004/05)

# 8.7 Tribunal's considerations and findings in relation to allowance for working capital

The Tribunal believes that each agency's total notional revenue requirement should include an allowance for the cost of maintaining an investment in working capital. This is additional to the allowances for a return on assets and depreciation.

The Tribunal's findings on this allowance and the factors considered in arriving at this finding are summarised below.

<sup>&</sup>lt;sup>74</sup> Differences between Atkins/Cardno's recommendations and the Tribunal's finding are due to amendments by the Tribunal to correct for rounding errors and double counting of energy costs.

### 8.7.1 Summary of finding on allowance for working capital

Table 8.16 sets out the Tribunal's findings on the costs associated with working capital to be used in calculating the agencies' notional revenue requirement and setting prices for the 2005 determination period. The Sydney Catchment Authority and Hunter Water did not propose an allowance for working capital, and Sydney Water's proposed allowance was included in its proposed return on capital allowance.

	<b>、</b> ,	, ,			
Financial Year	2006	2007	2008	2009	Total
Sydney Catchment Authority	(0.5)	0.2	0.1	0.5	0.2
Sydney Water	4.1	5.2	5.7	6.9	21.9
Hunter Water	0.7	0.8	0.8	0.9	3.2

### Table 8.16 Tribunal's finding on costs associated with working capital(\$ million, 2004/05)

## 8.7.2 Tribunal's considerations in relation to costs associated with working capital

The Tribunal's findings are based on a simplified payment cycle approach to calculating the costs associated with working capital. This approach makes assumptions about the number of days that payments by the agency and to the agency are outstanding. The calculation also adds in the value of inventory.

The working capital allowance has been calculated as follows:

- Receivables @ 45 days of sales revenue depending on billing cycles less
- Payables @ actual 2004 days of operating costs + capital expenditure (30 days) plus
- Inventory @ actual 2004 days of operating costs + capital expenditure (0.2 days).

No allowance has been made for pre-payments.

### 9 TRIBUNAL'S PRICING DECISIONS FOR INDIVIDUAL SERVICES

As previous chapters have explained, the Tribunal sets water prices by first making decisions on each agency's total notional revenue requirement, forecast metered water sales and forecast customer numbers for the determination period. It then determines the maximum prices for individual monopoly services, taking into account its decisions on the revenue requirement and forecast sales, plus the matters it must consider under Section 15 of the IPART Act, and the contextual matters discussed in Chapter 2.

This chapter explains the Tribunal's decisions on the maximum prices to be charged by the Sydney Catchment Authority, Sydney Water and Hunter Water for water, wastewater and stormwater drainage services for the 2005 determination period. Section 9.1 provides an overview of the Tribunal's pricing decisions for each agency. Section 9.2 explains the Tribunal's approach in setting prices. Sections 9.3 to 9.5 explain the Tribunal's decisions on individual services for each agency.

### 9.1 Summary of pricing decisions

The Tribunal's decision is to increase the Sydney Catchment Authority's prices by an average of CPI+12% in the first year of the determination period, and by CPI+6.0% in each of the remaining years.

In making its pricing decisions for the Sydney Catchment Authority, the Tribunal has:

- set the bulk water charges for Sydney Water so that approximately two thirds of the Sydney Catchment Authority's revenue will be obtained from volumetric charges by 2008/09
- set the water usage charges to apply to Wingecarribee Council and Shoalhaven Council to transition towards the level of charges paid by Sydney Water
- set zero fixed water charges for Wingecarribee and Shoalhaven Councils
- set a zero fixed water charge for raw water customers
- maintained the fixed water charge for unfiltered water customers at the 2004/05 level, over the 2005 determination period
- maintained the current water usage charges for raw and unfiltered water, and provided for these charges to be adjusted for inflation only over the 2005 determination period.

The Tribunal's decision is to increase prices for Sydney Water on average by CPI+7.5% in the first year of the determination period and CPI+1.1% in each of the remaining years.

In making its pricing decisions for Sydney Water, the Tribunal has:

- introduced a two-tier inclining block tariff for variable water usage charges, with the Tier 1 charge set to approximate the lower bound of the estimated range for the long run marginal cost of supply over the 2005 determination period, and the Tier 2 charge set so that the difference between it and the Tier 1 charge increases over the determination period
- increased water usage charges overall, and decreased fixed water service charges so these fixed charges represent a smaller proportion of customers' water bills
- increased the wastewater service charge in each year of the 2005 determination period to reflect the underlying costs of providing wastewater services
- set the non-residential wastewater usage charge so it increases each year at the same rate as the wastewater service charge
- accepted Sydney Water's proposed stormwater drainage charges, so that these charges are more cost reflective by the end of the 2005 determination period
- accepted Sydney Water's proposed trade waste charges, so that most of these charges are adjusted for inflation only over the 2005 determination period
- set charges for recycled water and river management services within the Rouse Hill development area so these charges are adjusted for inflation only over the 2005 determination period
- set miscellaneous charges so these charges are adjusted for inflation only over the 2005 determination period
- set minor service extension charges based on the methodology set out in the 2003 determination
- accepted Sydney Water's proposal to restructure charges for Blue Mountains septic pump out customers and require customers who have access to the reticulated system to directly contract with the private pump out service providers. However, Sydney Water is to provide customers with two-years' notice of this requirement. If customers have not connected to the reticulated system by the end of that time, they will be required to directly contract with the private pump out service provider.

# The Tribunal's decision is to increase Hunter Water's prices by an average of CPI+7.5% in the first year of the determination period, and by CPI+2.5% in each of the remaining years.

In making its pricing decisions for Hunter Water, the Tribunal has:

- set water usage charges for residential and small non-residential customers to phase out the Tier 2 charge over the 2005 determination period. This will be achieved by increasing the Tier 2 charge at a greater rate than the Tier 1 charge until it equals the Tier 1 charge
- set Tier 3 water usage charges for large industrial customers so they increase at the same rate as the Tier 1 usage charge for residential and small non-residential customers
- set Tier 1 and Tier 2 water usage prices for the Dungog Shire Council at the same level as Tier 1 and Tier 2 usage prices for other residential and small non-residential customers, and set Tier 3 water usage charges so they increase at the same rate as the Tier 1 usage charge

- set water usage charges for unfiltered water customers so they incorporate a discount of 30 cents per kilolitre compared to water usage charges for customers receiving filtered water<sup>75</sup>
- decided that Hunter Water can supply water to Gosford and Wyong Councils at prices negotiated between the parties that is lower than the potable water prices set by the Tribunal
- maintained the current wastewater usage charge, and provided for it to be adjusted for inflation only over the 2005 determination period
- increased the wastewater service charge by CPI+9.6% in 2005/06 and CPI+3.2% in each of the following years to 2008/09
- increased the minimum wastewater service charge for flats and units by \$20 per annum in nominal terms so that this charge is approximately two-thirds of the service charge for single residential dwellings by 2008/09
- maintained the notional wastewater usage charge for sewer-only customers at \$20 per annum to be adjusted for inflation only over the 2005 determination period
- maintained the Sewer Service Access Charge and the Environment Improvement Charge at current levels, and provided for these charges to be adjusted for inflation only over the 2005 determination period
- restructured stormwater drainage charges to progressively phase out charges based on property value and replace them with charges based on property size
- maintained trade waste charges at their current levels, and provided for them to be adjusted for inflation only over the 2005 determination period
- accepted Hunter Water's proposed miscellaneous charges for 2005/06 with one amendment, and provided for these charges to be adjusted for inflation only over the 2005 determination period.

### 9.2 The Tribunal's approach to setting maximum prices

The Tribunal adopted a 'staged' approach when analysing and setting maximum prices, which allowed it to explicitly consider the information provided through submissions and independent reviews, and to take account of its own analysis and the factors in Section 15 of the IPART Act. This approach also recognised that, to make decisions about maximum prices, the Tribunal must first make decisions about how the notional revenue requirement is translated into prices over the determination period and about the structure of those prices.

<sup>&</sup>lt;sup>75</sup> The discount does not apply to the location-based price for unfiltered water customers using more than 50,000kL. This is because the discount already takes into account the location of these customers. Large unfiltered water customers will pay the Tier 2 price with the 30c/kL discount applied.

The Tribunal's approach to setting the maximum prices involved the following four key steps:

- 1. Determine the agency's notional revenue requirement (based on its findings on the four cost building blocks) and its forecast metered water sales and customer numbers.
- 2. Identify the broad pricing approaches that could feasibly be applied for the agency to translate the revenue requirement into prices, and assess the overall average impact of each approach on customers and the agency. The approaches considered included:
  - **unsmoothed revenue requirement** where prices (and X-factors) are set to match the profile of the notional revenue requirement
  - **smoothed revenue requirement** where a single X-factor is set to ensure that an agency's targeted revenue equals its notional revenue requirement in NPV<sup>76</sup> terms throughout the determination period
  - **glide path** where a single X-factor is set to ensure that prices change smoothly over the determination period in real terms, and that an agency's targeted revenue in the final year of the determination period equals its notional revenue requirement for that year
  - **P-nought adjustment and glide path** where two X-factors are set. The first X-factor is set to deliver a P-nought<sup>77</sup> adjustment to prices in the first year of the determination period. The second X-factor is set so that average prices increase smoothly over the rest of the determination period and the expected revenue in the final year of the period is equal to the notional revenue requirement in that year.
- 3. Identify feasible pricing structures and calculate actual prices for all or a selection of the pricing options identified in Step 2, then assess the implications of these prices in the context of the Section 15 factors. Specifically, this included considering the impact of prices on customers and the agency's financial viability:
  - in considering customer impact, the Tribunal looked at the magnitude of real price increases in 2005/06 compared to 2004/05, and over the whole determination period; the effect these increases on average bills, and relative bill size compared with other NSW agencies and other jurisdictions
  - in considering financial viability and sustainability, the Tribunal looked at the agency's forecast credit rating, taking into account its existing cash/debt levels and its ability to pay dividends; and the 'benchmark financial structure' consistent with the WACC parameter assumptions made by the Tribunal in this determination
  - in considering economic efficiency, the Tribunal looked at the signals sent to customers; cost reflectivity; consistency with LRMC; and the findings of its price structure review.
- 4. Decide on the pricing structure and level for the 2005 determination to take account of the interests of the agencies, customers and stakeholders, recognising that the balancing of these different interests could mean that the target revenue derived by prices is less than the Tribunal's determined notional revenue requirement.

<sup>&</sup>lt;sup>76</sup> Net Present Value.

<sup>&</sup>lt;sup>77</sup> P-nought refers to an adjustment to prices in the first year of the determination period.
# 9.3 Decision on the prices to be charged by the Sydney Catchment Authority

The Tribunal's decision is to use a P-nought adjustment and glide path approach to set prices for the Sydney Catchment Authority for the 2005 determination period. This approach should result in prices that achieve an appropriate balance between the Section 15 factors. In particular, the P-nought adjustment in 2005/06 will allow prices (and therefore expected revenue) to increase more sharply in this year, to reflect the significant step up in the agency's revenue requirement. The glide path approach in the remaining years will allow average prices to increase in a stable and predictable way, and also result in final-year prices that are expected to generate actual revenue equal to the agency's notional revenue requirement for that year.

The Tribunal's decision delivers average price increases that are lower than those implied in the Sydney Catchment Authority's submission. In aggregate, the cumulative effect of the Tribunal's decision is for average price increases of 34 per cent above the movement in the CPI (real increase), compared to average price increases of 39 per cent above the movement in the CPI (real increase) implied in the Sydney Catchment Authority's submission.

## 9.3.1 Maximum charges to Sydney Water

The Tribunal's decision is that the Sydney Catchment Authority can charge Sydney Water the maximum prices shown in Table 9.1.

Charge	Current (1 July 2004 to 30 September 2005)	1 October 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Fixed Availability Charge (\$ million per calendar month)	\$5.366	\$5.124	\$5.124 x (1+∆CPI₁)	\$5.124 x (1+∆CPl₂)	\$5.124 x (1+∆CPl₃)
Volumetric Charge (per megalitre)	\$116.25	\$155.34	\$169.91 x (1+∆CPI₁)	\$185.84 x (1+∆CPI₂)	\$203.27 x (1+∆CPl <sub>3</sub> )

Table 9.1 Sydney Catchment Authority charges to Sydney Water Corporation(Dollars of the day)

Where:

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

These charges reflect the Tribunal's decision not to change the structure of the wholesale water price, but to rebalance the fixed and variable components of this price so that the variable charge moves closer to the Sydney Catchment Authority's long run marginal cost of supply. The decision means that, by 2009, it is likely that approximately one-third of the revenue the agency generates through charges to Sydney Water will come from the fixed charge and two-thirds will come from the variable charge.

The initial decrease in the fixed charge and the steady increase in the variable charge are consistent with the Sydney Catchment Authority's submission.

#### 9.3.2 Maximum charges to other customers

The Sydney Catchment Authority supplies water to a number of customers other than Sydney Water. These customers consume approximately 0.7 per cent of the annual total water demand placed on the Sydney Catchment Authority, and include:

- Wingecarribee Shire Council and Shoalhaven City Council, who acquire bulk raw water for retailing to their own customers.
- Sixty smaller raw water and unfiltered water 'retail' customers who have direct offtakes from pipelines, canals and storages.

#### Water supply services to Wingecarribee Shire Council and Shoalhaven City Council

The Tribunal's decision is that the Sydney Catchment Authority can charge Wingecarribee Shire Council and Shoalhaven City Council the maximum prices shown in Table 9.2.

## Table 9.2 Volumetric charges to Wingecarribee Shire Council and Shoalhaven CityCouncil (Dollars of the day)

	Current (1 July 2004 to 30 September 2005)	1 October 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Volumetric Charge (\$ per ML)	\$105.08	\$126.88	\$148.68 x (1+∆CPI₁)	\$170.48 x (1+∆CPl₂)	\$192.27 x (1+∆CPl₃)
Where:					

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

 $(1+\Delta CPI_2)$  Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

 $(1+\Delta CPI_3)$  Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Wingecarribee Shire Council is forecast to draw an average of around 3,700ML of water per year from the Sydney Catchment Authority's Wingecarribee Reservoir for treatment and resale to its own customers.

Shoalhaven City Council purchases around 90ML per annum of bulk water from the Sydney Catchment Authority's Bendeela Pondage for regular supply to the township of Kangaroo Valley. During extreme drought periods, it also purchases bulk water released from the Sydney Catchment Authority's Tallowa Dam.

In its draft determination, the Tribunal set the Councils' water usage charges consistent with the Sydney Catchment Authority's water usage charges to Sydney Water. This resulted in a 46 per cent real increase in 2005/06 in the Council's water usage charges, with real increases of 7 per cent in 2006/07, 8 per cent in 2007/08 and 7 per cent in 2008/09.

In its response to the Tribunal's draft determination, Wingecarribee Shire Council argued that the movement in water usage charges in 2005/06 was unjustified and inequitable. The Council requested that the increase be limited to no more than 10 per cent per annum.

The Tribunal has considered the arguments advanced by the Council to support limiting price increases to 10 per cent per annum. The Tribunal has also had regard to the requirements of the COAG endorsed Water Reform Framework for full cost recovery with respect to urban and rural water charges. The Water Reform Framework forms part of a suite of reforms under the National Competition Policy to which NSW is a signatory.

On balance, the Tribunal believes that it is reasonable to transition towards cost reflective pricing. Therefore, the charges in Table 9.2 reflect the Tribunal's decision that water usage charges for Wingecarribee Shire Council and Shoalhaven City should be increased in an orderly manner so that their water usage charges reach a similar level to Sydney Water's charges in the next determination period.

#### Charges to other raw water and unfiltered water customers

The Tribunal's decision is that the Sydney Catchment Authority can charge raw water and unfiltered water customers the maximum prices shown in Tables 9.3 and 9.4.

,	
Service connection (nominal diameter)	Service charge \$
20mm	75.00
25mm	117.20
30mm	168.75
32mm	192.00
40mm	300.00
50mm	468.75
80mm	1,200.00
100mm	1,875.00
150mm	4,218.75
200mm	7,500.00
>200mm	(nominal diameter) <sup>2</sup> x 75/400

## Table 9.3 Annual unfiltered water service charges in 2005/06 to 2008/09(Dollars of the day)

#### Table 9.4 Unfiltered water and raw water usage charges (Dollars of the day)

Charge	Current (1 July 2004 to 30 September 2005)	1 October 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009			
Unfiltered Water Volumetric Charge (\$ per kL)	0.75	0.77	0.77 x (1+∆CPI₁)	0.77 x (1+∆CPI₂)	0.77 x (1+∆CPI₃)			
Raw water charges - Volumetric Charge (\$ per kL)	0.44	0.45	0.45 x (1+∆CPI₁)	0.45 x (1+∆CPI₂)	0.45 x (1+∆CPI₃)			
<ul> <li>Where:</li> <li>(1+ΔCPI<sub>1</sub>) Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.</li> </ul>								

 $(1+\Delta CPI_2)$  Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

The Tribunal's decision is not to realign the Sydney Catchment Authority's volumetric prices for unfiltered water with its charges to Sydney Water. Instead, it decided to maintain these volumetric prices in real terms, by allowing them to be adjusted for movement in the CPI only.

The Tribunal's decision is to maintain the fixed charge for unfiltered water in nominal terms, by not allowing the charge to be adjusted for movement in the CPI over the determination period. This decision is consistent with the 2003 determination, and with the Tribunal's decision to place a greater emphasis on the variable charge by rebalancing the fixed and variable components of prices.

Raw water customers will continue to pay a volumetric charge only. The Tribunal's decision is to maintain the volumetric charge in real terms, by allowing it to be adjusted for movements in the CPI only.

## 9.4 Decision on the prices to be charged by Sydney Water

The Tribunal's decision is to use a P-nought adjustment and glide path approach to set prices for Sydney Water for the 2005 determination period. This approach should result in prices that achieve an appropriate balance between the Section 15 factors. In particular, the Pnought adjustment in 2005/06 will allow prices (and therefore expected revenue) to increase more sharply in that year, to reflect the significant step up in the agency's revenue requirement. The glide path approach in the remaining years will allow average prices to increase in a stable and predictable way, and also result in final-year prices that are expected to generate actual revenue equal to the agency's notional revenue requirement for that year.

The Tribunal's decision delivers average price increases that are lower than those implied in Sydney Water's submission. In aggregate, the cumulative effect of the Tribunal's decision is for average price increases of 11.1 per cent above the movement in the CPI (real increase), compared to average price increases of 18.4 per cent above the movement in the CPI (real increase) implied in the Sydney Water's submission.

A key component of the Tribunal's price determination for Sydney is the introduction of a two tier pricing structure for water usage. The principal aim of this charging arrangement is to encourage water conservation around the home. The tariff arrangement is particularly intended to target discretionary outdoor water use such as garden and lawn irrigation.

Reducing water consumption is important if the supply and demand for water are to be brought into balance.

In response to the Tribunal's draft determination, there was general agreement that the two tier price structure for Sydney Water is likely to promote water conservation. Indeed, DEUS argued that higher prices should be brought in sooner (along with stronger social programs) to send an even greater conservation signal. The Total Environment Council argued that the step should be set at a lower level to have a greater impact.

Concern was raised by interested parties that the Tribunal's draft pricing decisions for Sydney Water did not provide a financial incentive for Sydney Water to purchase recycled water nor encourage non-residential customers to use recycled water or reduce consumption. DIPNR considers that where recycled water "projects can augment supply in a way that accords with least cost outcomes, it may be appropriate for a portion of the project costs to be recovered through water usage charges."

AGL submitted that there were recycling opportunities for non-residential customers but the Tribunal's draft pricing decisions required modification if the use of recycled water to supply those customers is to be viable.

The Tribunal intends to review the recycled water charges after the completion of its current Section 9 review of the Sydney's water industry. As part of that review, the Tribunal may consider the pricing methodologies for recycled water and the incentives and disincentives they may imply for the purchase of recycled water.

### 9.4.1 Water charges

The Tribunal's decision is that Sydney Water can charge customers the maximum water charges shown on Table 9.5. These charges reflect the Tribunal's decision that Sydney Water is to adopt a two-tiered inclining block price structure for water usage charges, with the Tier 2 price being applied to consumption over 400kL per annum (to be expressed as a daily limit of approximately 1.1kL/day).

Charge	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Service charge (\$ per annum) <sup>1</sup>	77.62 <sup>2</sup>	76.73	62.65 x (1+∆CPI₁)	52.85 x (1+∆CPl₂)	43.87 x (1+∆CPI₃)
Tier 1 Usage Charge up to 1.1kL per day (\$ per kL)	1.01	1.20	1.23 x (1+∆CPI₁)	1.26 x (1+∆CPI₂)	1.31 x (1+∆CPI₃)
Tier 2 Usage charge greater than 1.1kL per day (\$ per kL)	1.01	1.48	1.59 x (1+∆CPI₁)	1.72 x (1+∆CPI₂)	1.85 x (1+∆CPl₃)

## Table 9.5 Sydney Water's current and Tribunal's determined water charges (Dollars of the day)

Where:

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Notes:

1. The water service charge is based on the size of the meter connection to the property. This charge is calculated for a 20mm connection. For Non Residential water availability charges the following formula is applied to determine the service availability charge: (Meter size)<sup>2</sup> x 20mm charge/400.

It should be noted that given the seasonality of water consumption, some consumers who consume less than 400kL over the year, or approximately 1.1kL/day, may exceed the daily limit in any given quarter.

2. All of Sydney Water's service charges in this report represent an annual equivalent charge. Where service charges apply from 1 October 2005 three quarters of the charge shown will be billed from 1 October 2005 to 30 June 2006. The associated determination for Sydney Water sets out the service charges after this apportionment has been made.

In its submission to the Tribunal, Sydney Water proposed a number of pricing scenarios incorporating the following price structure options:

- introducing a two tier or inclining block tariff structure for variable usage charges
- keeping the current price structure, but increasing the variable usage charge and decreasing the fixed service charge
- keeping the current price structure and increasing the variable usage charge and fixed service charge by the same rate.

In July 2004, the Tribunal set out the findings of its investigation into the potential for alternative price structures for Sydney Water to reduce the demand for water in the Sydney Basin. It found that an inclining block tariff with a two-tiered variable usage charge and a fixed service charge was likely to be the most appropriate price structure.<sup>78</sup> The Tribunal concluded that such a price structure:

- could send a strong signal about the need to conserve water, particularly to high water users
- has considerable potential to reduce demand
- is relatively easy to understand, implement and administer.

The Tribunal also recommended that under such a structure, the Tier 1 usage charge should be set at the long run marginal cost of supply (LRMC). Since its report on price structure was released, the Tribunal has estimated the LRMC to be between \$1.20 and \$1.50 per kL (\$2004/05).

The Tribunal gave further consideration to Sydney Water's water price structure as part of this price review. It reaffirmed its view that an inclining block tariff with a two tiered variable usage charge and a lower fixed access charge is the most appropriate price structure for Sydney Water in the current circumstances. The Tribunal is of the view that the imbalance between the demand for water and the available supply makes water conservation an important objective of the water pricing regime at the present time.

The Tribunal also considered Sydney Water's pricing proposal for such a structure. This proposal<sup>79</sup> is set out in Table 9.6.

<sup>&</sup>lt;sup>78</sup> See: IPART, Investigation into Price Structures to Reduce the Demand for Water in the Sydney Basin – Final Report, July 2004.

<sup>&</sup>lt;sup>79</sup> Based on a 6.5 per cent real, pre-tax rate of return.

	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Service charge (\$ per annum)	77.62	73.73	69.63 x (1+∆CPI₁)	67.58 x (1+∆CPl₂)	63.49 x (1+∆CPI₃)
Tier 1 usage charge (\$ per kL)	1.013	1.111	1.213 x (1+∆CPI₁)	1.300 x (1+∆CPI₂)	1.408 x (1+∆CPI₃)
Tier 2 usage charge (\$ per kL)	1.013	1.843	1.843 x (1+∆CPI₁)	1.843 x (1+∆CPl₂)	1.843 x (1+∆CPI₃)

Table 9.6 S	Sydney	Water's	proposed	water charge	es (Dollars	of the day)
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Where:

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005

 $(1+\Delta CPI_3)$  Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Under this proposal, the difference between the Tier 1 and Tier 2 usage charges decreases over the determination period. The Tribunal believes that this reduces the incentive the Tier 2 charge creates for customers to reduce their consumption. For this reason, it has not accepted Sydney Water's proposal.

Rather, its decision is to set the two-tiered inclining block tariff so that the margin between the first and second tier increases over the 2005 determination period. This increases the incentive created by the Tier 2 price over the determination period, while protecting high-water-use customers from unacceptable price shocks and giving them time to modify their behaviour to mitigate the impact that the Tier 2 price will have on their water bills (see Chapter 10 for further discussion of customer and environmental impacts).

In addition, the Tribunal's decision is to set the Tier 1 usage charge in 2005/06 so it is roughly in line with the lower bound of its estimated LRMC range of \$1.20 to \$1.50 per kL. The Tribunal recognises that although water usage charges should aim to reflect the LRMC of supply, the precise value of the LRMC for the 2005 determination period is uncertain given the current demand/supply imbalance and likely impact of the drought conditions. Therefore, the LRMC of supply is likely to change over time.

Further, the Tribunal's decision is to set the fixed water service charge so that it decreases over the 2005 determination period, and becomes a smaller proportion of total water charges. This decision reflects its view that higher variable usage charges provide a stronger signal to customers about the need for the water conservation.

The Tribunal's decision on price structure for Sydney Water is consistent with the views of a number of stakeholders as indicated in their submissions to the Tribunal and presentations at the Metropolitan Water hearing. These stakeholders believe that a step price tariff arrangement sends a strong conservation message to customers and better reflects the environmental cost. The Tribunal also notes that a number of submissions from individuals expressed concern over the new price structure, but that this was primarily due to concerns for large households. The Tribunal has considered the impacts of the step tariff arrangement on large low-income households in Chapter 10.

### 9.4.2 Wastewater charges

The Tribunal's decision is that Sydney Water can charge the maximum wastewater service charges shown in Table 9.7.

Table 9.7 Sydney Water's current and Tribunal's determined wastewater charges(Dollars of the day)

Charge	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Wastewater service charge – all customers (\$ per annum)*	346.66	369.43	378.86 x (1+∆CPI₁)	383.65 x (1+∆CPl₂)	388.50 x (1+∆CPI₃)
Wastewater usage charge - non-residential properties only (\$ per kL)	1.15	1.19	1.20 x (1+∆CPI₁)	1.22 x (1+∆CPI₂)	1.23 x (1+∆CPI₃)

Where:

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

\* Based on 20mm wastewater service connection and 100 per cent discharge. For non-residential water availability charges, the following formula is applied to determine the service availability charge: (meter size)<sup>2</sup> x 20mm charge/400. For non-residential properties a discharge factor is applied.

The Tribunal's wastewater service charge is less than the charge proposed by Sydney Water. This reflects the lower costs associated with wastewater services that the Tribunal allowed for in calculating Sydney Water's notional revenue requirement, as a result of its finding that Atkins/Cardno's recommendation to re-phase Sydney Water's forecast capital projects should be accepted. The Tribunal set the wastewater usage charge so that it increases at the same rate as the fixed charge over the determination period.

### 9.4.3 Stormwater drainage charges

The Tribunal's decision is that Sydney Water can charge the maximum stormwater drainage charges shown in Table 9.8.

Table 9.8 Sydney Water's current and Tribunal's determined stormwater charges(Dollars of the day)

Charge	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Residential service charge (\$ per annum)	25.04	31.02	37.00 x (1+∆CPI₁)	41.22 x (1+∆CPl₂)	45.44 x (1+∆CPl₃)
Non-residential service charge (\$ per annum)	70.64	79.60	94.61 x (1+∆CPI₁)	107.26 x (1+∆CPl₂)	115.71 x (1+∆CPl₃)

Where:

(1+ΔCPI<sub>1</sub>) Is the movement in the CPI between the four quarters ending 31 March 2006 and 31 March 2005

 $(1+\Delta CPI_2)$  Is the movement in the CPI between the four quarters ending 31 March 2007 and 31 March 2005

 $(1+\Delta CPI_3)$  Is the movement in the CPI between the four quarters ending 31 March 2008 and 31 March 2005.

The Tribunal has previously noted that the current institutional arrangements for stormwater drainage services, where several organisations are responsible for providing these services within the Sydney region, have resulted in inconsistent pricing, quality of service and depth of investment. In addition, there have been suggestions that this responsibility should rest with one party, which has created uncertainty about Sydney Water's future responsibility for these services.

The Tribunal believes that this uncertainty potentially creates an incentive for Sydney Water to under invest in stormwater infrastructure compared with the level allowed for in this determination. However, as discussed in Chapter 6, it expects that the adoption of output measures will enable it to more accurately assess whether Sydney Water is meeting its service obligations under its stormwater capital program.

In addition, although the uncertainty surrounding the institutional arrangements for stormwater drainage services has previously led the Tribunal to defer changes to the pricing structure for stormwater drainage, it now believes that Sydney Water should further develop the area-based charge it has previously proposed for consideration at the 2009 price review.

In the interim, the Tribunal's decision for this determination is to accept Sydney Water's proposed increases in stormwater drainage charges, so that these charges will be more cost reflective by the end of the 2005 determination period.

## 9.4.4 Trade waste charges

## The Tribunal's decision is to accept Sydney Water's proposal for trade waste charges as set out in schedule 5 of the determination.

In general, Sydney Water proposed to maintain its current trade waste charges in real terms over the determination period with some minor adjustments. It also proposed to introduce two more significant changes related to the charges associated with discharging total dissolved solids and pollutants not subject to a formal threat assessment.

#### Total dissolved solids

The reuse of sewage treatment plant effluent for irrigation and industrial/commercial use is increasing, but is often limited by high concentrations of total dissolved solids (TDS) in the effluent that are not removed by normal sewage treatment processes.

Sydney Water proposed that the current rates for discharging effluent with high concentrations of TDS be replaced by a uniform charging rate of \$0.005/kg for systems discharging to the ocean with no reuse or other limitations, and for systems discharging to inland or the ocean with discharge limitations. Penalty charges will apply for customers discharging effluent that exceeds the acceptance standards.

In systems where treatment to remove TDS is applied, Sydney Water proposed to charge a nominal rate of \$0.15 per kg of TDS treated. This charge reflects the typical treatment costs involved. The actual charge in each catchment will be calculated as:

Actual Charging Rate = \$0.15/kg x fraction of Average Dry Weather Flow treated

The Tribunal's decision is to accept Sydney Water's proposal for TDS charges.

#### Pollutants not subject to a formal threat assessment

Sydney Water occasionally receives requests to discharge pollutants where there has been no formal assessment of the impacts associated with accepting these pollutants to the sewer system, or the costs involved in maintaining such agreements. These situations typically arise when the Department of Environment and Conservation determines that discharging pollutants in this manner is the most appropriate form of disposal.

Sydney Water proposed that application and agreement fees to discharge pollutants not currently in its *Trade Waste Policy* be directly negotiated with the applicant, and determined so that they cover the costs involved. This approach will mean that the fees reflect the higher costs involved in assessing and maintaining such agreements (including testing), and will ensure that they are not cross-subsidised by the general customer base.

The application fee would be calculated at a standard hourly rate of \$108 and charged in arrears (maximum not exceeding \$20,000). The agreement fee would be calculated using a standard hourly rate of \$108 plus analytical costs incurred. A quality charge for the substance would be determined by the acceptance standard and be negotiated with the customer.

The Tribunal's decision is to accept Sydney Water's proposal for fees and charges associated with discharging pollutants not subject to a formal threat assessment.

### 9.4.5 Charges for additional services in Rouse Hill

The Tribunal's decision is to set the maximum recycled water and river management charges for customers in the Rouse Hill development area shown in Table 9.9.

Charge	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Recycled Water usage per kL	0.286	0.293	0.293 x (1+∆CPI₁)	0.293 x (1+∆CPl₂)	0.293 x (1+∆CPI₃)
River Management Charge (drainage) ≤ 1000m <sup>2</sup> (annual)	105.35	107.98	107.98 x (1+∆CPI₁)	107.98 x (1+∆CPl₂)	107.98 x (1+∆CPI₃)
River Management Charge (drainage) ≥ 1000m <sup>2</sup> (annual)	105.35 x ((land area m²)/1000)	107.98 x ((land area m <sup>2</sup> )/1000)	107.98 x ((land area m <sup>2</sup> )/1000) x (1+∆CPI₁)	107.98 x ((land area m <sup>2</sup> )/1000)x (1+ΔCPl <sub>2</sub> )	107.98 x ((land area m²)/1000) x (1+∆CPl <sub>3</sub> )
Recycled Water Service Access C	harge (based on me	eter size)			
20mm	24.70	25.32	25.32 x (1+∆CPI₁)	25.32 x (1+∆CPl₂)	25.32 x (1+∆CPI₃)
For properties with meter size >20mm the formula to apply is	(nominal diameter) <sup>2</sup> x (charge for 20mm meter)/400				
Where:			1. 01.14 1.0		

Table 9.9 Charges for additional services in Rouse Hill (Dollars of the day)

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Sydney Water customers in the Rouse Hill development area receive two additional services – access to recycled water and river management services. The benefits of access to recycled water have been highlighted in recent years when restrictions on using potable water have been in place. During this time these residents have been able to use recycled water without restriction.

The Tribunal's decision on charges for these additional services is that the charges will be adjusted for inflation over the determination period, in line with Sydney Water's proposal. Sydney Water also proposed to remove the area-based river management charge for drainage. However, the Tribunal decided not to do so, given that it intends to consider the introduction of area-based charging for stormwater drainage services in the 2009 determination period. This matter is discussed further in section 9.4.3.

### 9.4.6 Miscellaneous charges

The Tribunal's decision is to accept Sydney Water's proposed miscellaneous service charges with minor amendments and to maintain these charges in real terms over the 2005 determination period.

The Tribunal sets miscellaneous charges for the range of ancillary services the metropolitan water agencies provide, including special meter readings, statements of available pressure and flows, and applications for water service connection. These charges do not account for a large proportion of the total revenue earned by Sydney Water, but they can be significant for those customers who are required to pay them.

The Tribunal asked the water agencies to adopt the following formula to calculate the level of charges:

#### *Miscellaneous charge* = *base cost* + *direct material cost*

The Tribunal recognises that there may be significant cost justifications for the services being priced differently. For this reason, it hired a consultant (RSM Bird Cameron) to review the reasonableness of each agency's miscellaneous charges price proposal for the period commencing 1 July 2005.

RSM Bird Cameron concluded that each agency had applied a methodology that is supportable but is conservative in its application. It noted that in most cases, the proposed charges have been reduced by the use of 2004 labour rates and overheads (instead of the 2005 rates) and are therefore likely to be below cost for the 2005 determination period.

RSM Bird Cameron also noted that despite this the agencies have proposed some very significant price increases. These large price increases reflect the agencies' view that at the 2003 determination many charges were set below actual cost. Based on its findings, RSM Bird Cameron largely supported this view.

With this in mind, the Tribunal has, for the most part, accepted Sydney Water's list of proposed miscellaneous charges for 2005/06 to 2008/09. However, based on the advice of its consultant, it has made a number of minor changes to Sydney Water's proposed list of miscellaneous services:

• **Indexation.** In previous determinations for both water and electricity, the Tribunal has not allowed miscellaneous charges to be increased by the movement in the CPI during

a determination. To avoid large price increases at the next determination, the Tribunal has decided to allow miscellaneous charges to be adjusted for the movement in the CPI during the 2005 determination period.

- Workshop test of water meter. Sydney Water's proposed fee for this service includes the cost of processing the application and performing the test, plus the cost of a new meter to replace the existing one. The Tribunal has previously not allowed Sydney Water to charge customers the replacement cost of a new water meter, as this meter remains the agency's property. Consistent with this approach, the Tribunal's decision is to exclude the replacement cost of a new meter from this charge, and set a meter test fee of \$165.50 for all meter sizes.
- Water and sewer extension application. RSM Bird Cameron identified a transcription error in the calculation of this charge. Sydney Water acknowledged this error and the Tribunal has recalculated the water and sewer extension charge at \$53.00 to account for the transcription error.
- Late payment fee. Sydney Water proposed a late payment fee of \$5.00 to cover costs associated with following up overdue accounts. The Tribunal was persuaded by RSM Bird Cameron's comments that the costs associated with following up overdue accounts were already recovered through overheads and therefore decided not to set a late payment fee for Sydney Water. This view was supported by PIAC in its response to the Tribunal's draft determination.

Sydney Water sought further amendments to its schedule as part of its response to the draft determination. It has submitted a current charge for civil maintenance that was omitted in its previous submissions. It has also proposed increases for the following Trade Waste miscellaneous charges for industrial and commercial trade waste inspections:

- with one Sydney Water representative (increase from \$60 to \$68.70)
- with two Sydney Water representatives (increase from \$120 to \$137.40)
- minimum increment from \$30 to \$34.35.

The Tribunal has accepted the charge for civil maintenance as it is an existing charge. However, it has decided to not accept the increases to the Trade Waste miscellaneous charges as its consultants had found the original charges to be reasonable.

A detailed list of the maximum prices Sydney Water can charge customers for miscellaneous services can be found in schedule 4 of the attached determination.

## 9.4.7 Minor service extension charges

The Tribunal's decision is to set minor service extension charges based on the methodology set out in the 2003 determination.

In the 2003 determination, the Tribunal approved an approach for the recovery of costs associated with minor service extensions. However, there was an inconsistency between the final report and the actual determination.

The final report approved a charging arrangement proposed by Sydney Water which divided the cost of the network extension by the number of equivalent domestic properties potentially served by it, then deducted the current value of future regular sewerage charges that will be paid by the connected customers. Customers were required to pay the resulting amount on connection (whenever this occurs). This charge was to be adjusted annually by the movement in the CPI. However, the actual determination reflected an approach more aligned with the developer charges methodology, which effectively increases the charge by adjusting the number of lots to reflect timing of connection.

Sydney Water has adopted the formula as stated in the actual determination. The Tribunal considers this is the more appropriate methodology for determining minor service extension charges. Therefore, its decision is that it continue to be used to set minor service extension charges during the 2005 determination period.

## 9.4.8 Tariff rationalisation

Sydney Water has proposed to simplify a number of its current tariffs to reduce administration costs and streamline the billing process. These changes relate to:

- meter-size-based service charges for residential properties
- exempt charges
- Blue Mountains Septic Pump out charges
- sewer service charges for customers required to pump effluent to the sewer for environmental reasons
- area-based river management charges for drainage services within Rouse Hill development area
- sewerage charges for unmetered non-residential properties based on equivalent water usage
- incentives for installing low pressure sewerage systems.

The Tribunal's decisions on these charges are discussed below.

#### Meter-size-based service charges for residential properties

#### The Tribunal's decision is not to approve Sydney Water's proposed change.

Water service charges for commercial, industrial and multiple dwelling buildings (units and flats) are based on the size of the water meter serving the property. However, houses are charged the water service charge for a standard 20mm meter, regardless of the size of the actual meter. Sydney Water estimates that around 2 per cent of houses (23,500 properties) have meters larger than 20mm and has proposed to charge houses based on meter size. Sydney Water has stated it will replace the meters to 20mm meters free of charge if customers do not want to pay the higher charges.

The Tribunal notes that its decision in relation to the structure of water prices has placed more emphasis on volume-based water usage charges. Customers who use more water because of a larger meter will be charged more through the increased usage charges. Therefore, the Tribunal does not consider it appropriate to further increase these customers fixed charges.

#### Exempt charges

The Tribunal notes that its approval is not required to modify the charging arrangements for council and other park owners, as long as the proposed charges do not exceed the maximum prices set through the 2005 determination.

Exempt properties currently benefit from a discount for water and sewer services. They are granted exemptions through legislation. Sydney Water has proposed to modify the charging arrangements for council and other park owners. It is seeking amendment to the legislation to enable charges for metered parks to be brought in line with charges for State Government or privately owned parks.

#### Blue Mountain Septic pump out charges

The Tribunal's decision is to accept Sydney Water's proposal to restructure charges for Blue Mountains septic pump out customers, and to require such customers who have access to the reticulated system to directly contract with the private pump out service providers. However, Sydney Water is to provide these customers two-years notice of the new requirement to directly contract with the private pump out service provider.

Sydney Water currently provides septic pump out services for approximately 680 customers in the Blue Mountains. Around 90 of those customers have access to a reticulated sewage service but have not connected to it.

The cost of providing the pump out service is recovered through a subsidised charge regulated by the Tribunal. The charge includes a fixed annual charge of \$400.83 and a three-tiered usage charge based on how much effluent the customer generates:

- Tier 1 (0-80kL per annum): \$0/kL
- Tier 2 (81-100kL per annum): \$9.11/kL
- Tier 3 (more than 100kL per annum): \$18.22/kL.

The charge currently recovers approximately 33 per cent of the cost of the service provision. The balance is funded through a Government Community Service Obligation payment.

Sydney Water would like to reform the current charging arrangements to:

- make the CSO rebate more transparent
- encourage connection to infrastructure if it is available
- lessen the incentive for illegal discharge which has environmental impacts.

It proposed that customers who have access to reticulated services pay the economic price for pump out services by directly contracting with a private operator for the provision of this service. The intent is that this would provide a better signal for those customers to connect to the network and would be consistent with charges imposed by other councils.

For those customers who do not have access to a reticulated system, Sydney Water proposed to continue to charge them a subsidised charge, but to restructure that charge by:

- increasing the fixed charge to \$512.50 per annum
- removing the Tier 2 charge

• decreasing the Tier 3 charge from \$18.22 to \$12.30 per kL.

The Tribunal supports this proposal as it should lead to a better environmental outcome in the catchment area. However, it is conscious that the increase in charges for customers who are able to connect to the reticulated system is significant. Therefore, it has determined that Sydney Water must give these customers two-years notice of the new requirement to contract directly with the pump out service provider. This will give them time to connect to the system if they wish to avoid the additional cost that this will involve. The Tribunal also notes that customers who suffer from financial hardship and who may be impacted by this decision are eligible for assistance to finance the connection costs through Sydney Water's social programs.

#### Sewer service charges for customers required to pump effluent

The Tribunal notes that Sydney Water does not require its approval to reduce the subsidy for customers required to pump effluent, as the proposed sewer service charge for these customers is below the maximum prices set through the 2005 determination.

Prior to 1998, all customers who were required to pump effluent to the sewer for environmental reasons paid sewer service charges at a discounted rate of 50 per cent of normal charges. In 1998, Sydney Water implemented a policy whereby those customers who paid this discounted rate could continue to pay this rate until they were further advised or until the property was sold. Currently, 310 customers still pay the discounted rate, which is approximately \$170 per annum.

Sydney Water proposed to remove this discount over two years by reducing the subsidy to 25 per cent of the full sewer service charge in the first year, and removing it completely in the second year.

The Tribunal notes that the proposed changes will allow consistency in charges and reduce the administration cost to Sydney Water. However, it also notes that the resulting charges will not exceed the maximum sewer service charge it has determined for the 2005 determination period. Therefore, Sydney Water does not require the Tribunal's approval to make these changes.

#### Equivalent Water usage for unmetered non-residential properties

## The Tribunal's decision is to accept Sydney Water's proposal for equivalent water usage for unmetered non-residential properties.

Approximately 4,500 of Sydney Water's business customers are unmetered. For the most part, these customers are small shops and offices. Although they pay a water service (fixed) charge equivalent to a 20mm meter, they do not pay for consumption. Sydney Water proposed to:

- Undertake an inspection program to assess the viability of metering some additional unmetered business properties, and installing a meter free of charge if it is justified on financial grounds.
- Introduce an equivalent unmetered water usage charge similar to that for residential customers, but set at 120kL per annum. This is half the amount of the equivalent charge for residential customers and roughly equivalent to the water usage of a small office.

The Tribunal's decision is to accept Sydney Water's proposal on the basis that it is consistent with the approach taken for residential properties and is also consistent with its intention to move towards more volume-based charging.

#### Low Pressure Sewerage Systems

## The Tribunal notes that Sydney Water does not require its approval to implement its proposed approach to meet its responsibility under the Priority Sewerage Program.

As part of the Priority Sewerage Program, Sydney Water has implemented Low Pressure Sewerage Systems (LPSS) where topography, geology or environmental sensitivities make the provision of gravity-based systems uneconomical.

To encourage customers in these areas to connect to the system, Sydney Water proposes to pay for the costs of supplying and installing the LPSS equipment and pipework for up to two years after the reticulation system becomes available. After this time, Sydney Water will provide the equipment for the LPSS free of charge, but the customer will be required to pay for installation. Sydney Water will pay all ongoing operating and maintenance costs association with the LPSS, other than the energy cost associated with the pump, estimated at approximately \$14.50 per annum. Customers will also be required to pay the standard connection fee and annual sewer service charge as determined by the Tribunal. In contrast, where gravity-based systems are installed, customers are required to pay all connection and infrastructure costs to connect their property to the network.

Sydney Water has sought the Tribunal's endorsement of the implementation of LPSS. In its draft report the Tribunal indicated that it considered that the LPSS approach and the costs associated with this approach were reasonable.

Following the release of its draft report the Tribunal received representations from the Belimba Park Residents Action Group about the LPSS being installed in their area. The Action Group has raised objections to the use of an LPSS in their area (and the energy costs associated with pumping), preferring a gravity sewerage system. They also sought a discount on sewerage service charges if a LPSS were installed.

As mentioned in the Tribunal's draft report it is not the Tribunal's responsibility to endorse any particular approach or technology that Sydney Water adopts to meet its responsibility under the Priority Sewerage Program. The Tribunal considers it sufficient that the Sydney Water Operating Licence provides guidance for the agency by stating that it should incorporate the principle of least cost technology when meeting its requirements under this program.

As mentioned previously Sydney Water is phasing out discounts where residents are required to pump to a sewer elsewhere on the sewer network. In the face of this, it would be inappropriate to introduce further discounts.

## 9.5 Decision on prices to be charged by Hunter Water

The Tribunal's decision is to use a P-nought adjustment and glide path approach to set prices for Hunter Water for the 2005 determination period. It considers that this approach should result in prices that achieve an appropriate balance between the Section 15 factors. In particular, the P-nought adjustment in 2005/06 will allow prices (and therefore expected revenue) to increase more sharply in this year, to reflect the step up in Hunter Water's revenue requirement. The glide path approach over the remaining years will allow average prices to increase in a stable and predictable way, and also result in final-year prices that are expected to generate actual revenue equal to the agency's notional revenue requirement for that year.

The Tribunal's decision delivers average price increases that are higher than those proposed by Hunter Water. In aggregate, the cumulative effect of the Tribunal's decision is for an increase of 15.8 per cent above the movement in the CPI (real increase) over the price path, compared to the annual 3.4<sup>80</sup> per cent increase in all charges Hunter Water proposed.

## 9.5.1 Water charges

Hunter Water's residential and non-residential customers pay for their water services through two charges: a fixed service charge and a variable usage charge that depends on the volume of water they use. Currently Hunter Water has a declining block tariff structure, which means that the average price for water decreases as consumption increases above a certain threshold:

- residential and small non-residential customers who use less than 1,000kL per annum are charged the Tier 1 water usage charge
- residential and small non-residential customers who use more than 1,000kL per annum are charged a lower Tier 2 charge for consumption greater than this amount
- large industrial customers who use more than 50,000kL per annum are charged a location-based Tier 3 usage charge for consumption greater than this amount.<sup>81</sup>

Customers who receive untreated water are also charged a discounted water usage rate.

#### Water charges for residential customers and small non-residential customers

The Tribunal's decision is that Hunter Water can charge residential customers and small non-residential customers the maximum water service and usage charges shown in Table 9.10.

<sup>&</sup>lt;sup>80</sup> This is based on the Tribunal's calculation of prices based on the costs in Hunter Water's supplementary submission plus the costs provided by Hunter Water in June 2005. A rate of return of 5.7 per cent was used, based on information provided in Hunter Water's supplementary submission.

<sup>&</sup>lt;sup>81</sup> Location-based charges reflect the costs of servicing very large customers. Customers pay whichever charge is lower of the location-based charge and the usage charges for other customers.

	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Usage charge - Tier 1 (\$ per kL)	1.01	1.09	1.11 x (1+∆CPI₁)	1.13 x (1+∆CPl₂)	1.16x (1+∆CPl₃)
Usage charge - Tier 2 (\$ per kL)	0.93	1.03	1.07 x (1+∆CPI₁)	1.11 x (1+∆CPl₂)	1.16 x (1+∆CPl₃)
Service charge (\$ per annum) <sup>1</sup>	25.37 <sup>2</sup>	30.14	34.07 x (1+∆CPI₁)	35.97 x (1+∆CPl₂)	37.93 x (1+∆CPl₃)

## Table 9.10 Hunter Water's water charges for residential and small non-residentialcustomers (Dollars of the day)

Where:

(1+ΔCPI<sub>1</sub>) Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Note:

 The service charge for customers with a meter larger than 20mm is calculated by multiplying this charge by a "meter equivalent ratio". Meter equivalent ratios are calculated using the formula (meter size)<sup>2</sup> / 400. A list of meter sizes and the corresponding meter equivalent ratios is in Table 7 of the Determination.

2. All of Hunter Water's service charges in this report represent the price that will be charged for a full financial year. Service charges for 2005/06 reflect the fact that one third of the period is charged at the 2004/05 price with the balance of the year attracting a higher charge covering the period from 1 November 2005 to 30 June 2006. The legal price determination for Hunter Water sets out the service charges from 1 November 2005 to 30 June 2006.

These charges reflect the Tribunal's decision to accept Hunter Water's proposal to phase out the lower Tier 2 usage charge over the determination period by increasing this charge at a greater rate than the Tier 1 usage charge. The detailed price movements have been determined to achieve an appropriate balance between the revenue recovered through water charges and customer impacts.

The Tribunal notes that Hunter Water set out a detailed pricing proposal in its initial submission. This proposal included increasing the Tier 1 usage charge by CPI+2.25% in each year of the determination period, and increasing the water service charge by an average of CPI+7% in each year. Hunter Water's supplementary submission proposed higher operating and capital expenditure, as well as a higher rate of return than its initial submission. The information provided by Hunter Water in June 2005 proposed further increases in capital expenditure over the price path. Applying these increases across the services in the same way that Hunter Water proposed would have resulted in the Tier 1 usage charge increasing by 2.5 per cent each year and the water service charge increasing by an average of 8.9 per cent in each year of the determination period.

The Tribunal's decision involves a different pattern of increases. For the Tier 1 usage price, it involves an increase of CPI+5.6% in 2005/06, and an increase of CPI+1.9% in the remaining years. For the Tier 2 usage price, it involves an increase of CPI+7.9% in 2005/06, and an increase of CPI+4.0% in the remaining years. For the annual water service charge, it involves an increase of CPI+25% in 2005/06 and CPI+5.6% in the remaining years.

#### Water charges for large customers

The Tribunal's decision is that Hunter Water can charge Tier 3 customers the maximum water charges shown in Table 9.11.

	_				
	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Kooragang / Stockton (\$ per kL)	0.802	0.868	0.884 x (1+∆CPI₁)	0.901 x (1+∆CPl₂)	0.918 x (1+∆CPI <sub>3</sub> )
Tomago (\$ per kL)	0.839	0.908	0.925 x (1+∆CPI₁)	0.942 x (1+∆CPl₂)	0.960 x (1+∆CPl₃)
South Wallsend (\$ per kL)	0.807	0.874	0.890 x (1+∆CPI₁)	0.907 x (1+∆CPl₂)	0.924 x (1+∆CPl <sub>3</sub> )
Warner's Bay/Valentine (\$ per kL)	0.839	0.908	0.925 x (1+∆CPI₁)	0.942 x (1+∆CPl₂)	0.960 x (1+∆CPI <sub>3</sub> )
Seaham Hexham (\$ per kL)	0.872	0.944	0.962 x (1+∆CPI₁)	0.980 x (1+∆CPl₂)	0.998 x (1+∆CPl₃)
Newcastle Highfields (\$ per kL)	) 0.882	0.955	0.973 x (1+∆CPI₁)	0.991 x (1+∆CPl₂)	1.010 x (1+∆CPI₃)
Raymond Terrace (\$ per kL)	0.896	0.970	0.988 x (1+∆CPI₁)	1.007 x (1+∆CPl₂)	1.026 x (1+∆CPI₃)
Port Stephens (\$ per kL)	0.899	0.973	0.991 x (1+∆CPI₁)	1.010 x (1+∆CPl₂)	1.029 x (1+∆CPl₃)
Kurri Cessnock (\$ per kL)	0.902	0.977	0.995 x (1+∆CPI₁)	1.014 x (1+∆CPl₂)	1.033 x (1+∆CPl₃)
Lookout (\$ per kL)	0.901	0.975	0.993 x (1+∆CPI₁)	1.012 x (1+∆CPl₂)	1.031 x (1+∆CPl₃)
Edgeworth West Wallsend (\$ per kL)	0.925	1.001	1.020 x (1+∆CPI₁)	1.039 x (1+∆CPl₂)	1.058 x (1+∆CPI₃)
All other locations (Tier 2 price) (\$ per kL)	0.930	1.030	1.070 x (1+∆CPI₁)	1.110 x (1+∆CPl₂)	1.160 x (1+∆CPI₃)

Table 9.11	Hunter Water's current	and Tribunal	determined Tier	3 water usage
	charges	(Dollars of the	e day)	_

Where:

(1+ΔCPI<sub>1</sub>) Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Tier 3 prices are location based water usage charges for industrial customers for their consumption above 50,000kL/year.

Industrial customers who consume more than 50,000kL per annum and who are located in specific 'zones' are charged Tier 3 water usage prices. Tier 3 prices are lower than Tier 1 and Tier 2 prices where the Tier 3 zones are located closer to the source of supply and therefore have lower supply costs. The Tier 3 prices are calculated using Hunter Water's model of supply assets in each zone.

The Tribunal's decision is to apply the same increases to Tier 3 prices as to Tier 1 usage charges, in line with Hunter Water's proposal. This should help to ensure that these prices remain cost reflective and the relative demand signal is maintained.

#### Water charges for Dungog Council

The Tribunal's decision is that Hunter Water can charge Dungog Council the maximum water charges shown in Table 9.12.

Duligoy Coulici (Dollars of the day)								
	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009			
Usage charge - Tier 1 (\$ per kL)	1.01	1.09	1.11 x (1+∆CPI₁)	1.13 x (1+∆CPl₂)	1.16 x (1+∆CPI₃)			
Usage charge - Tier 2 (\$ per kL)	0.93	1.03	1.07 x (1+∆CPI₁)	1.11 x (1+∆CPl₂)	1.16 x (1+∆CPI₃)			
Usage charge – Tier 3 (\$ per kL)	0.55	0.59	0.60 x (1+∆CPI₁)	0.62 x (1+∆CPl₂)	0.63 (1+∆CPI <sub>3</sub> )			
W/horror								

#### Table 9.12 Hunter Water's current and Tribunal determined water charges for U/Dellere of the

Where:

Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters  $(1+\Delta CPI_1)$ ending 31 March 2005.

 $(1+\Delta CPI_2)$ Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

 $(1+\Delta CPI_3)$ Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

\* Dungog has 4 water connections: an 80mm, 2 x 100mm and a 200mm pipe diameter.

Hunter Water supplies Dungog Shire Council with bulk water. The supply arrangement includes Tier 1, Tier 2 and Tier 3 usage charges is set on the same basis as for Hunter Water's other customers. In its initial submission to the price review, Hunter Water proposed that the Tier 1 and Tier 2 water usage charges for Dungog Council should continue to be equal to the prices charged for other customers, and that Tier 3 usage charges be increased by 2.25 per cent per annum (real).

The Tribunal's decision is to set maximum Tier 1 and Tier 2 water usage prices for Dungog Council so they are equal to those prices for other customers (see water charges for residential customers and small non-residential customers, above). Its decision is to apply the same increases to Tier 3 water usage prices as it has to Tier 1 water usage charges, in line with its decision on Tier 3 prices for other customers (see water charges for large industrial customers, above). These decisions will maintain equity across all customers.

#### Unfiltered water charges

The Tribunal's decision is to set water usage charges for raw water customers so they incorporate a minimum discount of 30 cents per kilolitre compared to water usage charges for other customers.

Hunter Water currently has around 60 unfiltered water customers, most of whom are rural landowners who use raw water for domestic and livestock purposes. The Tribunal accepts that there is a lower cost of supplying untreated water and that this should be reflected in a lower price for the water. At the last determination, it set a discount of 7 cents per kilolitre (in dollars of the day) on the usage price for this water.

Hunter Water initially proposed that this discount be maintained at the current level, as there has been no significant change in the cost of treating water. In its draft determination, the Tribunal's accepted Hunter Water's proposal.

At the time of the Tribunal's draft determination, Hunter Water engaged in consultation with unfiltered water customers about the proposed level of the discount. Hunter Water has since informed the Tribunal that consultation and further modelling has resulted in a preferred discount of 30 cents per kilolitre, calculated using the location-based pricing model. Hunter Water submitted the preferred discount in its response to the draft determination. The Tribunal has accepted the preferred discount of 30 cents per kilolitre for unfiltered water customers that do not use the distribution system as it believes this price better reflects the fact that the water is not filtered and does not pass through the water distribution system.

#### Water sales to Gosford Council and Wyong Council

The Tribunal's finding is that Hunter Water can, with the concurrence of the NSW Treasurer, supply water to Gosford Council and Wyong Council at a price negotiated between the parties that is lower than the potable water prices set by the Tribunal.

Hunter Water has the capacity to transfer water to Gosford Council and Wyong Council to supplement their water supply if necessary. Since June 2004, Hunter Water has sold around 6,000 kilolitres per day to the Councils to ensure adequate water supplies on the Central Coast during the current drought. This water has been charged at the standard Tier 1 and Tier 2 usage charges. As part of their drought management strategy, the Councils have proposed that a pipeline be built to transfer larger volumes from Hunter Water in the future.

Hunter Water initially proposed to continue to charge Gosford and Wyong Councils these prices for water during the 2005 determination period. It noted that although the volume of water supplied to the Councils is sufficient to qualify for a Tier 3 price, the Councils' location means this price would be higher than the Tier 1 price. This is because the Councils are at the end of the water distribution system and the cost of transferring water to the Central Coast connection is high.

The review of operating and capital expenditure undertaken by Atkins/Cardno in 2004 concluded that purchasing water from Hunter Water was a cost-effective drought management measure for Gosford and Wyong Councils. It recommended that the Councils consider increasing water transfers from Hunter Water in preference to building a desalination plant.

Since the Tribunal's draft determination, Hunter Water has determined that there may be some drought management benefit to it from sharing water with the Councils. It also believes that the proposed transfer pipeline will be used to supply new developments in Hunter Water's operating area. Therefore, Hunter Water has offered a lower price to the Councils. Hunter Water has not sought to include the capital expenditure for the new pipeline or any adjustment to revenue to reflect the higher water sales at the lower price.

The Tribunal notes that Hunter Water can charge a lower price than the price determined by the Tribunal with the consent of the NSW Treasurer. The Tribunal would have no objection to Hunter Water charging a lower price provided the water agencies can agree on that lower price. The Tribunal will review the commercial charging arrangements for the Gosford and Wyong Councils at the next price review.

## 9.5.2 Wastewater charges

Residential and non-residential customers are charged for wastewater services on the basis of a fixed annual service charge and a variable usage charge that depends on the volume of water they use. A minimum wastewater service charge also applies to residential customers who live in flats or units. A separate wastewater usage charge applies to residential customers whose land is connected to the sewer but not to the water main.

In areas where Hunter Water provides a backlog sewer program, all residential and nonresidential customers<sup>82</sup> are charged an Environment Improvement Charge. If they own vacant land in these backlog areas and choose to develop this land, they are also charged a Sewer Service Access Charge upon connection.

<sup>&</sup>lt;sup>82</sup> Including customers in backlog sewer areas and vacant lands that will have access to the sewer system in the future.

#### Wastewater charges for residential and non-residential customers

The Tribunal's decision is that Hunter Water can apply the maximum wastewater usage and service charges shown in Table 9.13.

Table 9.13	Hunter	Water's	current an	d Tribuna	determined	wastewater of	charges
			(Dollar:	s of the da	ay)		

	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Residential wastewater service charge for single premises properties with a 20mm meter (\$/year)	239.35	260.06	276.12 x (1+∆CPI₁)	284.88 x (1+∆CPl₂)	293.84 x (1+∆CPl₃)
All other residential and non-residential wastewater service charge with a 20mm meter (\$/year) <sup>1, 2</sup>	478.70	520.13	552.24 x (1+∆CPI₁)	569.76 x (1+∆CPl₂)	587.68 x (1+∆CPl₃)
Wastewater usage charge (\$/kL)	0.42	0.43	0.43 x (1+∆CPI₁)	0.43 x (1+∆CPI₂)	0.43 x (1+∆CPI <sub>3</sub> )

Where:

(1+ΔCPI<sub>1</sub>) Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

Notes:

1. For all other residential customers a 50 per cent discharge factor is applied to the service and usage charges. For non-residential customers a variable discharge factor is applied to the service and usage charges, depending on the type of business.

The service charge for customers with a meter larger than 20mm is calculated by multiplying this charge by a "meter equivalent ratio". Meter equivalent ratios are calculated using the formula (meter size)<sup>2</sup> / 400. A list of meter sizes and the corresponding meter equivalent ratios is in Table 7 of the Determination.

Hunter Water currently charges residential and non-residential customers a fixed wastewater service charge and a variable wastewater usage charge based on their metered water usage. Hunter Water proposed to maintain the wastewater usage charge in real terms to continue to send a conservation signal while managing community concern about this charge. It proposed to increase the wastewater service charge to achieve the revenue requirement for this service.

It is the Tribunal's view that a two-part tariff for wastewater is not the most effective demand management tool. Although it is a de facto water usage charge, it is not clear whether this is well understood by customers.<sup>83</sup> However, the Tribunal also recognises the importance of maintaining the signal to customers about the need to conserve water at this time. Therefore, its decision is to hold the wastewater usage charge steady in real terms to maintain the conservation signal, in line with Hunter Water's proposal. Its decision in relation to the wastewater service charge is to increase this charge by CPI+9.6% in 2005/06,

<sup>(1+</sup>ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

<sup>&</sup>lt;sup>83</sup> Although Hunter Water's bills do specify both the water usage and wastewater usage charges, this is outlined on the reverse of the bill.

and CPI+3.2% in each of the remaining years to ensure that Hunter Water recovers its required revenue for wastewater services.

#### Minimum service charge for residential flats and units

The Tribunal's decision is to increase the minimum wastewater service charge for residential flats and units by \$20 per annum in nominal terms, so that this charge is approximately two-thirds of the wastewater service charge for single residential dwellings by 2008/09, as set out in Table 9.14.

As part of transitioning to cost reflective charges, individual customer increases are to be limited to \$20 per annum in nominal terms.

Table 9.14 Hunter Water's current and Tribunal determined minimum service charge

for residential flats and units for wastewater services (Dollars of the day)								
	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009			
Minimum service charge for flats and units (\$/year)	120.00	134.29	156.10 x (1+∆CPI₁)	171.33 x (1+∆CPl₂)	185.72 x (1+∆CPl₃)			
Where: (1+ $\Delta$ CPI <sub>1</sub> ) Is the mo ending 31	vement in the CP March 2005.	I between the fo	our quarters ending	31 March 2006 and	the four quarters			

 $(1+\Delta CPI_2)$  Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

 $(1+\Delta CPI_3)$  Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Hunter Water currently charges residential flats and units a minimum wastewater service charge. This charge was introduced in the 2000 determination,<sup>84</sup> to ensure greater equity in wastewater charges between customers in single dwelling properties and residents in flats and units.<sup>85</sup> Therefore, if a premises' proportionate share of the service charge applying to the multi-premises property is less than the minimum charge, the owners of the premises would be required to pay the minimum charge.<sup>86</sup>

In the last determination, the Tribunal increased the minimum wastewater service charge by \$20 per annum in each year, in line with Hunter Water's proposal.<sup>87</sup> In its submission to the current price review, Hunter Water proposed that the minimum service charge continue to increase by \$20 each year until it is equivalent to two-thirds of the wastewater service charge that applies to separate residential dwellings.

<sup>&</sup>lt;sup>84</sup> Customers in flats and units pay the wastewater usage charge in addition to the minimum wastewater service charge.

<sup>&</sup>lt;sup>85</sup> Residents in units and flats pay a lower wastewater service charge compared to single dwelling properties, even though they place a similar load on the sewer system. This is because their service charge is generally calculated as a proportionate share of the total service charge applying to the block.

<sup>&</sup>lt;sup>86</sup> For strata units, the proportionate share is calculated based on the service charge applied to the water connection for the entire multi-dwelling property, divided by the number of units in the property.

<sup>&</sup>lt;sup>87</sup> Hunter Water also proposes that the total sewer service charge for each unit and flat must not increase by more than \$20 each year (in nominal dollars).

The Tribunal considers that this proposal, and the objective of achieving a charge that is equivalent to two-thirds of the residential wastewater service charge for single dwelling properties, is reasonable. Its decision is therefore to accept Hunter Water's proposal and to increase the minimum wastewater service charge for residential flats or units by \$20 (nominal) in each year of the determination period. Taking account of the Tribunal's decision on the residential wastewater service charge for other customers, this will result in a minimum wastewater service charge of around \$200 (including estimated inflation) in 2008/09.

In its response to the Tribunal's draft determination, Hunter Water reminded the Tribunal that about 500 residential flat and unit customers are not currently paying cost reflective wastewater service charges. Further, the 2000 determination had provided for a transition to cost reflective pricing for these customers by capping individual increases at \$20 per annum in nominal terms. Hunter Water sought the same transition in the 2005 determination period, which is estimated to result in all flats and home units paying the minimum charge by 2010/11. The Tribunal agrees that the price increases should be transitioned for the 500 customers and accepts Hunter Water's proposal to cap increases at \$20 per year in nominal terms for each customer.

#### Wastewater usage charge for customers with no water connections

The Tribunal's decision is to maintain the notional wastewater usage charge for sewer only customers at \$20 per annum (in real terms), resulting in the total wastewater service charge shown in Table 9.15.

	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Wastewater service charge for houses not connected to the water system (\$ per annum)	259.35	280.56	296.62 x (1+∆CPI₁)	305.38 x (1+∆CPI₂)	314.34 x (1+∆CPI₃)
Where:					

 
 Table 9.15 Hunter Water's current and Tribunal determined wastewater service charge for sewer only residential customers (Dollars of the day)

(1+ΔCPI<sub>1</sub>) Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

 $(1+\Delta CPI_3)$  Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

Based on 20mm wastewater service connection.

Hunter Water provides sewerage-only services to around 50 customers. These customers receive water from alternative sources such as rainwater tanks. They do not receive a wastewater usage bill as there is no metered water usage on which to base the wastewater usage charge.

In its submission to the last price review, Hunter Water proposed to charge these customers a new 'sewer only' fixed service charge based on the normal residential fixed wastewater service charge plus a notional usage amount equivalent to the sewer usage bill that would be paid by a typical household using 210 kilolitres of water per year. In its last determination, the Tribunal determined that in the absence of specific evidence to support the assumption that sewer-only customers would use the same amount of water as typical customers, the notional usage charge should be limited to \$20 per year. The Tribunal was concerned that households who rely on tank water may use considerably less than households connected to a water main. The Tribunal intended to consider these charges when setting prices for the 2005 determination period if further evidence was provided by Hunter Water of the load placed on the sewer system by these customers.

Hunter Water's submission to the current price review claimed that it is not cost effective to collect the evidence sought by the Tribunal for the small number of customers involved. Hunter Water therefore proposed to continue the \$20 per year notional usage component for the 2005 determination period.

The Tribunal's decision is to accept Hunter Water's proposal and to maintain the notional sewer usage charge for sewer-only customers at \$20 per year. While this may be conservative, in the absence of more detailed analysis, there is no evidence upon which to increase the charge. The Tribunal accepts Hunter Water's argument that undertaking metering for this number of customers would not be cost-effective.

#### Backlog sewer program

The Tribunal's decision is to increase the Sewer Service Access Charge and the Environment Improvement Charge in line with the consumer price index as shown in Table 9.16.

	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Environment Improvement Charge (\$ per annum)	48.95	50.16	50.17 x (1+∆CPI₁)	50.17 x (1+∆CPl₂)	50.17 x (1+∆CPI <sub>3</sub> )
Sewer Service Access Charge (\$ per annum) *	\$3,107.00	3,184.68	3,184.68 x (1+∆CPI₁)	3,184.68 x (1+∆CPl₂)	3,184.68 x (1+∆CPl₃)

 Table 9.16 Hunter Water's current and Tribunal determined Environment Improvement

 Charge and Sewer Service Access Charge (Dollars of the day)

Where:  $(1 + \Lambda CPI_1)$  Is the movement in

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

The SSAC only applies to backlog sewerage areas defined under the Hunter Sewerage Project. It is a once-off charge paid upon connection to the sewerage system.

Hunter Water provides a backlog sewer program (known as the Hunter Sewerage Project) to fringe areas in its area of operations. Under this program, the capital costs are shared between the State Government, the owners of the unsewered property in the relevant area (who pay a Sewer Service Access Charge upon connection) and the community in this area (through an annual Environmental Improvement Charge). The Environmental Improvement Charge is currently \$48.95 per year and the Sewer Service Access Charge is currently \$3,107.

Hunter Water proposed that both these charges be maintained in real terms for each year of the determination period. It noted that this would allow a return on the project of 4 per cent as deemed appropriate by the Tribunal in previous determinations.

The Environmental Improvement Charge is scheduled to continue until 2009 for most customers (the 20-year period of the charge will extend beyond 2009 for a small number of areas that were added to the approved Hunter Sewerage Project service area after 1989).

Hunter Water notes that from 2009 new arrangements will be introduced in keeping with the Government's August 2003 decisions on funding for the most recent projects included in the Priority Sewerage Program. These projects are to provide backlog sewer services to the small towns of Kitchener, Ellalong, Millfield and Lochinvar. Funding arrangements for these projects entail extending the Environmental Improvement Charge to 2018/19 at a rate of \$24 (in 2003 \$ terms). However, these new Priority Sewerage Program funding arrangements do not include provision for Fern Bay, because work to provide sewer services in this area is already underway and funding for this work is included in the existing Environmental Improvement Charge (a \$4 increase was approved by the Tribunal in the last price determination).

The Tribunal's decision is to accept Hunter Water's proposals in relation to the Environmental Improvement Charge and Sewer Service Access Charge. These charges represent a simple and transparent way of sharing the costs of backlog projects and signalling that local communities must bear some financial responsibility for service improvement and environmental initiatives.

However, the Tribunal notes that if the Environmental Improvement Charge is discontinued in 2009 as planned, there may be difficulties in funding projects during the next determination period, if additional backlog sewer projects are included under the Priority Sewerage Program. If this occurs, it will consider the best options for recovering the costs of additional sewer projects during the 2009 price review, taking into account the transparency benefits of continuing to use the Environmental Improvement Charge and the potential customer impacts of doing so. One option is to include the capital costs of the projects in the Regulatory Asset Base and recover these costs over the life of the asset (generally 20 to 30 years) through the general water and sewerage charges. This would help spread the costs over a longer period of time and reduce the impact on customers' bills.

## 9.5.3 Stormwater drainage charges

The Tribunal's decision is to restructure stormwater drainage charges to progressively phase out charges based on the property value by 2008/09, and introduce stormwater drainage service charges based on property size as set out in Table 9.17.

\$ per annum	Current (1 July 2004 to 30 June 2005)	1 July 2005 to 30 June 2006	1 July 2006 to 30 June 2007	1 July 2007 to 30 June 2008	1 July 2008 to 30 June 2009
Residential, Small non- residential (<1000 m <sup>2</sup> ) and low impact*	42.31	43.35	47.67 x (1+∆CPI₁)	51.98 x (1+∆CPl₂)	56.29 x (1+∆CPI3₃)
Medium non-residential (1,001 to 10,000 m <sup>2</sup> )	n/a	43.35	62.82 x (1+∆CPI₁)	82.28 x (1+∆CPl₂)	101.73 x (1+∆CPI3 <sub>3</sub> )
Large non-residential (10,001 to 45,000 m <sup>2</sup> )	n/a	43.35	244.61 x (1+∆CPI₁)	445.85 x (1+∆CPl₂)	647.08 x (1+∆CPI3 <sub>3</sub> )
Very large non- residential (>45,000 <sup>m2</sup> )	n/a	43.35	714.21 x (1+∆CPI₁)	1385.06 x (1+∆CPl₂)	2055.91 x (1+∆CPI3 <sub>3</sub> )
Property value based charge (\$/\$AAV)	1.25	1.25	0.96 x (1+∆CPI₁)	0.64 x (1+∆CPl₂)	0.32 x (1+∆CPI3 <sub>3</sub> )

## Table 9.17 Hunter Water's current and Tribunal determined stormwater drainage charges (Dollars of the day)

Where:

 $(1+\Delta CPI_1)$  Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>2</sub>) Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005.

(1+ΔCPI<sub>3</sub>) Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005.

\* Low impact customers are often large, non-residential properties, which have a low impermeable surface and therefore place negligible demand on the stormwater system.

Hunter Water levies stormwater drainage charges where it owns and operates stormwater drains. Residential and non-residential customers are currently charged a fixed service charge. Some non-residential customers are also charged an additional tariff based on the value of their property.

Currently, property-value-based charges are levied on non-residential stormwater customers whose properties were developed before March 1991, and are calculated based on the assessed annual value (AAV) of the property. This has resulted in some anomalies, with non-residential stormwater customers with similar characteristics paying significantly different amounts, depending on whether they joined the system before or after 1991.

In line with the water pricing principles agreed to by the Council of Australian Governments (COAG), the Tribunal has been phasing out property-value-based charges within the Hunter Water region. Its decision is to phase out these charges completely over the 2005 determination period, and to introduce a new pricing structure for stormwater drainage charges that compensates Hunter Water for lost revenue due to the removal of property-value-based charges and better reflects its costs in providing stormwater drainage services.

Under the new pricing structure, stormwater drainage charges are linked to property size (as a proxy for stormwater runoff) using a factor that is a multiple of the base charge. The factor was established using the median of actual property sizes in each category. The Tribunal believes that this new pricing structure will result in more equitable and cost-reflective prices that are consistent with COAG's pricing principles.

In its draft determination, the Tribunal assumed that the new price structure would be effective from 1 November 2005. However, in its response to the Tribunal's draft determination, Hunter Water advised the Tribunal that the structural changes require implementation of its new customer billing system. Therefore, Hunter Water requested that the new pricing structure be made effective from 1 July 2006. The Tribunal has accepted Hunter Water's proposed implementation date of 1 July 2006.

The stormwater charges approved by the Tribunal incorporate a mechanism to protect customers from price shocks by smoothing the increase in bills during the transition to the new price structure.

### 9.5.4 Trade waste charges

## The Tribunal's decision is to accept Hunter Water's proposed trade waste charges for 2005/06 and to adjust for movement in the CPI over the 2005 determination period.

In its submission, Hunter Water proposed changes to its trade waste charging arrangements and price levels. It argued that these changes reflect changes in the costs associated with treating trade waste as well as a repackaging of the way administrative costs are recovered to better reflect service delivery.

For the current determination, the Tribunal engaged GHD Ltd to review water agencies' trade waste submissions and advise the Tribunal on their reasonableness. Overall, the consultant concluded that "the policy and charges regime for trade waste proposed by Hunter Water is reasonable and of the right order of magnitude".<sup>88</sup> It noted that Hunter Water has substantiated its proposed increases by providing a detailed explanation of current and forecast wastewater treatment costs. In addition, it noted that Hunter Water has demonstrated a high level of analysis to justify the differences in charges between the treatment plants. The Tribunal accepted the views of GHD and decided to adopt the approach to trade waste charges proposed by Hunter Water.

For the 2005 determination, Hunter Water does not propose any changes to the charging methodology, but has reviewed the costs associated with treating and disposing of trade waste. Hunter Water's revised charges are estimated to yield a 4 per cent reduction from current trade waste revenue. However, there will be both increases and decreases in components of charges. Hunter Water noted in its submission that these variations represent changes in the costs associated with individual wastewater treatment plants.

Hunter Water also reviewed the administration component of trade waste charges, the purpose of which is to recover the administration costs of managing trade waste customers, establishing contracts and invoicing. Hunter Water advised the Tribunal that the costs reflected in these charges have not been assessed in detail since trade waste charges were introduced. In its review of these charges, Hunter Water conducted an assessment of the resources devoted to each activity. The proposed charges reflect the latest information on the actual costs of service delivery.

<sup>&</sup>lt;sup>88</sup> GHD, Review of trade waste pricing proposals by Sydney Water Corporation, Hunter Water Corporation, Gosford Council and Wyong Council, March 2003, p 25.

The Tribunal considers that the repackaging of the administration component of the trade waste charges will result in a more cost-reflective charging structure. Introducing establishment and renewal fees for major customers will ensure that the higher costs of these activities are not subsidised via annual permit fees. The proposed changes to inspection fees will also improve cost-reflectivity as they are based on actual average times for inspections.

A detailed list of Hunter Water's maximum trade waste charges can be found in schedule 4 of the Hunter Water determination.

#### 9.5.5 Miscellaneous charges

The Tribunal's decision is to accept Hunter Water's proposed miscellaneous charges for 2005/06 with one amendment, and to adjust for movement in the CPI over the 2005 determination period.

In setting these charges, the Tribunal has used the approach described in section 9.4.6 above. It has, for the most part, accepted Hunter Water's list of proposed miscellaneous charges for the 2005 determination period. However, upon the advice of RSM Bird Cameron, the Tribunal has made a number of minor changes to Hunter Water's proposed list of miscellaneous services:

- **Indexation.** In previous determinations for both water and electricity, the Tribunal has not allowed miscellaneous charges to be increased by CPI during a determination. To avoid a large price increase at the next determination, the Tribunal has decided to allow miscellaneous charges to be adjusted by the movement in the CPI during the 2005 determination period.
- **Quoted cost of works.** For a number of miscellaneous services, the agencies did not propose a maximum charge in their submissions. Rather, they specified charges as 'quoted cost' or 'quoted cost of works'. To maintain consistency with the previous determination, the Tribunal decided to maintain the status quo by not setting charges based on 'quoted cost'.

A detailed list of Hunter Water's maximum miscellaneous charges can be found in schedule 6 of the attached determination.

## 10 EXPECTED OUTCOMES OF PRICING DECISIONS

Before finalising its decisions, the Tribunal considered the impact of its maximum prices on the agencies (as owners, operators and managers of the assets), on their customers and on the environment. Importantly, it also considered the balance between these competing interests, because a favourable outcome for one stakeholder is often at the expense of an unfavourable outcome for another stakeholder.

This chapter explains the Tribunal's assessment of the expected implications of its 2005 pricing determination for each agency. Section 10.1 discusses the Tribunal's approach to assessing outcomes of its pricing decisions. Sections 10.2 to 10.4 discuss the implications of the pricing decisions for each agency's customers, service standards and financial position, and for the environment.

## **10.1** Overall assessment of outcomes

In assessing the expected implications of its pricing decisions for each agency, the Tribunal placed equal weight on all factors in Section 15 of the IPART Act. It is satisfied that the implications of its findings for customers, service quality and the environment are appropriately balanced against the financial outcomes for each agency, given the Tribunal's view that each agency has further potential to achieve efficiency gains.

## **10.2 Sydney Catchment Authority**

## **10.2.1** Implications for customers

In reaching its decisions on the prices the Sydney Catchment Authority can charge its customers, the Tribunal explicitly considered the likely impact on Sydney Water, Wingecarribee Shire Council, Shoalhaven City Council and small retail customers in line with Section 15 of the IPART Act. The Tribunal considers that its final prices provide an appropriate balance between customer impacts and the other matters it is required to consider under Section 15.

The Sydney Catchment Authority undertakes a limited range of social programs designed to assist vulnerable customers. These programs are a continuation of those that Sydney Water used to undertake prior to the transfer of bulk water supply responsibilities to the Sydney Catchment Authority. The Sydney Catchment Authority has advised that, in total, these programs represent less than \$3,000 per annum. The programs include:

- Pensioner rebates these apply to three unfiltered water customers who receive a pensioner rebate equal to the Water Service Charge.
- Exempt properties these apply to five properties supplied with unfiltered water that were not charged a service charge by Sydney Water because they were exempt from such charges under the terms of the *Sydney Water Act* 1994.

The Tribunal believes these arrangements are appropriate and should continue.

### 10.2.2 Implications for service standards

In considering the impact of its pricing decisions on the Sydney Catchment Authority's service quality, the Tribunal sought to ensure that its decisions do not adversely affect the standards of service for bulk water, catchment management and water supply. It sets prices in the expectation that current service levels will be maintained, and that cost reductions and efficiency savings will not be obtained at the expense of service standards.

These service standards are set out in the Sydney Catchment Authority's operating licence, and in other regulatory instruments such as the Water Management Licence issued by DIPNR. Standards for bulk water quality, which are set by the NSW Department of Health, are also set out in the operating licence. The results of the Tribunal's annual audits of this operating licence show that the Sydney Catchment Authority has substantively met all its service standards during the current determination period.

The Sydney Catchment Authority also has a Bulk Water Supply Agreement with Sydney Water that specifies water quality and other standards. It has attained over 94 per cent compliance with this agreement during the current determination period.

In addition, the Sydney Catchment Authority must comply with Dam Safety Committee requirements and Australian National Council of Large Dams (ANCOLD) guidelines. It has complied with these requirements and guidelines, and there have been no bulk water supply interruptions during the current determination period.

The Tribunal believes that the prices set out in its determination will allow the Sydney Catchment Authority to continue to meet all these service standards and other requirements and guidelines during the 2005 determination period.

In addition, as Chapter 6 discussed, the Tribunal has determined that the agencies will report against output measures over the 2005 determination period to link expenditure with deliverables. A list of output measures for the Sydney Catchment Authority is contained in Appendix 2. These output measures include:

- a) Substantial completion of the Deep Storage scheme by July 2006.
- b) Substantial completion of the Prospect Pumping Station by March 2007.
- c) Substantial completion of the Warragamba Spillway and associated works by June 2007.
- d) Completion of phase 1 of the Shoalhaven scheme and provision of an additional 50GL per annum resource yield by July 2010.
- e) Completion of works to allow the release of environmental flows into the Upper Nepean River by July 2010.

#### 10.2.3 Expected business and shareholder outcomes

Overall, the Tribunal believes that its pricing decisions will not adversely affect the ability of the Sydney Catchment Authority to operate, maintain, renew and develop the assets involved in delivering the regulated services over the 2005 determination period. In addition, the Tribunal believes that the Sydney Catchment Authority's financial position will remain sufficiently strong for it to meet relevant borrowing, capital and dividend requirements over this period.

#### Comparison of notional revenue versus revenue target

Table 10.1 shows the comparison of the notional revenue, as set out in chapter 5 of this report, with the 'target' revenue likely to be generated by the agency's prices.

2005/06	2006/07	2007/08	2008/09	Total
149.8	160.6	167.7	174.5	652.5
144.4	154.0	166.4	174.6	639.4
				(12.3)
	<b>2005/06</b> 149.8 144.4	2005/06         2006/07           149.8         160.6           144.4         154.0	2005/062006/072007/08149.8160.6167.7144.4154.0166.4	2005/062006/072007/082008/09149.8160.6167.7174.5144.4154.0166.4174.6

## Table 10.1 NPV of costs not recovered for Sydney Catchment Authority (\$ million,<br/>2004/05)

While the determination will apply from 1 October 2005 for the Sydney Catchment Authority, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

As stated in section 9.2 of this report, the Tribunal's decisions on prices has taken account of the interests of the agencies, customers and stakeholders. In doing so, the balancing of these different interests for the Sydney Catchment Authority mean that the target revenue to be derived from prices is less than the Tribunal's determined notional revenue requirement.

#### Impact on rates of return

The Tribunal's analysis shows that the real pre-tax rate of return on the Sydney Catchment Authority's regulatory asset base (RAB) is expected to be around 5.9 per cent for 2005/06, and to increase to 6.5 per cent in 2008/09. This calculation is based on the assumptions used in the Tribunal's modelling of the financial impacts of its pricing decisions and depends on the SCA achieving the efficiency targets the Tribunal has set. The expected rates of return for each year of the determination period are set out in Table 10.2.

Table 10.2	Expected rates of	f roturn for the	Sydnov	Catchmont	Authority (	nor cont)
	Expected rates of	return for the	Syuney	Catchinent	Aumonity (	per cent)

	2006	2007	2008	2009
Rate of return	5.9 <sup>89</sup>	5.9	6.4	6.5

<sup>&</sup>lt;sup>89</sup> This assumes that the higher prices applied from 1 July 2005.

#### Overall financial strength as assessed by investment category ratings

The Tribunal analysed a range of financial indicators that are commonly used by credit rating agencies to assess an entity's financial capacity and ability to service and repay debt. The State Government believes that a BBB rating is the minimum target rating to ensure financial viability. In completing its analysis of financial indicators, the Tribunal has assumed a dividend payout ratio of 75 per cent profit after tax.

The Tribunal's analysis and financial modelling indicate that the maximum prices set out in the determination will enable the Sydney Catchment Authority to attain a minimum investment grade rating of BBB in the first two years of the 2005 determination period (see Table 10.3), but that the rating will fall to BB+ in 2007/08 and 2008/09. The Tribunal believes that these lower ratings have been influenced by the lumpiness of the investment cycle for the Sydney Catchment Authority, particularly the impact of the Shoalhaven Transfer Scheme Project. This expenditure is required to assist in meeting the objectives of the State Government's Metropolitan Water Plan.

Financial year	2005/06	2006/07	2007/08	2008/09
Ability to service debt				
1. EBITDA interest cover	4.39	3.06	2.91	2.65
NSW Treasury ratings (2002)	AAA	А	BBB+	BBB+
2. Funds from operations interest coverage	4.16	2.35	2.52	2.20
Standard and Poors US ratings (1995)	AA	BBB	А	BBB
3. Pre-tax interest coverage	3.58	2.49	2.39	2.18
Standard and Poors US ratings (1995)	AA	А	А	BBB
Ability to repay debt				
4. Funds flow net debt payback	9.75	11.97	12.68	13.47
NSW Treasury ratings (2002)	BB	BB	B+	B+
5. Funds from operations/total debt (%)	12%	7%	8%	7%
Standard and Poors US ratings (1995)	BBB	<bb< td=""><td>BB</td><td><bb< td=""></bb<></td></bb<>	BB	<bb< td=""></bb<>
6. Debt gearing (regulatory value)	37%	42%	46%	48%
NSW Treasury ratings (2002)	AA+	AA	A+	А
Standard and Poors US ratings (1995)	AA	AA	AA	AA
Ability to finance investment from internal s	sources			
7. Internal financing ratio	10%	17%	17%	24%
NSW Treasury ratings (2002)	В	В	В	В
8. Net cash flow/capital expenditure (%)	15%	12%	18%	20%
Standard and Poors US ratings (1995)	<bb< td=""><td><bb< td=""><td><bb< td=""><td>BB</td></bb<></td></bb<></td></bb<>	<bb< td=""><td><bb< td=""><td>BB</td></bb<></td></bb<>	<bb< td=""><td>BB</td></bb<>	BB
NSW Treasury overall score and rating				
NSW Treasury total score (0 –10)	5.25	4.00	3.25	3.00
Overall rating	BBB+	BBB	BB+	BB+
9. Net debt (\$m of the day)	397	507	631	725

#### Table 10.3 Financial indicators and credit ratings for the Sydney Catchment Authority

In its response to the Tribunal's draft determination, NSW Treasury criticised the Tribunal's approach of using the actual gearing levels of the agencies, rather than the benchmark gearing level applied in the WACC calculation, when assessing the expected financial performance of agencies. NSW Treasury stated that the Tribunal's approach was inconsistent and that the Tribunal should either adjust the gearing level applied in its WACC decision to reflect actual gearing levels, or adjust the financial analysis to reflect the benchmark gearing levels applied in its WACC decision.

The Tribunal has considered NSW Treasury's views. The Tribunal aims to determine a notional industry WACC. In its final decision on the rate of return, the Tribunal considered the financial position of the water businesses under both actual and notional gearing assumptions.

#### Payment of dividends

The Tribunal's modelling<sup>90</sup> indicates that if outcomes are achieved, the Sydney Catchment Authority will be able to pay a level of dividends consistent with past dividend performance.

If the Sydney Catchment Authority increases prices to the maximum level allowed under the 2005 determination, its revenue is expected to increase in real terms in each year of the determination period compared with 2004/05 levels. Section 16 of the IPART Act requires the Tribunal to report on the likely impact on the Consolidated Fund if prices are not increased to the maximum levels permitted. If this is the case, then the level of dividends paid to the Consolidated Fund will fall. The extent of this fall will depend on Treasury's application of its financial distribution policy and how the change affects after-tax profit.

The Tribunal's financial modelling projects dividend payments at 75 per cent of after-tax profit. A one dollar decline in after-tax profit would result in a loss of revenue to the consolidated fund of 75 cents.

### **10.2.4** Implications for the environment

The Sydney Catchment Authority's main objectives are to manage and protect Sydney Water's catchments to supply Sydney with reliable bulk raw water. Therefore, management of the catchment's environments are fundamental to its operations.

The volume of water extracted from the environment also has a direct link to the eventual health of that environment. While achievement of the State Government's demand management objectives will be more influenced by changes to prices for Sydney Water's retail customers, the Tribunal believes that implementing larger increases in the usage price of bulk water compared to the fixed charge of bulk water to Sydney Water will also help to meet those objectives.

<sup>&</sup>lt;sup>90</sup> Based on the Tribunal's assumptions of the financial impacts of its pricing draft decisions and on the Sydney Catchment Authority achieving the efficiency targets the Tribunal has set.

#### Catchment management

At its 2003 mid-term review of the Sydney Catchment Authority,<sup>91</sup> the Tribunal indicated that it would seek information on the efficiency and effectiveness of the agency's catchment management activities. Since that review, the Sydney Catchment Authority has made significant progress in developing processes and programs to measure the effectiveness of expenditure on catchment protection.

The Sydney Catchment Authority manages the catchments of four major river systems for raw drinking water quality outcomes. It uses a multiple barrier approach to predict, monitor and control changes in the catchments in order to avoid or minimise any impact on water supply. It has a number of strategies to achieve this, ranging from managing human activities in the catchments to improving water quality during specific events such as heavy rainfall. The Tribunal's consultant, Atkins/Cardno, commented<sup>92</sup> that it believes that the Sydney Catchment Authority is at the forefront of implementing scientifically based catchment activities aimed at optimising the quality of surface water harvested for drinking water purposes. While the Tribunal accepts Atkins/Cardno's comments, it notes that the operating licence auditor raised some concerns about the transparency and reporting of Sydney Catchment Authority's catchment management activities.<sup>93</sup>

As part of this price review, the Tribunal considered the development of the Sydney Catchment Authority's catchment management functions. It believes that the prices determined will enable the Sydney Catchment Authority to generate the appropriate level of revenue needed to support these activities in an efficient and effective manner.

#### Demand management

The Tribunal's report on its investigation into the potential of alternative water price structures to reduce demand concluded that a step price structure for the wholesale usage charge levied by the Sydney Catchment Authority on Sydney Water was not the most appropriate way to remove the financial incentive on Sydney Water to sell more water. The Tribunal believes that the next step towards wholesale water price reform is to set the usage charge with reference to the Sydney Catchment Authority's long run marginal cost.

For the 2005 determination period, the Tribunal has changed the balance of the fixed and usage components of the Sydney Catchment Authority's charges to Sydney Water by increasing the relative size of the usage charge compared to the fixed charge. It believes that this will help achieve the objective of setting charges with reference to Sydney Catchment Authority's long run marginal cost. It also believes it will send a pricing signal to Sydney Water that will help to achieve the State Government's demand management objectives. Generally speaking, environmental impacts are lessened with lower levels of extraction.

<sup>&</sup>lt;sup>91</sup> IPART, Sydney Catchment Authority - Prices of water supply services, May 2003.

<sup>&</sup>lt;sup>92</sup> Atkins/Cardno, *Capex, Asset Management and Opex Review*, February 2005.

<sup>&</sup>lt;sup>93</sup> IPART, Sydney Catchment Authority Operational Audit, 2003/04.
## 10.3 Sydney Water

#### **10.3.1** Submissions on the Tribunal's draft determination

There was general acceptance that the two tier price structure for Sydney Water is likely to promote water consumption. However, there was concern that the price increases could place an unreasonable burden on low income households.

Some interested parties thought that the proposed pricing structure is likely to give rise to social inequities and place a significant burden on a large number of households that are already struggling to pay their bills. Concerns were raised with the Tribunal's limited recommended assistance schemes and the linking of assistance for large families to possession of the Commonwealth Health Card. It was argued that the criteria for assistance were too narrowly focussed and would result in most large families receiving no assistance (see section 10.3.3 for more discussion).

Concerns were also raised about the pricing impact on customers in flats and units, given the lack of individual water meters in these types of properties. There was recognition that the significant cost required to install individual meters prohibited metering as a short term solution.

In relation to home units and flats it is important to remember that the inclining block tariff only applies to dwellings that are individually metered. Flats and units are generally excluded from the application of the inclining block tariff because of the lack of individual metering. Moreover, it is recognised that these types of dwellings generally use less water than single dwellings.

Some submissions also queried why non-residential customers were not subject to the Tier 2 charge. The rationale for setting the inclining block tariff is to target discretionary water use by households. This use of water is most easily targeted and behaviour modified without adverse social or business impacts. The Tribunal believes that there are other measures that can better deal with discretionary water use by other customer classes.

#### 10.3.2 Implications for customers

In reaching its decisions, the Tribunal explicitly considered the likely impact on Sydney Water's residential, commercial and industrial customers, in line with Section 15 of the IPART Act. In particular, it considered impacts on the affordability of water services for high and low water users, and on the quality of the services customers receive. It believes that these impacts are well balanced with the other matters it is required to consider under Section 15.

The Tribunal is conscious of the economic importance of water, and the longer term implications for customers of less certain and sustainable water, wastewater and stormwater services. It is also conscious that Sydney Water serves a large number of customers, and that the household incomes of these customers, and therefore the affordability of water for them, varies considerably.

The Tribunal's analysis indicates that most customers will see increases in the cost of water, wastewater and stormwater drainage services as a result of its decisions on prices for Sydney Water, with the largest increases being in 2005/06. In the case of high water use customers, the increase in water usage bills could be significant. However, it believes these increases are warranted to ensure customers have access to a sustainable water supply of appropriate quality and service.

One of the key changes for Sydney Water's customers is that usage charges will make up a larger proportion of their bills than in previous years. This is because usage charges will increase by a greater percentage than the fixed charges. In addition, customers residing in single dwellings who consume more the 400kL of water per year, or approximately 1.1kL per day, will be charged a higher rate for the portion of their consumption over this amount. These changes are intended to provide customers with a water conservation signal and to encourage them to make expenditure decisions that take account of the costs to society of a sustainable water supply.

Another key change for all Sydney Water customers is that the wastewater fixed charge will increase to reflect the greater investment in wastewater infrastructure required over the determination period. Wastewater fixed charges will increase by 7.8 per cent in 2005/06, and a further 3.7 per cent in each of the following years to 2008/09. (These increases include the effect of inflation<sup>94</sup> of 2.5 per cent per annum.)

Overall, the key implications for customers are as follows:

- For residential customers, the determination will increase the bill of a household that uses 250kL of water per year by 8.7 per cent in 2005/06, and by a further 4.2 per cent in 2006/07, 3 per cent in 2007/08 and 3.3 per cent in 2008/09. For a household that uses 500kL of water per year, it will increase the bill by 12.6 per cent in 2005/06, and by a further 6.9 per cent in 2006/07, 4.6 per cent in 2007/08 and 4.9 per cent in 2008/09. These increases include the effect of inflation as described above.
- For commercial and industrial customers, the determination will also increase their bills.

Each of these implications, and the social programs Sydney Water has in place to assist vulnerable customers, are discussed below.

#### Residential customers

The Tribunal's analysis of the impact of its determination on Sydney Water's residential customers concentrated on the overall effect on these customers' total bills. It looked at how the increased bills compare with the past costs of these services, and how the size of bill increases vary with water usage.

The Tribunal notes that Sydney Water's residential customers with average water consumption (250kL per year) will pay more for water, wastewater and stormwater services in the 2005 determination period than they have in the past (Figure 10.1).

<sup>&</sup>lt;sup>94</sup> In setting maximum prices, the Tribunal defines inflation as the movement in the consumer price index between the four quarters ending in March of the year in which the prices will take effect and the immediately preceding four quarters. Therefore, the inflation adjustment lags the actual movement in the consumer price index.



Figure 10.1 Total water, wastewater and stormwater bill customers with average water consumption – Sydney Water (\$2004/05)

SWC Total Water, Wastewater and Stormwater Bill (250kL customer real \$2004/05)

Increases in residential customers' annual bills will vary according to their total water usage, and will range from approximately \$80 over the determination period (for customers that use less than 100kL per year) to more than \$1,280 (for those who use 1,500kL or more per year) (Tables 10.4(a), (b) and (c)). The total increase in the water bill of a customer with average water consumption will be around \$140 over the entire determination period.

Table 10.4a	Individually	Metered F	Residentia	I Properties	s with a Water	<sup>·</sup> Service - Impa	ct
	of pr	ices – Sy	dney Wat	er (Dollars o	of the day)		

Water use	2004/05	2004/05 2005		06 2006/07		2007	/08	2008/09	
(kL)	Bills	Bills	Increase	Bills	Increase	Bills	Increase	Bills	Increase
100	\$ 178.92	\$ 192.94	\$ 14.02	\$ 190.19	(\$ 2.75)	\$ 188.41	(\$ 1.78)	\$ 187.80	(\$ 0.61)
200	\$ 280.22	\$ 309.18	\$ 28.96	\$ 316.17	\$ 6.99	\$ 321.30	\$ 5.13	\$ 328.36	\$ 7.06
250	\$ 330.87	\$ 367.29	\$ 36.42	\$ 379.15	\$ 11.86	\$ 387.74	\$ 8.59	\$ 398.64	\$ 10.90
300	\$ 381.52	\$ 425.41	\$ 43.89	\$ 442.14	\$ 16.73	\$ 454.18	\$ 12.04	\$ 468.92	\$ 14.74
400	\$ 482.82	\$ 541.64	\$ 58.82	\$ 568.11	\$ 26.47	\$ 587.07	\$ 18.96	\$ 609.48	\$ 22.41
500	\$ 584.12	\$ 678.28	\$ 94.16	\$ 731.38	\$ 53.10	\$ 767.66	\$ 36.28	\$ 809.24	\$ 41.58
750	\$ 837.37	\$ 1,019.86	\$ 182.49	\$ 1,139.54	\$ 119.68	\$1,219.14	\$ 79.60	\$ 1,308.63	\$ 89.50
1,500	\$ 1,597.12	\$ 2,044.61	\$ 447.49	\$ 2,364.02	\$ 319.41	\$ 2,573.57	\$ 209.55	\$ 2,806.81	\$ 233.24

**Note:** Figures under increase represent absolute increases or decreases relative to the previous year. Actual bill is calculated to include water charges only.

Inflation rates used to calculate nominal dollars were 2.5 per cent in all years.

Water use	2004/05 2005		5/06	/06 2006/		/07 2007/		/08 2008/09	
(kL)	Bills	Bills	Increase	Bills	Increase	Bills	Increase	Bills	Increase
100	\$ 525.58	\$ 562.28	\$ 36.70	\$ 578.52	\$ 16.24	\$ 591.48	\$ 12.96	\$ 606.17	\$ 14.69
200	\$ 626.88	\$ 678.52	\$ 51.64	\$ 704.49	\$ 25.98	\$ 724.36	\$ 19.87	\$ 746.73	\$ 22.36
250	\$ 677.53	\$ 736.63	\$ 59.10	\$ 767.48	\$ 30.85	\$ 790.81	\$ 23.33	\$ 817.01	\$ 26.20
300	\$ 728.18	\$ 794.75	\$ 66.57	\$ 830.47	\$ 35.72	\$ 857.25	\$ 26.78	\$ 887.29	\$ 30.04
400	\$ 829.48	\$ 910.98	\$ 81.50	\$ 956.44	\$ 45.45	\$ 990.14	\$ 33.70	\$ 1,027.85	\$ 37.71
500	\$ 930.78	\$ 1,047.62	\$ 116.84	\$ 1,119.70	\$ 72.09	\$ 1,170.73	\$ 51.02	\$ 1,227.61	\$ 56.88
750	\$ 1,184.03	\$ 1,389.20	\$ 205.17	\$ 1,527.86	\$ 138.66	\$ 1,622.20	\$ 94.34	\$ 1,727.00	\$ 104.80
1,500	\$ 1,943.78	\$ 2,413.94	\$ 470.16	\$ 2,752.34	\$ 338.40	\$ 2,976.64	\$ 224.29	\$ 3,225.17	\$ 248.54

## Table 10.4b Individually Metered Residential Properties with Water And Wastewater Services - Impact of prices – Sydney Water (Dollars of the day)

Note: Figures under increase represent absolute increases or decreases relative to the previous year.

Actual bill is calculated to include water and wastewater charges only.

Inflation rates used to calculate nominal dollars were 2.5 per cent in all years.

#### Table 10.4c Individually Metered Residential Properties with Water, Wastewater and Stormwater Services- Impact of prices Sydney Water (Dollars of the day)

Water use	2004/05 2005		5/06 2006		6/07 2007		7/08 200		8/09
(kL)	Bills	Bills	Increase	Bills	Increase	Bills	Increase	Bills	Increase
100	\$ 550.62	\$ 593.29	\$ 42.67	\$ 616.45	\$ 23.15	\$ 634.78	\$ 18.33	\$ 655.10	\$ 20.32
200	\$ 651.92	\$ 709.53	\$ 57.61	\$ 742.42	\$ 32.89	\$ 767.67	\$ 25.25	\$ 795.66	\$ 28.00
250	\$ 702.57	\$ 767.64	\$ 65.07	\$ 805.41	\$ 37.76	\$ 834.11	\$ 28.70	\$ 865.94	\$ 31.83
300	\$ 753.22	\$ 825.76	\$ 72.54	\$ 868.39	\$ 42.63	\$ 900.55	\$ 32.16	\$ 936.22	\$ 35.67
400	\$ 854.52	\$ 941.99	\$ 87.47	\$ 994.37	\$ 52.37	\$ 1,033.44	\$ 39.07 \$	\$ 1,076.79	\$ 43.35
500	\$ 955.82	\$ 1,078.63	\$ 122.81	\$ 1,157.63	\$ 79.00	\$ 1,214.03	\$ 56.40 \$	\$ 1,276.54	\$ 62.51
750	\$ 1,209.07	\$ 1,420.21	\$ 211.14	\$ 1,565.79	\$ 145.58	\$ 1,665.51	\$ 99.72 \$	\$ 1,775.93	\$ 110.43
1,500	\$ 1,968.82	\$ 2,444.95	\$ 476.13	\$ 2,790.27	\$ 345.32	\$ 3,019.94	\$ 229.67	\$ 3,274.11	\$ 254.17

**Note:** Figures under increase represent absolute increases or decreases relative to the previous year. Actual bill is calculated to include water, wastewater and stormwater charges only.

Inflation rates used to calculate nominal dollars were 2.5 per cent in all years.

However, some customers – those who use low levels of water – will see a reduction in the water component of their bills (the overall increase in the bills of these customers is attributable to the increased wastewater charge). Many customers will have the ability to mitigate some or all of the increase in their bills by reducing their water consumption.

Other customers – those who consume more than 400kL per year (or more than approximately 1.1kL per day) – will face a more significant increase in their bill. This is the level of consumption at which the higher Tier 2 water usage charge will apply. However, the Tribunal is confident that it has set this level so that most households will be able to meet their non-discretionary water needs with consumption below this amount. This view is supported by the Tribunal's 2003 Water Household Survey, which found that the pre-restriction average annual consumption for households of 5 or more people was 398kL per annum – and with recent efforts in demand management, this average consumption may well have fallen.

Nevertheless, the Tribunal is sensitive to the impact the increase in bills may have on vulnerable customers. It believes Sydney Water should extend its existing social programs to assist those customers who can least afford the increase in their bills (see 10.3.3).

#### Commercial and industrial customers

As with residential customers, the impact of the Tribunal's decision to restructure water and wastewater prices on commercial and industrial customers will vary depending on their level of water usage. Higher water users will experience higher increases in their quarterly water bills than lower water users. Because commercial and industrial customers are more diverse in terms of their water usage patterns than residential customers, it is difficult to draw general conclusions about the impact of this decision on customers. However, Sydney Water's Every Drop Counts program targets high non-residential water users, and works with industry to identify ways in which consumption can be reduced.

The Tribunal's decision on the new trade waste charges related to Total Dissolved Solids will have an impact on some non-residential customers, particularly in the Illawarra area. However, the Tribunal is satisfied that Sydney Water has discussed its proposal in relation to these charges with representative customers, and the charges have general acceptance.

#### **10.3.3 Social programs**

The Tribunal believes it is important that the potential to mitigate the impact of the increases on customers is fully understood. It believes customer-impact mitigation is primarily the responsibility of the State Government, as part of its broader social policy. However, it is concerned to ensure that Sydney Water also has appropriate measures in place to assist financially disadvantaged customers who may have difficulty in paying their bills.

Sydney Water's current social program includes a range of measures to assist vulnerable customers, including:<sup>95</sup>

- *free residential retrofits:* Sydney Water currently offers a retrofit program which targets high water consuming households. Sydney Water intends to expand this program and offer it free of charge to households assessed by accredited welfare agencies as being in financial hardship.
- *pensioner rebates:* Sydney Water currently offers a rebate to pensioners who own and occupy houses or home units and are holders of a Pensioner Concession Card, Department of Veterans' Affairs Gold Card embossed with TPI/TTI or war widow/widower or Extreme Disablement Adjustment. Rebates are offered to approximately 215,000 pensioners with the rebate comprising 100 per cent of the water service charge and 74 per cent of the sewer service charge. Sydney Water proposes to increase this rebate to 85 per cent of the sewer service charge.
- *Extended payment arrangements:* Sydney Water offers extended payment arrangements to customers who cannot pay their accounts and who have contacted Sydney Water and agreed a payment schedule.
- *No Interest Loan Scheme:* Sydney Water has proposed to contribute funds to the No Interest Loans Scheme to assist low-income households to replace old white goods

<sup>&</sup>lt;sup>95</sup> For more detail on Sydney Water's social program, see Sydney Water submission to the *Independent Pricing and Regulatory Tribunal Review of Metropolitan Water Agencies.* 

with new efficient appliances. Sydney Water estimates that a AAAA rating washing machine could save households around 37kL per annum.

• **Payment Assistance Scheme (PAS):** Sydney Water currently fund and operates a payment assistance scheme where welfare agencies assess the financial position and size of a family and determine the level of assistance required. Assistance is offered in the form of \$25 vouchers which are redeemed to discharge all or part of water bills. Currently whilst there is no limit on the number of vouchers a homeowner can obtain, tenants are eligible to only one per quarter. Sydney Water has proposed to remove this limit so that tenants who are responsible for payment of their water usage account may have the same entitlement as homeowners.

The Tribunal has accepted Sydney Water's proposed social program including:

- Free residential retrofits
- Pensioner rebates
- Extended payment arrangements
- No Interest Loan Scheme and
- Payment Assistance Scheme.

However, in the draft report the Tribunal also said that it was not convinced that the measures outlined in Sydney Water's submission were sufficient to address the impact on vulnerable customers of the new two-tiered variable usage charge (the inclining block tariff). In particular, it was concerned about the potential impact of this charge on large families (household with 6 or more people) with relatively low incomes.

Therefore, the Tribunal considered a number of additional options to address this issue, including:

- Requiring Sydney Water to provide a direct rebate on vulnerable customers' bills.
- Widening the scope of the Payment Assistance Scheme (PAS) by providing guidelines to specifically address large households that hold a health care card.

The Tribunal initially preferred the second of these options, and in its draft determination foreshadowed that it would require Sydney Water to develop guidelines for welfare agencies delivering the PAS so the scheme could specifically target households who are likely to be particularly affected by the two-tiered water usage charge. It stated that to be eligible for a rebate under this scheme, these households should:

- include one member who holds a Commonwealth Health Care Card
- contain six or more people
- have participated in the free retrofit where they are able.

In addition, the Tribunal stated that the rebate should be for the difference in charges between the first and second tier for consumption less than 80kL per capita.

In responses to the Tribunal's draft determination, there was general concern that the two tier price structure is likely to give rise to social inequities and place a significant burden on a large number of households that are already struggling to pay their bills. Specific concerns raised included:

- The complexity of the approach and the limited capacity of welfare agencies to administer an extension to the PAS scheme. PIAC, EWON and Sydney Water all indicated that administration could be difficult for welfare agencies due to the complexity of the Tribunal's proposal. Stakeholders have also raised concerns about the limited capacity of welfare agencies to process more people.
- The limited eligibility of the scheme to those with health care cards. PIAC has estimated that only 20 per cent of customers restricted from water supply due to non-payment have access to a Health Care Card. In addition, further research has indicated that customers would need to earn less than \$38,896 per annum to be eligible for the card on an income basis (this is the maximum for single parents with 5 children). Therefore, the Tribunal's proposal is too narrow and would result in most large households receiving no assistance.
- Failure to allow for those customers unable to reduce their consumption to 80kL per person. Some stakeholders have noted that some of Sydney Water's customers may not be able to reduce consumption to the 80kL per capita level for health reasons or the fact they are tenants and are unable to implement retrofits.
- Inadequate mitigation strategies for vulnerable customers under the increased Tier 1 charge. A number of stakeholders (including DEUS) have pointed out that the increase in the Tier 1 charge will also have an effect on vulnerable customers.
- Increasing emphasis on usage will impact on some existing rebates. This applies to rebates such as those for pensioners, which are based on the fixed service charge.

Solutions offered in responses to the Tribunal's draft determination include:

#### A Social Tariff Scheme

PIAC proposed that Sydney Water administer a social tariff for households who use a large amount of water for non-discretionary purposes or who are unable to respond to price signals due to financial constraints or limited ability to control fittings (eg tenants). The tariff is proposed to be set at the Tier 1 usage charge (for all consumption) or a significantly reduced Tier 2 charge.

Whilst this approach would address those customers who have difficulty in meeting the increased cost of water, it does not provide an incentive for customers to minimise their per capita consumption to an average level. Furthermore, programs will be in place to offer assistance to families facing financial hardship to purchase water efficient appliances.

#### The Tribunal's proposal but administered by Sydney Water

EWON is supportive of the approach proposed by the Tribunal in its draft determination. However, it notes the difficulty welfare agencies may have managing the scheme and that many customers may have in accessing assistance due to the limited number of distribution points, among other things. It therefore proposes that Sydney Water administer the program with households registering household numbers with the agency. Sydney Water is sympathetic to this view and has also proposed that it administer any rebate scheme.

#### Enhanced retrofit program and rebates for water efficient appliance

DEUS believes that the Tribunal's proposal provides limited scope to assist large families to reduce water consumption. It has proposed that large households (6 or more people) eligible for the base rate of the Family Tax Benefit Part A are also be eligible for an enhanced water saving retrofit rebate for water efficient appliances. DEUS also proposed a *No Interest Loan Scheme* (also proposed by Sydney Water in its November 2004 Submission).

In addition, DUES supports a rebate on charges for households that hold a Commonwealth Health Care Card. However, it proposes that this be administered by Sydney Water and be based on a 50% discount on the water service charge. Furthermore, it proposes that the retrofit rebate will only be available until June 2007, on the basis that uptake after this time would be expected to be only marginal.

Whilst the Tribunal supports the enhanced retrofit program, it does have some reservations about to the proposed bill rebate. An increasing usage price and a decreasing service charge would lead to a limited rebate that will decline over time given the decline in the fixed service charge over the 2005 determination period. DEUS proposed an annual rebate of \$38 in 2005/06 reducing to \$22 in 2008/09. The Tribunal believes that the savings to large families under the DUES proposal would be significantly less than those in the Tribunal's draft determination.

However, the Tribunal sees considerable merit in a flat rebate particularly given its administrative simplicity. The Tribunal believes that a simpler and a more equitable approach than that proposed by DEUS would be to offer an annual flat fee rebate for large families for excess water consumption above 400kL per annum. On balance, the Tribunal considers that an annual rebate of \$40 per customer will provide adequate compensation for large families.

DEUS proposed that the *No Interest Loan Scheme* and the 50 per cent discount on water service charges be funded by the Government in the form of a Community Service Obligation. However, it proposed that the enhanced rebates for water efficient appliances be funded through higher prices. DEUS has estimated that the cost of the enhanced rebates is approximately \$3.7 million over the 2005 determination period. It believes that bringing forward the increase in the Tier 1 price would assist in meeting the additional cost. However, based on the draft determination building blocks (including the rebate cost) and prices, the Tribunal has estimated that the DEUS proposal would result in over recovery of revenue of approximately \$24 million.

The Tribunal supports the DEUS proposal of enhanced retrofits. However, as stated in its draft determination, the Tribunal believes that social programs are a matter for Government and therefore should be funded by Government as part of a Community Service Obligation. The Tribunal notes that Government revenue should be enhanced as the higher rate of return determined by the Tribunal will increase the capacity of Sydney Water to pay dividends and make tax equivalent payments.

The Tribunal notes the concerns raised about the ability of welfare agencies to manage the rebate scheme and therefore proposes that it is administered through Sydney Water. The cost of such a scheme should be met as a community service obligation.

On balance, the Tribunal:

- Recommends that Sydney Water provide the following social programs to its customers:
  - Free residential retrofits;
  - Pensioner rebates;
  - Extended payment arrangements;
  - No Interest Loan Scheme; and
  - Payment Assistance Scheme.
- Recommends that enhanced retrofits be provided for families of 6 or more people that are eligible for the base rate of the Family Tax Benefit Part A.
- Recommends that a rebate scheme of \$40 per customer for excess water consumption above 400kL per year be offered to households that include one member who holds a Commonwealth Health Care Card, contain six or more people and have participated in the free retrofit where they are able. The rebate scheme should be administered by Sydney Water.
- Recommends that all social programs be funded by Government as part of the Government's broader social program rather than directly by agencies through further price increases.

#### **10.3.4 Implications for service standards**

In considering the impact of its pricing decisions on service quality, the Tribunal sought to ensure that its decisions will not adversely affect the standards of service Sydney Water delivers to its customers. It sets prices in the expectation that current service levels will be maintained and that cost reductions and efficiency savings will not be obtained at the expense of service standards.

Sydney Water is licensed under the Sydney Water Act. The Act requires Sydney Water to hold an operating licence issued by the Minister and reviewed annually by the Tribunal. The licence itself contains a number of standards that Sydney Water must meet or risk penalties associated with a breach of licence conditions. Sydney Water's expenditure submission must identify expenditure associated with its regulatory requirements to ensure that adequate funding is made available for it to meet its obligations under both its operating and environmental licences.

At the 2003 determination, the Tribunal indicated that it would initiate a process to improve the quality and breadth of information on service quality available to it. As a first step in this process, it established a working group in 2003 with members from the Tribunal Secretariat and the four retail water agencies to develop a series of performance indicators. These indicators have now been incorporated into Sydney Water's operating licence, and are reviewed as part of the annual audit process.

In addition, as Chapter 6 discussed, the Tribunal has determined that the agencies will report against output measures over the 2005 determination period to link expenditure with deliverables. These in turn will assist the Tribunal in identifying how expenditure proposals will enable Sydney Water to meet its regulatory requirements. A list of output measures for Sydney Water are contained in Appendix 2.

#### 10.3.5 Implications for the agency's financial position

Overall, the Tribunal believes that its decision will not adversely affect the ability of Sydney Water to operate, maintain, renew and develop the assets required to deliver the regulated services. In addition, the Tribunal believes that the agency's financial position will remain sufficiently strong for it to meet relevant borrowing, capital and dividend requirements.

#### Comparison of notional versus targeted revenue

Table 10.5 shows the comparison of the notional revenue as set out in chapter 5 of this report with the "target" revenue likely to be generated by the agency's prices.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Notional revenue requirement	1,505.8	1,533.4	1,559.3	1,583.2	6,181.7
Target revenue	1,442.6	1,494.8	1,558.3	1,583.8	6,079.4
NPV of costs not recovered					(98)

 Table 10.5 NPV of costs not recovered for Sydney Water (\$ million, 2004/05)

While the determination will apply from 1 October 2005 for Sydney Water, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

As stated in section 9.2 of this report, the Tribunal's decisions on prices has taken account of the interests of the agencies, customers and stakeholders. In doing so, the balancing of these different interests for Sydney Water mean that the target revenue derived by the level of prices is less than the Tribunal's determined notional revenue requirement.

#### Impact on rate of return

The Tribunal's analysis shows that the real pre-tax rate of return on Sydney Water's regulatory asset base (RAB) is expected to be around 5.7 per cent for 2005/06, increasing to 6.5 per cent in 2008/09. This calculation is based on the assumptions used in the Tribunal's modelling of the financial impacts of its pricing decisions and depends on Sydney Water achieving the efficiency targets the Tribunal has set. The expected rates of return for each year of the determination period are set out in Table 10.6.

Financial year	2005/06	2006/07	2007/08	2008/09
Rate of return	5.7	6.0	6.5	6.5

Table 10.6 Expected rates of return for Sydney Water (per cent)

#### Overall financial strength as assessed by investment category ratings

The Tribunal analysed a range of financial indicators that are commonly used by credit rating agencies to assess an entity's financial capacity and ability to service and repay debt. The State Government believes that a BBB rating is the minimum target rating to ensure financial viability. In completing its analysis of financial indicators, the Tribunal has assumed a dividend payout ratio of 75 per cent profit after tax.

The Tribunal's analysis and financial modelling indicate that the maximum prices set in the determination will enable Sydney Water to maintain its current investment category rating of BBB or better overall<sup>96</sup> over the determination period (see Table 10.7).

Financial year	2005/06	2006/07	2007/08	200809
Ability to service debt				
1. EBITDA interest cover	3.10	3.03	3.14	3.13
NSW Treasury ratings (2002)	А	А	А	А
2. Funds from operations interest coverage	2.74	2.83	2.95	2.57
Standard and Poors US ratings (1995)	А	А	А	А
3. Pre-tax interest coverage	1.98	1.99	2.13	2.14
Standard and Poors US ratings (1995)	BBB	BBB	BBB	BBB
Ability to repay debt				
<ol> <li>Funds flow net debt payback</li> </ol>	6.21	6.76	6.70	6.89
NSW Treasury ratings (2002)	BBB+	BBB+	BBB+	BBB+
5. Funds from operations/total debt (%)	10%	11%	12%	10%
Standard and Poors US ratings (1995)	BBB	BBB	BBB	BB
<ol><li>Debt gearing (regulatory value)</li></ol>	37%	38%	38%	38%
NSW Treasury ratings (2002)	AA+	AA+	AA+	AA+
Standard and Poors US ratings (1995)	AA	AA	AA	AA
Ability to finance investment from internal sources				
7. Internal financing ratio	14%	29%	37%	53%
NSW Treasury ratings (2002)	В	В	В	BBB
8. Net cash flow/capital expenditure (%)	26%	44%	55%	53%
Standard and Poors US ratings (1995)	BB	BBB	BBB	BBB
NSW Treasury overall score and rating				
NSW Treasury total score (0 -10)	5.00	5.00	5.00	6.00
Overall rating	BBB+	BBB+	BBB+	А
9. Net debt (\$m)	3,202	3,503	3,756	3,984

Table 10.7	Financial	indicators	and cr	edit rat	ings fo	or Sydne	y Wate
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In its response to the Tribunal's draft determination, NSW Treasury criticised the Tribunal's approach of using the actual gearing levels of the agencies, rather than the benchmark gearing level applied in the WACC calculation, when assessing the expected financial performance of agencies. NSW Treasury stated that the Tribunal's approach was inconsistent and that the Tribunal should either adjust the gearing level applied in its WACC decision to reflect actual gearing levels, or adjust the financial analysis to reflect the benchmark gearing levels applied in its WACC decision.

The Tribunal has considered NSW Treasury's views. The Tribunal aims to determine a notional industry WACC. In its final decision on the rate of return, the Tribunal considered the financial position of the water businesses under both actual and notional gearing assumptions.

<sup>&</sup>lt;sup>96</sup> Investment category is defined as a rating of BBB or better, meaning that the business has adequate or better capacity to meet its financial commitments.

#### Payment of dividends

The Tribunal's modelling<sup>97</sup> indicates that the Sydney Water will be able to pay a level of dividends consistent with past performance if the outcomes and targets set out in this report are achieved.

If Sydney Water increases prices to the maximum level allowed under the 2005 determination, its revenue is expected to increase in real terms in each year of the determination period compared with 2004/05 levels. Section 16 of the IPART Act requires the Tribunal to report on the likely impact to the Consolidated Fund if prices are not increased to the maximum levels permitted. If this is the case, then the level of dividends paid to the Consolidated Fund will fall. The extent of this fall will depend on Treasury's application of its financial distribution policy and how the change affects after-tax profit. The Tribunal's financial modelling is consistent with dividend payments at 75 per cent of after-tax profit. A one dollar decline in after-tax profit would result in a loss of revenue to the consolidated fund of 75 cents.

#### **10.3.6** Implications for the environment

Sydney Water faces significant environmental challenges over the 2005 determination period and beyond, many of which are due to the high forecast population growth in its area of operations. Its forecast capital expenditure on environmental related projects is set out in Table 10.8.

<sup>&</sup>lt;sup>97</sup> Based on the Tribunal's assumptions of the financial impacts of its draft pricing decisions and on Sydney Water achieving the efficiency targets the Tribunal has set.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Blue Mountains Sewerage	2.4	35.8	27.9	0.0	66.1
Brooklyn Dangar Island Sewerage Scheme	4.8	21.6	7.5	0.0	33.9
Mulgoa Wallacia Silverdale Sewerage Scheme	39.5	2.2	0.0	0.0	41.7
Menangle / Menangle Park Sewerage Scheme	0.0	0.9	3.6	0.0	4.5
Priority Sewerage Program (Other)	3.3	1.4	3.7	3.0	11.4
Overflow Abatement	35.8	46.2	65.0	78.0	225.1
Upgrade Illawarra Sewage Treatment Plants	10.6	0.0	0.0	0.0	10.6
Upgrade Hawkesbury/Nepean Sewage Treatment Plants	47.9	47.5	39.0	14.0	148.4
Bondi STP RIAMP	24.0	3.6	0.0	0.0	27.6
Upgrade Warriewood Sewage Treatment Plant	0.5	1.5	3.0	0.0	5.0
North Head STP Performance and Reliability	23.5	42.5	22.3	3.0	91.3
Richmond STP Upgrade	0.1	0.3	0.0	0.0	0.4
Upgrade reliability of sewage treatment plants	17.0	17.0	16.3	18.1	68.4
Sewer Network Reliability Upgrades	72.7	72.3	78.0	103.0	326.0
South Western Sydney Sewerage	15.3	39.9	50.0	7.0	112.2
Improve Stormwater Systems	16.4	7.6	6.2	6.2	36.4
TOTAL	313.8	340.3	322.5	232.3	1,209.0

Table 10.8	Sydney Water's proposed capital program for environmental pr	ojects
	(\$ million, 2004/05)	

Of highest concern is Sydney Water's need to achieve and maintain a balance between supply and demand for water in both the long and short term. In addition, it needs to continue to address sewer overflows during the 2005 determination period.

#### Supply demand balance

The Tribunal has approved funding for supply augmentation through the Sydney Catchment Authority. Sydney Water has been granted price increases to support initial work on a desalination plant for Sydney. In addition, Sydney Water needs to manage demand. Therefore the Tribunal has allowed funding, primarily through the Water Savings Fund, to effectively tackle excess consumption.

The Water Savings Fund is being introduced as part of the Metropolitan Water Plan. This plan requires Sydney Water to collect on behalf of the Government \$30 million per year to finance the fund. The expectation is that half of this amount will be returned to Sydney Water to finance its demand management programs, including educational programs, retrofits and rainwater tank rebates. The balance will go towards water conservation

projects being implemented by other businesses and councils. In total, Sydney Water's demand management program is expected to save 226GL over the 2005 determination period. This is almost half a year's supply of water for Sydney Water's customers.

The Tribunal has further supported the efforts to manage demand through increasing the water usage charge (and decreasing the service availability charge) and introducing a two tier tariff structure for residential customers. Both measures help send a signal to customers about the scarcity of water.

The Tribunal notes that there are considerable uncertainties for Sydney Water over the 2005 determination period that will have a significant impact on the environment. These include:

- the continuation of the current drought conditions, and the construction of a desalination plant
- the current application before the Australian Competition Tribunal to allow Services Sydney access to Sydney Water's network for large scale recycling
- the potential need to increase environmental flows particularly in the Hawkesbury-Nepean river system.

#### Sewer overflow abatement

Sydney Water is regulated through licences issued by DEC for Sewer Overflow abatement. The Tribunal has approved funding for all capital projects to meet environmental protection licence requirements. This includes funding for new mandatory standards relating to reducing dry weather overflows in the Bondi, Cronulla, Malabar and North Head catchments.

## 10.4 Hunter Water

#### **10.4.1** Implications for customers

In reaching its decisions, the Tribunal explicitly considered the likely impact on Hunter Water's residential, commercial and industrial customers, in line with Section 15 of the IPART Act. In particular, it considered impacts on the affordability of water services for high and low water users, and on the quality of the services customers receive. It believes that for the most part, these impacts are well balanced with the other matters it is required to consider under Section 15.

The Tribunal is conscious that Hunter Water's residential customers have lower household incomes, on average, than Sydney Water's customers. In addition, average household consumption in Hunter Water's area of operations is low compared to other metropolitan water agencies (except when water restrictions are in place). However, the Tribunal must weigh this against the need to meet the costs of maintaining Hunter Water's water, wastewater and stormwater systems.

Hunter Water's area of operations is characterised by ribbon development with Newcastle at the centre and other local centres distributed along the coast and inland. This means that some outlying communities are relatively expensive to service. It can also mean that critical trunk water main failures cause disruption to a large number of customers.

The Tribunal recognises that its pricing decisions mean that most Hunter Water customers will face increases in the prices of water, wastewater and stormwater services. In the case of high-water-use customers, the increase in water usage bills will be more significant. However, the Tribunal believes these increases are necessary to balance the long-term interests of customers and ensure they continue to have access to a sustainable water supply of appropriate quality and service.

It is important that the potential to mitigate the impact of the increases is fully understood. The Tribunal believes customer-impact mitigation is primarily the responsibility of the State Government, as part of its broader social policy. However, the Tribunal is concerned to ensure that Hunter Water also has appropriate measures in place to assist financially disadvantaged customers who may have difficulty in paying their bills. Such measures may include special payment arrangements and financial assistance for the purchase and installation of water saving devices.

The Tribunal's analysis indicates that its decisions will result in an increase in customers' bills, with the greatest increase occurring in 2005/06. For customers with higher than average water consumption, the increase could be significant. The key implications for customers are as follows:

- For residential customers, the bills of households with average consumption<sup>98</sup> will increase by 7.3 per cent in 2005/06 and 2006/07 and by 4.9 per cent in each of the following years including the effect of inflation (nominal increases).
- For commercial and industrial customers, bills will also increase. Customers using more than 1,000 kilolitres per year will experience a higher increase, given that the Tier 2 water price will be phased out over the 2005 determination period.
- For trade waste customers, changes to the trade waste pricing arrangements will result in reductions in most existing customers' trade waste bills.

Each of these implications is discussed in more detail below.

#### Residential customers

The Tribunal's analysis of the expected financial impacts concentrated on the effect on customers' total bills over the determination period. It looked at how the increased bills compare with the past costs of these services. It also looked at how the size of bill varies with water usage, and what changes to behaviour are required to mitigate the expected increase.

The Tribunal notes that notwithstanding its decision to increase water charges, by the end of the determination period most Hunter Water customers will be paying substantially less in real terms for water and sewerage services than they have in the past (see Figure 10.2).

<sup>&</sup>lt;sup>98</sup> The average consumption for a single dwelling property was 206 kilolitres in 2004.



Figure 10.2 Total water and wastewater bill for 250kL customers – Hunter Water (\$ 2004/05)

The Tribunal's analysis shows that the impact of the determination on annual residential bills for Hunter Water's customers will vary according to the customer's total water usage. In 2005/06, the increase in water and wastewater bills will range from approximately \$34 per year (for customers who use 100kL per year) to more than \$135 (for the very small number of residential customers who use 1,500kL or more per year). Increases in the following years of the 2005 determination period will range from \$26 per year to around \$150 per year.<sup>99</sup>

The water and wastewater bill for a residential property with average water consumption of 206kL per year will increase by around an average of \$38 in each year of the 2005 determination period. For approximately 80 per cent of customers, the total increase in their annual water bill for 2005/06 will be under \$55, or around \$1 per week (Tables 10.9(a), (b) and (c)).

<sup>&</sup>lt;sup>99</sup> This assumes that consumption remains fixed at the same level in all four years of the price path.

	2004/05 2005/06		200	2006/07		2007/08		8/09	
Water use	Bills	Bills	Increase	Bills	Increase	Bills	Increase	Bills	Increase
100	126.37	137.56	11.19	149.11	11.55	157.03	7.92	165.36	8.33
206	233.43	251.41	17.98	270.15	18.74	283.42	13.28	297.35	13.93
250	277.87	298.67	20.80	320.39	21.72	335.89	15.50	352.14	16.25
300	328.37	352.37	24.00	377.48	25.11	395.51	18.03	414.40	18.89
400	429.37	459.78	30.41	491.67	31.89	514.75	23.08	538.91	24.16
500	530.37	567.18	36.81	605.86	38.67	633.99	28.13	663.43	29.44
750	782.87	835.70	52.83	891.33	55.62	932.09	40.77	974.73	42.63
1,000	1,035.37	1,104.22	68.85	1,176.80	72.57	1,230.20	53.40	1,286.02	55.83
1,500	1,500.37	1,605.94	105.57	1,724.89	118.95	1,814.35	89.46	1,908.61	94.26

# Table 10.9a Individually Metered Residential Properties with a Water Service - Impact of prices – Hunter Water (Dollars of the day)

**Note:** Figures under increase represent absolute increases or decreases relative to the previous year. Bills are calculated to include water charges only.

The inflation rate used to calculate nominal dollars was 2.5 per cent in each year.

## Table 10.9b Individually Metered Residential Properties with Water And Wastewater Services -Impact of prices Impact of prices – Hunter Water (Dollars of the day)

	2004/05 2005/06		200	2006/07		2007/08		2008/09	
Water use	Bill	Bill	Increase	Bill	Increase	Bill	Increase	Bill	Increase
100	435.67	469.38	33.71	505.59	36.21	531.63	26.04	558.97	27.35
206	564.99	606.03	41.04	649.99	43.96	681.97	31.98	715.51	33.54
250	618.67	662.75	44.08	709.93	47.18	744.37	34.44	780.48	36.11
300	679.67	727.21	47.54	778.04	50.83	815.29	37.25	854.32	39.03
400	801.67	856.13	54.46	914.27	58.14	957.12	42.85	1,001.99	44.87
500	923.67	985.04	61.37	1,050.49	65.45	1,098.95	48.45	1,149.66	50.71
750	1,228.67	1,307.33	78.66	1,391.05	83.72	1,453.52	62.47	1,518.84	65.32
1,000	1,533.67	1,629.62	95.95	1,731.62	102.00	1,808.09	76.48	1,888.01	79.92
1,500	2,103.67	2,238.88	135.21	2,389.90	151.02	2,505.19	115.29	2,626.37	121.18

**Note:** Figures under increase represent absolute increases or decreases relative to the previous year. Bills are calculated to include water and wastewater charges only (including Environmental Improvement Charge).

The inflation rate used to calculate nominal dollars was 2.5 per cent in each year.

	2004/05	200	5/06	200	6/07	2007	7/08	200	8/09
Water use	Bills	Bills	Increase	Bills	Increase	Bills	Increase	Bills	Increase
100	477.98	512.75	34.77	552.99	40.24	583.42	30.43	615.57	32.15
206	607.30	649.40	42.10	697.39	47.99	733.76	36.38	772.10	38.34
250	660.98	706.12	45.14	757.32	51.20	796.17	38.84	837.08	40.91
300	721.98	770.58	48.60	825.44	54.86	867.08	41.64	910.92	43.84
400	843.98	899.50	55.52	961.66	62.17	1,008.91	47.25	1,058.59	49.68
500	965.98	1,028.41	62.43	1,097.89	69.48	1,150.74	52.85	1,206.26	55.52
750	1,270.98	1,350.70	79.72	1,438.45	87.75	1,505.31	66.86	1,575.44	70.12
1,000	1,575.98	1,672.99	97.01	1,779.01	106.02	1,859.89	80.87	1,944.61	84.73
1,500	2,145.98	2,282.25	136.27	2,437.30	155.05	2,556.99	119.69	2,682.97	125.98

#### Table 10.9c Individually Metered Residential Properties with Water, Wastewater and Stormwater Services - Impact of prices – Hunter Water (Dollars of the day)

Note: Figures under increase represent absolute increases or decreases relative to the previous year.

Bills are calculated to include water, wastewater and stormwater charges (including the environmental improvement charge).

The inflation rate used to calculate nominal dollars was 2.5 per cent in each year.

Many customers have the ability to reduce their water consumption and therefore mitigate some or all of the expected bill increases.

#### Commercial and industrial customers

Because commercial and industrial customers are much more diverse in terms of their water usage patterns than residential customers, it is difficult to draw general conclusions about the impact of the Tribunal's pricing decisions on these customers. The impacts will vary depending on customers' level of water usage. Higher water users (those who use between 1,001kL and 50,000kL per annum) will experience greater proportionate increases in their annual water bills than other customers, due to the phasing out of the Tier 2 water usage charge. The Tribunal believes this will send a stronger pricing signal to these customers. Those who use 1,000kL per annum or less (and so pay the Tier 1 usage charge) and those who use more than 50,000kL per annum (and so pay the Tier 3 location-based usage charge) will experience price increases of the same proportion.

As for residential customers, the Tribunal believes that rising water prices will encourage commercial and industrial water customers to review consumption and to encourage this sector to use water more efficiently or explore alternative water supplies such as recycled water.

#### Trade waste customers

The Tribunal accepted Hunter Water's proposed changes to the trade waste pricing arrangements, including restructuring the administration component of the charge and increasing existing treatment and disposal related charges. While some customers will experience an increase in their trade waste bills, most existing customers will see a reduction in these bills. The Tribunal believes the decision is appropriate as the trade waste pricing structure reflects the costs of treating and disposing of trade waste and administering permits.

#### **10.4.2 Social programs**

There was general concern that the price increases for Hunter Water will place an unreasonable burden on low income households. For example, it its response to the Tribunal's draft determination, EWON expressed concern about affordability and noted that the Tribunal's draft report did not deal with social programs for Hunter Water.

As stated previously, the Tribunal believes it is important that the potential to mitigate the impact of the increases on customers is fully understood. It believes customer-impact mitigation is primarily the responsibility of the state government, as part of its broader social policy. However, it is also concerned to ensure that Hunter Water has appropriate measures in place to assist financially disadvantaged customers who may have difficulty in paying their bills.

To help mitigate impacts on vulnerable customers, EWON suggested an expansion of Hunter Water's Payment Assistance Scheme to include tenant access, a review of the pensioner concession (at present a fixed amount), a commitment to a no interest loan scheme for water efficient appliances, and an ongoing commitment to a refit program.

Hunter Water currently offers a number of programs to assist vulnerable customers, however, it did not propose any changes to these in light of the price increases. Its current programs include:

- the REFIT scheme a joint initiative between Hunter Water, Energy Australia, Newcastle and Lower Hunter Councils – to supply and install REFIT kits (containing a AAA rated water saving showerhead, trigger nozzle for a hose and two energy saving compact fluorescent light bulbs) for \$39.
- Rebates ranging from \$300 to \$650 (depending on tank size) to customers that are considering installing a rainwater tank at an existing homel.
- Eligible pensioners receive a Government funded rebate of \$223.95 per year comprising a rebate of up to \$175 per year on their total bill (or \$87.50 per year for water only properties) and a waiver of the annual environmental improvement charge (currently \$48.95).
- Extended payment arrangements to customers who cannot pay their accounts and who have contacted Hunter Water and agreed a payment schedule.
- A Payment Assistance Scheme (PAS) for customers experiencing financial difficulty. In certain circumstances, some private tenants may also be eligible for limited assistance.

The Tribunal notes that Hunter Water has not sought any increase in the pensioner rebate and that the rebate has been fixed in nominal terms for several years. In contrast, Sydney Water's pensioner rebate is indexed to the water and sewer service charges and is currently more than \$300 per year. Retaining the pensioner rebate at \$175 per year in nominal terms with higher water and wastewater prices for Hunter Water under the 2005 determination period will mean that pensioners pay a proportionately higher increase in their water bills.

On balance, the Tribunal's believes that Hunter Water offers a range of suitable social programs to assist customers having difficulty in paying their bills. However, the Tribunal is concerned about the impact of price increases on vulnerable customers and encourages an increase in the pensioner rebate to help mitigate these impacts.

The Tribunal's preferred approach would be to increase the pensioner rebate by the same percentage as the average customer bill each year. This would provide a link between the rebate and price increases and help maintain equity for vulnerable customers.

While recognising that mitigating price impacts on vulnerable members of the community is primarily the responsibility of the State Government as part of its broader social policy, the Tribunal recommends that Government explore the possibility of increasing pensioner rebates to move in line with the Tribunal's decision on Hunter Water's prices to preserve the proportionate level of the pensioner rebate

#### **10.4.3 Implications for service standards**

In considering the impact of its pricing decisions on service quality, the Tribunal sought to ensure that its decisions do not adversely affect the standards of service Hunter Water delivers to its customers. It sets prices in the expectation that current service levels will be maintained, and that cost reductions and efficiency savings will not be obtained at the expense of service standards.

Hunter Water's service standards are set out in its operating licence and other regulatory instruments such as Environment Protection Licences regulated by the Department of Environment and Conservation. Water quality guidelines, which are set by the National Health and Medical Research Council (NHMRC) and the NSW Department of Health are also included in its operating licence.

At the 2003 determination, the Tribunal indicated that it would initiate a process to improve the quality and breadth of information on service quality available to it. As a first step in this process, it established a working group with members from the Tribunal's Secretariat and the four retail water agencies to develop a series of performance indicators.

The water agencies completed returns on these performance indicators for the first time in 2004. The Tribunal recognises that the agencies will need some time to establish systems to capture the necessary information in a consistent manner. However, once these systems are in place, the resulting data will better inform the Tribunal on the quality of services provided to customers and the performance of the agencies' assets. The data will also help the Tribunal to fulfil its obligations under Section 15(1b) of the IPART Act, which relates to the protection of consumers from abuses of monopoly power in terms of standard of services.

In assessing Hunter Water's service standards for this price review, the Tribunal considered Hunter Water's own monitoring of its customer service performance and its compliance with the terms of its operating licence. It found that Hunter Water has performed reasonably well compared with other similar water businesses within Australia in recent years. Performance against most indicators has improved in 2004/05 compared to the previous year.

However, Hunter Water failed to meet the condition in its operating licence that relates to interruption to supply in 2004, largely due to the failure of a major trunk main. The 2004 Operational Audit recommended a number of operational improvements and investments that should assist the agency in meeting this condition in the future. Hunter Water has begun to implement these measures, which include a program of condition assessments on large trunk mains to better understand the risk of failure. The Tribunal has reviewed these and agree that the response is appropriate.

The Tribunal believes that the determination should not adversely affect Hunter Water's ability to meet its service standards, and expects that the standards will be maintained during the 2005 determination period. It will monitor the agency's performance against these standards, through its annual information return process and its review of the operating licence to commence in 2006.

Atkins/Cardno also recommended a range of output measures that agencies should be required to report against during the 2005 determination period. The Tribunal consulted with Hunter Water on the recommended output measures and has amended Atkins/Cardno's proposed measures to better reflect the planned capital program. The output measures are contained in Appendix 2. These measures apply to the period of the price path and will be assessed for 2006/07, 2007/08 and 2008/09.

The Tribunal intends that these measures will be used as a starting point for evaluating the prudence of capital expenditure going into the next price review. The Tribunal notes that the output measures are one element of the prudence test and deviations from planned capital investment may be deemed prudent if they can be justified.

#### **10.4.4** Implications for the agency's financial position

Overall, the Tribunal believes that its pricing decisions will not adversely affect the ability of Hunter Water to operate, maintain, renew and develop the assets involved in delivering the regulated services. In addition, it believes that Hunter Water's financial position will remain sufficiently strong for it to meet the borrowing, capital and dividend requirements related to these services.

#### Comparison of notional versus targeted revenue

Table 10.10 shows the comparison of the notional revenue as set out in chapter 5 of this report with the 'target' revenue likely to be generated by the agency's prices.

Financial Year	2005/06	2006/07	2007/08	2008/09	Total
Notional revenue requirement	153.7	156.0	159.3	162.6	631.6
Target revenue	147.1	151.8	157.1	162.7	618.7
NPV of costs not recovered					(12.3)

Table 10.10	NPV of	f costs not	recovered	for Hunter	Water	(\$	million,	2004/05
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While the determination will apply from 1 November for Hunter Water, the forecasts, information and advice considered by the Tribunal applied for the financial year commencing 1 July 2005.

As stated in section 9.2 of this report, the Tribunal's decisions on prices have taken account of the interests of the agencies, customers and stakeholders. In doing so, the balancing of these different interests for Hunter Water means that the target revenue derived by the level of prices is less than the Tribunal's determined notional revenue requirement.

#### Impact on rate of return

The Tribunal's analysis shows that the real pre-tax rate of return on Hunter Water's regulatory asset base (RAB) is expected to be around 5.8 per cent for 2005/06, increasing to 6.5 per cent in 2008/09. This calculation is based on the assumptions used in the Tribunal's modelling of the financial impacts of its pricing decisions and depends on Hunter Water

achieving the efficiency targets the Tribunal has set. The expected rate of return in each year of the determination period is set out in Table 10.11.

Financial year	2005/06	2006/07	2007/08	2008/09
Rate of return	5.8	6.1	6.3	6.5

Table 10.11 Expected rates of return for Hunter Water (per cent)

These rates of return are within the commercial range for the WACC determined by the Tribunal for metropolitan water agencies. The Tribunal has also assessed these returns in the context of the other factors in Section 15 of the IPART Act. It considers that, on balance, the expected rates of return are reasonable. It notes that they are above the rates of return proposed by Hunter Water. It considers that to ensure the longer-term sustainability of the regulated services, Hunter Water's prices need to better reflect a commercial return on the underlying assets.

#### Overall financial strength as assessed by investment category ratings

The Tribunal analysed a range of financial indicators that are commonly used by credit rating agencies to assess an entity's financial capacity and ability to service and repay debt. The State Government believes that a BBB rating is the minimum target rating to ensure financial viability. In completing its analysis of financial indicators, the Tribunal has assumed a dividend payout ratio of 75 per cent profit after tax.

The Tribunal's analysis and financial modelling indicate that the maximum prices set in the determination will enable Hunter Water to attain an overall Treasury rating of at least an A over the 2005 determination period (see Table 10.12).

Financial year	2005/06	2006/07	2007/08	2008/09
Ability to service debt				
1. EBITDA interest cover	5.95	5.18	4.56	4.16
NSW Treasury ratings (2002)	AAA	AAA	AAA	AA+
2. Funds from operations interest coverage	4.70	3.93	3.50	3.19
Standard and Poors US ratings (1995)	AA	AA	AA	AA
3. Pre-tax interest coverage	3.08	2.84	2.60	2.46
Standard and Poors US ratings (1995)	AA	AA	А	А
Ability to repay debt				
<ol> <li>Funds flow net debt payback</li> </ol>	3.02	3.53	4.01	4.19
NSW Treasury ratings (2002)	AA+	AA	AA	AA
5. Funds from operations/total debt (%)	18%	15%	13%	13%
Standard and Poors US ratings (1995)	А	А	BBB	BBB
6. Debt gearing (regulatory value)	22%	26%	29%	30%
NSW Treasury ratings (2002)	AA+	AA+	AA+	AA+
Standard and Poors US ratings (1995)	AA	AA	AA	AA
Ability to finance investment from internal sources				
7. Internal financing ratio	2%	7%	6%	37%
NSW Treasury ratings (2002)	В	В	В	В
8. Net cash flow/capital expenditure (%)	9%	8%	8%	38%
Standard and Poors US ratings (1995)	<bb< td=""><td><bb< td=""><td><bb< td=""><td>BBB</td></bb<></td></bb<></td></bb<>	<bb< td=""><td><bb< td=""><td>BBB</td></bb<></td></bb<>	<bb< td=""><td>BBB</td></bb<>	BBB
NSW Treasury overall score and rating				
NSW Treasury total score (0 -10)	7.00	6.75	6.75	6.50
Overall rating	A+	А	А	А
9. Net debt (\$m)	255	317	380	418

Table 10.12	Financial indicators	and credit rating	is for Hunter Water

Notes:

(i) The Tribunal particularly relies on indicators based on cash flows because these are not as subjective as indicators that use components derived from estimates (eg asset value and depreciation).

(ii) An acceptable range of financial ratios for each credit rating will differ from time to time according to the unique characteristics of the business. There may not be a perfect match between the ratios and the indicator rating; the ratios represent midpoints of ranges, and vary during an investment cycle, particularly the internal financing ratio. In addition, Standard and Poors credit ratings are prospective, with ratings reflective of a company's expected financial profile. For this reason, the ratings indicated by the ratios for each of the regulated businesses based on one year's financial results may not be the same as the actual rating given by Standard and Poors.

#### Payment of dividends

The Tribunal's modelling<sup>100</sup> indicates that Hunter Water will be able to pay a level of dividends consistent with past performance if the outcomes and targets set out in this report are achieved.

If Hunter Water increases prices to the maximum level allowed under the 2005 determination, its revenue is expected to increase in real terms in each year of the determination period compared with 2004/05 levels. Section 16 of the IPART Act requires the Tribunal to report on the likely impact to the Consolidated Fund if prices are not

<sup>&</sup>lt;sup>100</sup> Based on the Tribunal's assumptions of the financial impacts of its pricing draft decisions and on Hunter Water achieving the efficiency targets the Tribunal has set.

increased to the maximum levels permitted. If this is the case, then the level of dividends paid to the Consolidated Fund will fall. The extent of this fall will depend on Treasury's application of its financial distribution policy and how the change affects after-tax profit. The Tribunal's financial modelling projects dividend payments at 75 per cent of after-tax profit. A one dollar decline in after-tax profit would result in a loss of revenue to the consolidated fund of 75 cents.

## **10.4.5** Implications for the environment

The key environmental issue currently facing Hunter Water is the need to improve wastewater services to reduce effluent overflows and cope with population growth. Expenditure on wastewater systems in the Hunter regions during the 2005 determination period is expected to deliver the following outcomes:

- reduced wet weather customer and environmental impacts in Belmont, Dora Creek, Raymond Terrace, Boulder Bay, Lake Macquarie and Newcastle wastewater treatment and transport systems
- the ability to meet the higher effluent quality standards required by DEC for the inland treatment plants, including Cessnock, Branxton and Farley
- the provision of sewerage services to backlog areas at Fern Bay, Kitchener, Lochinvar, Millfield and Ellalong under the State Government's Priority Sewerage Program.

The Tribunal has allowed most of the environment-related capital spending proposed by Hunter Water where this was in line with priorities set by the Department of Environment and Conservation. This will reduce overflows from the sewerage system waterways and the ocean in wet and dry weather.

However, it has accepted Atkins/Cardno's recommendation to re-phase some capital expenditure to reflect uncertainties in the scope of works needed to meet environment protection licence requirements in the latter years of the 2005 determination period. The Tribunal notes that the Newcastle and Belmont wastewater transport system upgrades must be completed by 1 July 2007 to meet licence requirements.

The Tribunal has restructured water prices by increasing Tier 1 usage charges and phasing out Tier 2 usage charges over the 2005 determination period. It believes this will send a better conservation signal to large water users.

## **GLOSSARY OF TERMS**

Term	Meaning/Definition
2000 determination period	The determination period from 1 July 2000 to 30 June 2003
2003 determinations	The determinations made by the Tribunal in 2003, including the mid term review for the Sydney Catchment Authority
2003 determination period	The determination period from 1 July 2003 to 30 June 2005
2005 determination period	For the Sydney Catchment Authority and Sydney Water - from 1 October 2005 to 30 June 2009
	For Hunter Water – from 1 November 2005 to 30 June 2006
2005 determinations	The determinations subject to this report that are to be made by the Tribunal in 2005
AGSM	Australian Graduate School of Management
(1+∆CPI₁)	Is the movement in the CPI between the four quarters ending 31 March 2006 and the four quarters ending 31 March 2005
(1+∆CPI <sub>2</sub> )	Is the movement in the CPI between the four quarters ending 31 March 2007 and the four quarters ending 31 March 2005
(1+∆CPI <sub>3</sub> )	Is the movement in the CPI between the four quarters ending 31 March 2008 and the four quarters ending 31 March 2005
AIR	Annual Information Return
Atkins/Cardno	Consultancy firms WS Atkins International Ltd and Cardno MBK
Capex	capital expenditure
САРМ	Capital Asset Pricing Model
CPI	Consumer Price Index
CSO	Community Service Obligations
DEC	Department of Environment and Conservation
Determination	The price limits set by a regulator
DEUS	Department of Energy, Utilities and Sustainability
DIPNR	Department of Infrastructure, Planning, and Natural Resources
EWON	Energy and Water Ombudsman NSW
Financial Year	The financial year commencing on 1 July and ending 30 June.
Gosford Council	Gosford City Council
Halcrow	Halcrow Management Sciences Limited
Hunter Water	Hunter Water Corporation
Inclining-block tariff (IBT)	Price structure where consumption up to a set quantity (the step quantity) is charged at an initial price (the tier 1 price) and consumption above the step quantity is charged at a higher price (the tier 2 price)

Term	Meaning/Definition
IFRS	International Financial Reporting Standards
IPART	Independent Pricing and Regulatory Tribunal
IPART Act	The Independent Pricing and Regulatory Tribunal Act 1992
Issues Paper	Independent Pricing and Regulatory Tribunal of NSW, Review of Metropolitan Water Agency Prices – Issues Paper, July 2004
McLennan Magasanik	McLennan Magasanik Associates
MRP	Market risk premium
NHMRC	National Health and Medical Research Council
NSW	New South Wales
Opex	operating expenditure
PIAC	Public Interest Advocacy Centre
Price path review	The review of price limits for the 2005 determination period
Price structure	The mix of fixed charges, usage charges and price steps
RAB	Regulatory asset base
Determination period	The period over which price limits are determined
Review	2005 Metropolitan Water Agency's price path review
SIR	Special Information Return
Sydney Water	Sydney Water Corporation
TEC	Total Environmental Centre
T-Corp	Treasury Corporation
Tribunal	The Independent Pricing and Regulatory Tribunal of NSW
UK	United Kingdom
WACC	Weighted average cost of capital
Water usage charge	Charge applied per volume of water consumed
Wyong Council	Wyong Shire Council
<del>.</del>	

Throughout this report, all capital and operating expenditure is reported by financial year ending 30 June for each year. For example expenditure in year 2005/06 refers to the financial year commencing on 1 July 2005 and ending 30 June 2006.

There may be slight errors in the tables due to rounding.

## APPENDIX 1 MATTERS TO BE CONSIDERED BY THE TRIBUNAL UNDER SECTION 15 OF IPART ACT

The Tribunal's decisions have been made in accordance with the requirements set out in the IPART Act, including the factors contained in Section 15 of the Act. This section, which is reproduced in full in Box A1, specifies the matters the Tribunal must consider when making a determination. The Tribunal is satisfied that its determination achieves a reasonable balance between these matters.

## Box A1 Matters to be considered by Tribunal under Section 15 of the IPART Act

(1) In making determinations and recommendations under this Act, the Tribunal is to have regard to the following matters (in addition to any other matters the Tribunal considers relevant):

(a) the cost of providing the services concerned,

(b) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services,

(c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales,

(*d*) the effect on general price inflation over the medium term,

(e) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers,

(f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the <u>Protection of the Environment Administration Act 1991</u>) by appropriate pricing policies that take account of all the feasible options available to protect the environment,

(g) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets,

(h) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body,

*(i) the need to promote competition in the supply of the services concerned,* 

(j) considerations of demand management (including levels of demand) and least cost planning,

(k) the social impact of the determinations and recommendations,

(*l*) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

(2) In any report of a determination or recommendation made by the Tribunal under this Act, the Tribunal must indicate what regard it has had to the matters set out in subsection (1) in reaching that determination or recommendation.

Table A1.1 indicates where the matters have been considered throughout the report by the Tribunal in making this determination.

 Table A1.1 Consideration of Section 15 matters by Tribunal for Sydney Catchment

 Authority, Sydney Water and Hunter Water determinations

Section 15(1)	Report reference
(a) cost of providing the service	Sections 6.4, and 8.4 to 8.7
(b) protection of consumers from abuse of monopoly power	Sections 10.2.1, 10.2.2, 10.3.2, 10.3.3, 10.3.4, 10.4.1, 10.4.2 and 10.4.3
(c) appropriate rate of return and dividends	Sections 7.3, 10.2.3, 10.3.5 and 10.4.4
(d) affect on general price inflation	Sections 10.2.1, 10.3.2 and 10.4.1
(e) improved efficiency in supply of services	Chapters 6 and 8 generally
(f) ecologically sustainable development	Sections 10.2.4, 10.3.6 and 10.4.5
(g) impact on borrowing, capital and dividend requirements	Sections 10.2.3, 10.3.5 and 10.4.4
(h) additional pricing policies	Not applicable
(i) need to promote competition	Section 2.1, chapters 9 and 10 generally
(j) considerations of demand management	Sections 2.3.3, 4.3.3, 7.3.3, 8.5, 9.5.2, 10.2.4, 10.3.1 and 10.3.4
(k) the social impact on customers	Sections 1.3, 10.2.1, 10.3.1, 10.3.2 and 10.4.1
<ul> <li>(I) standards of quality, reliability and safety of the services</li> </ul>	Sections 10.2.2, 10.3.4 and 10.4.3

## APPENDIX 2 OUTPUT MEASURES

The output measures recommended by Atkins/Cardno which the agencies are to report against during the 2005 determination period are set out below.

## A2.1 Output measures for the Sydney Catchment Authority

- 1. Substantial completion of the Deep Storage scheme and provision of an additional 30GL per annum resource yield by July 2006.
- 2. Substantial completion of the Prospect Pumping Station and associated Dam remedial works by March 2007.
- 3. Substantial completion of the Warragamba Spillway and associated works by June 2007.
- 4. Completion of phase 1 of the Shoalhaven scheme and provision of an additional 50GL per annum resource yield by July 2010.
- 5. Completion of works to allow the release of environmental flows into the Upper Nepean River by July 2010."

## A2.2 Output measures for Sydney Water

Output (or activity) Measure - Water	Draft Determination Value	Final Determination Value
Renewal of critical water mains	41km	41km
Renewal of distribution mains	320km	320km
New mains laid by SWC	274km	274km
New recycled mains laid by SWC	51km	35km to Greenfield areas (growth)
		54km to existing customers (non- growth)
Pressure control areas established	165	100
Bulk water meters: - refurbished	85	135 (new and
- new	50	refurbished)
Average leakage for the year 2009	105 ML/d	105 ML/d
Pumping Station Substantial Renewals	40	36
Renewal of customer water meters	406,000	400,000
Service Reservoirs Substantial Renewals		
- roof refurbishments	14	14
- reservoir relining	30	30

#### A2.2.1 Outputs measures for Water Services

Output (or activity) Measure - Wastewater	Draft Determination Value	Final Determination Value
Repair collapsed sewers	24 km	24 km assumed over 150 jobs
Renew critical mains	41 km	41 km
Meet spill frequency of dry & wet weather overflows at sewage pumping stations	All SPSs	All SPSs
Comply with DEC effluent standards	All WWTWs	All WWTWs
Install chemical dosing plants for sewerage systems	8 No by 05/06	8 No by 05/06
Rehabilitate sewers at properties subject to repeat overflows	320 km	256km
Rehabilitate rising mains	0.7 km plus 4.5 km for tidal ingress	0.7 km plus 4.5 km for tidal ingress
Refurbish WWTWs	Bondi, North Head, Richmond	Bondi, North Head,
Replace Biosolids Plant	North Head	North Head
Install/amplify sewers to serve new development	Includes 24 km for Liverpool to Ashfield	Includes 24 km for Liverpool to Ashfield
Increase capacity at WWTWs	Wollongong, West Camden, Warragamba, Winmalee, Liverpool, North Head, Richmond, Riverstone, Rouse Hill, Shellharbour, Warriewood	Wollongong, West Camden, Warragamba, Liverpool, North Head, Richmond, Riverstone, Rouse Hill, Shellharbour, Warriewood
Rehabilitate catchments in Blue mountains and other hotspots. Build mathematical models	100 models and meet licence conditions	100 models and meet licence conditions
Decommission WWTWs	Warragamba, Glenbrook, Bellambi, Blackheath, Mt Victoria	Warragamba, Glenbrook, Bellambi, Blackheath, Mt Victoria
Renew old telemetry at WWTW	200 No.	200 No.
Upgrade Biosolids Plant	West Camden, Winmalee, Penrith	West Camden, Winmalee, Penrith

## A2.2.2 Output measures for Wastewater Services

## A2.2.3 Output measures for Stormwater Services

Output (or activity) Measure - Stormwater	Draft Determination Value	Final Determination Value
Complete SEIP projects	21 sites.	-
Install gross pollutant traps	21 sites	-
Complete SEIP projects and Install gross pollutant traps		21 sites
Complete Alexandria Canal Improvements to satisfaction of DIPNR by 2009	-	
Pipe and Channel renewal and rehabilitation by 2009	4km	11km

## A2.2.4 Output measures for Corporate

Output (or activity) Measure - Corporate	Draft Determination Value	Final Determination Value
Complete IT Infrastructure Security Project	-	-
Complete Field Resource Management project	380 computers	380 computers
Complete IT renewals	-	-
Complete rationalisation of depots and offices	27 sites reduced to 13	27 sites reduced to 13

## A2.2.5 Output measures for Desalination

Output (or activity) Measure - Corporate	Final Determination Value	
Site Acquisition	Purchase of suitable site at Kurnell by December 2005	
Project Development	Preparation of commercial documentation	
	Selection of two consortia to undertake pilot testing and detailed design	
Detailed design and testing	Results from 2 sets of pilot tests	
	2 sets of detailed cost estimates for construction and operation of desalination plant	
	2 sets of detailed engineering designs for desalination plant and associated infrastructure	
	Completed by end June 2006	
Project Management	Selection of preferred consortia	
	Environmental and concept planning approvals (and supporting studies)	
	Completed by September 2006	

## A2.2.6 Output measures for Potable Reuse at STPs

Output (or activity) Measure - Corporate	Final Determination Value
Reduce potable water use by 80% at STPs	North Head, Bondi and Malabar
Install recycled water plant	Bondi

## A2.3 Proposed Output measures for Hunter Water

## A2.3.1 Output measures for Water Services

Output (or activity) Measure	Output
Length of critical trunk mains undergoing condition assessment	65km
Length of trunk mains for renewal/upgrade	13km
Length of distribution mains for renewal/upgrade	55km
Pump stations constructed or upgraded to increase capacity for growth	Tallean Road, Cameron Park, Belmont high level system and Whitebridge, Cessnock, Wallsend, Aberdare, Mt View Rd, John Street Telarah, Irrawang St Raymond Terrace, Minmi,
New reservoirs constructed to provide capacity for growth	
- Commence	Lookout, Harpers Hill
- Substantially complete	Wyee
- Complete	Cameron Park, Boat Harbour, North Wallarah.
Water treatment upgrades	
- Commence	Automation of Tomago No 1 Water Treatment Plant
- Complete	Upgrade Dungog water treatment process - organic contaminant removal (PAC)

#### A2.3.2 Output measures for Wastewater Services

Output (or activity) Measure	Output
Length of Critical sewers renewed/refurbished	32km
Length of non-critical sewers renewed/refurbished	23km
Priority Sewer Program for Fern Bay, Kitchener and Lochinvar (number of properties able to connect).	550 ET
Priority Sewer Program for Millfield and Ellalong.	840 ET
(substantial completion).	
Major wastewater transport system upgrades (substantial completion)	Lake Macquarie, Newcastle, Dudley- Charlestown, Cessnock, Cardiff, Dora Creek, Beresfield/Morpeth.
Upgrades to wastewater treatment plants	
- Commence	Farley
- Substantially complete	Dora Creek, Raymond Terrace, Boulder Bay, Edgeworth (inlet works), Branxton
- Complete	Cessnock, Belmont

## A2.3.3 Output measures for Stormwater Services

Output (or activity) Measure	Output
Stormwater drainage channel rehabilitations	Newcastle & Cessnock systems.

## A2.3.4 Output measures for Corporate

Output (or activity) Measure	Output
Complete new Head Office and office relocation	FY 06
Replace customer meters 20mm	34,000
Replace customer meters > 20mm	2,000
Information Technology & Communication	
<ul> <li>Complete MIMS platform change</li> </ul>	FY 06
- Complete SCADA upgrade	FY 06
- Establish remote disaster recovery facility	FY 06

## APPENDIX 3 WACC

## A3.1 Calculating the WACC

The Tribunal has calculated the Weighted Average Cost of Capital (WACC) as a pre-tax real WACC. The methodology was to first calculate the Cost of Equity using the Capital Asset Pricing Model CAPM

 $R_e = Rf + \beta e \times (Rm - Rf)$ 

where:

Rf = the *nominal* risk free rate

Rm = the *nominal* weighted expected return of the whole market. This leads to the calculation of the market risk premium over the risk-free rate as Rm - Rf Beta (βe) = a measure of the risk of the asset relative to the market index

The cost of equity is then feed into the pre-tax real WACC formula thus

$$WACCpretax \quad real = \frac{\left(1 + \left\{\frac{R_e}{\left[1 - t \times (1 - \gamma)\right]} \times \left(\frac{E}{D + E}\right) + R_d \times \frac{D}{D + E}\right\}\right)}{(1 + i)} - 1$$

where:

Re = the nominal cost of equity

Rd = the nominal cost of debt

t = the statutory tax rate

Gamma ( $\gamma$ ) = the value attributed to imputation tax credits

E = the amount of equity in the capital structure

D = the amount of debt in the capital structure

E/(D + E) is the proportion of equity funding

D/(E + D) is the proportion of debt funding

*i* = inflation rate

The individual parameters used in the calculation of the WACC are set out below

# A3.2 The Tribunal's considerations in relation to nominal and real risk free rates and inflation

The Tribunal's finding is to base the WACC calculation on a nominal risk free rate of 5.2 per cent and a real risk free rate of 2.6 per cent. The implied inflation is 2.5 per cent.

In line with the proposals received from some of the water agencies, the Tribunal has used the nominal and real risk free rates (calculated as the 20-day averages of the ten-year Commonwealth Government Bonds and Treasury indexed bonds with similar maturity) to derive inflation for the WACC calculation (using the Fisher equation<sup>101</sup>). The 20-day averages for the nominal and real risk free rate and implied inflation at 2 August 2005 are shown in Table A3.1 below.

Table A3.1 Interest rates and implied inflation calculated on 2 August 20	005
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	Value (%)*
Nominal risk free rate	5.2%
Real risk free rate	2.6%
Implied inflation	2.5%

\* Calculated as the 20-day average of the ten year Commonwealth Government Bond indicator rate as prepared by Lewis Securities Ltd and published daily in the Australian Financial Review and the 20-day average of yields of the 2015 Treasury indexed bond, to 2 August 2005.

# A3.3 The Tribunal's considerations in relation to market risk premium

# The Tribunal's finding is to calculate WACC using a market risk premium in the range of 5.5 to 6.5 per cent.

The market risk premium (MRP) represents the additional return over the risk free rate of return that an investor requires for the risk of investing in a diversified equity portfolio. For past water price determinations, the Tribunal has used a range for the MRP of 5.0 to 6.0 per cent, in acknowledgement of the uncertainty associated with historical studies of the MRP.

The Tribunal's finding is to increase the range of the MRP to 5.5 to 6.5 per cent. It has maintained the use of a range for the MRP due to the large variability in observed MRP, for example, as estimated by the Centre for Research in Finance at the Australian Graduate School of Management (AGSM).<sup>102</sup>

The Sydney Catchment Authority and Hunter Water submitted that a MRP of 6 per cent would be appropriate. Other regulators such as the ACCC and the Victorian Essential Services Commission have assumed a value of 6 per cent in their WACC calculations.

<sup>&</sup>lt;sup>101</sup> The Fisher equation is  $(1 + r_{nominal}) = (1 + r_{real}) x (1 + i)$ 

<sup>&</sup>lt;sup>102</sup> Centre for Research in Finance, AGSM, (2004), *Risk Premium Estimates for Investors in Fully Paid Australian Listed Equity – January* 1974 *to December* 2003, Report prepared for IPART.

In arriving at its finding, the Tribunal had regard to the agencies' submissions and the values of MRP adopted by other Australian regulators. Importantly, it also considered evidence from long-term historical MRP studies. Table A3.2 provides a summary of the MRP studies it considered. The MRP estimates in this table depend considerably on the underlying methodology used and the time periods chosen for study. Of these studies, the lowest estimate is 5.8 per cent and the highest is 7.9 per cent, resulting in a mid-point of 6.9 per cent. However, the most recent study conducted by the AGSM indicates that the Australian market risk premium as measured by an arithmetic average including October 1987 is 5.8 per cent.

Source	Methodology	Period	MRP
AGSM	Arithmetic average, incl. Oct 1987	1974-2003	5.8%
	Arithmetic average, excl. Oct 1987	1974-2003	7.1%
Officer	Arithmetic mean <sup>103</sup>	1882-1987	7.9%
	Arithmetic mean <sup>104</sup>	1882-2001	7.2%
	Arithmetic mean <sup>105</sup>	1946-1991	6.0-6.5%
Hathaway <sup>106</sup>	Arithmetic mean	1882-1991	7.7%
	Arithmetic mean	1947-1991	6.6%
Dimson, Marsh & Staunton <sup>107</sup>	Arithmetic mean	1900-2000	7.6%
Gray <sup>108</sup>	Arithmetic mean	1883-2000	7.3%

#### Table A3.2 Market Risk Premium Studies

<sup>&</sup>lt;sup>103</sup> Officer, R. "Rates of return to shares, bond yields and inflation rates: An historical perspective", in *Share Markets and Portfolio Theory; Readings and Australian Evidence*, 2ed, University of Queensland Press, 1992.

<sup>&</sup>lt;sup>104</sup> Provided by Professor Officer to the Essential Services Commission (Review of Gas Access Arrangements, Final Decision, October 2001). Original information published in Officer, R. "Rates of return to shares, bond yields and inflation rates: An historical perspective", in *Share Markets and Portfolio Theory; Readings and Australian Evidence*, 2ed, University of Queensland Press, 1992.

<sup>&</sup>lt;sup>105</sup> Officer, R. "Rates of return to shares, bond yields and inflation rates: An historical perspective", in *Share Markets and Portfolio Theory; Readings and Australian Evidence*, 2ed, University of Queensland Press, 1992.

<sup>&</sup>lt;sup>106</sup> Hathaway, N. unpublished manuscript. "Australian Equity Risk Premium" in Valuation and the Cost of Capital Under an Imputation Tax System, Cost of Capital Seminar, Melbourne Business School, University of Melbourne, August 1996.

<sup>&</sup>lt;sup>107</sup> Cited in: E. Dimson, P. Marsh and M. Staunton, *Triumph of the Optimist: 101 years of Global Investment Returns*, Princeton University Press, 2002.

<sup>&</sup>lt;sup>108</sup> Gray, S. "Issues in Cost of Capital Estimation", UQ Business Schools, University of Queensland, 19 October 2001.
# A3.4 The Tribunal's considerations in relation to debt margin (including debt raising costs)

The Tribunal's finding is that the appropriate level of debt margin is in the range of 1.17 to 1.27 per cent, including an allowance of 0.125 per cent for debt raising costs.

The debt margin represents the cost of debt a company has to pay above the nominal risk free rate. The debt margin is related to current market interest rates on corporate bonds, the maturity of debt, the assumed capital structure and the credit rating. The Tribunal has determined the debt margin by:

- Assuming BBB+ to BBB rated corporate debt with a 10-year maturity (to best reflect the expected life over which these assets are expected to generate cash flows).
- Using a 20-day average of yields obtained from CBASpectrum<sup>109</sup>.

Hunter Water and the Sydney Catchment Authority support an approach that benchmarks the debt margin against capital markets, based on an investment grade credit rating, 10-year maturity with a 50 per cent gearing assumptions (see below for discussion on gearing levels). The 20-day average for BBB+ to BBB rated debt as at 2August 2005 was 104.25 to 114.1 basis points.

In its 2004 electricity network determination and its 2005 decision on AGLGN's Access Arrangement, the Tribunal included an allowance for debt raising costs based on reasonable estimates by consultants. This decision reflects market evidence that suggests that long-term investments (other than project finance) of more than five years may be difficult to obtain in the Australian market. This implies that businesses frequently have to refinance their debt and incur costs in doing so.

Allowances for debt raising costs suggested in previous consultancy reports by ABNAmro and Westpac ranged from 12.5 to 25 basis points.

The resulting overall debt margin for the final decision is 117 to 127 basis points.

## A3.5 The Tribunal's considerations in relation to gearing level

### The Tribunal's finding is that the appropriate level of gearing is 60 per cent.

When determining the level of gearing used to calculate WACC, the Tribunal adopts a benchmark capital structure, rather than the actual financing structure, to ensure that customers will not bear the cost associated with an inefficient financing structure.

The Sydney Catchment Authority and Hunter Water proposed a gearing ratio of 50 per cent, on the basis that overseas businesses (especially UK water businesses) have a lower gearing ratio than 60 per cent. After reviewing the gearing ratios of UK water businesses (see Table A3.3), the Tribunal believes that the Sydney Catchment Authority's and Hunter Water's claims are unsubstantiated.

<sup>&</sup>lt;sup>109</sup> CBASpectrum is a database service from the Commonwealth Bank of Australia. The database estimates fair yield curves for Australian corporate debt.

Business <sup>110</sup>	Gearing (per cent)	
	1990/91	February 2005
Anglican Water Group	13.5	80
Bristol Water	57.5	59
Northumbrian Water	12.9	69
Kelda Group	2.4	52
Severn Trent	0	53

Table A3.3	UK water businesses	- gearing (book	value of equity)
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Source: London Stock Exchange. Gearing numbers for 1990/91 from Annual Reports. Gearing numbers for February 2005 from London Stock Exchange.

UK water authorities were privatised in November 1989 and Table 7.7 presents a snapshot of the change in gearing ratios for the largest UK businesses providing water service only since privatisation. In September 2004, the gearing ratios ranged from 52 to 80 per cent with an average of 62 per cent.

The Tribunal believes that there is no new evidence suggesting that gearing ratios for water businesses have decreased since the 2003 determination.

# A3.6 The Tribunal's considerations in relation to dividend imputation factor (gamma)

#### The Tribunal's finding is to use a gamma range of 0.3 to 0.5.

Under the Australian dividend imputation system, investors receive a tax credit (franking credit) for the company tax they have paid. This ensures the investor is not taxed twice on their investment returns (ie, once at the company level and once on the personal tax level).

The value of imputation tax credits is represented in the capital asset pricing model (CAPM) by 'gamma'. The rationale behind this, including the value of gamma in the CAPM, is that if investors are receiving a tax credit from their investment, they would accept an investment with a lower return than if there were no tax credits attached to this investment. The gamma is an important input in the CAPM, as a high value (for example one) would reduce the cost of capital considerably.

The Tribunal's finding is to continue using a gamma range of 0.3 to 0.5 as in previous water price determinations. This is consistent with Hunter Water's and the Sydney Catchment Authority's proposals. The debate in Australia about what value to assign to gamma has centred on the assumptions that capital markets are either fully globally integrated or fully segregated within local markets. The use of a domestic CAPM, with a domestic MRP and betas, should imply that capital markets are fully segregated and that the marginal investor is domestic.

<sup>&</sup>lt;sup>110</sup> The Tribunal has limited its analysis to companies that mainly are water businesses and have a market capitalisation in excess of 100 million British pounds. The Tribunal has ignored diversified water businesses, as these would not give correct guidance on the appropriate gearing level for a "pure" water business.

In arriving at its finding, the Tribunal had regard to a number of studies where gamma has been estimated.<sup>111</sup> These studies indicate that the gamma value is anywhere between zero and one. The Tribunal's view is that assuming the marginal investor in Australian equities is domestic, under the *New Business Tax System (Miscellaneous) Act (No. 1) 2000* imputation tax credits should have a value greater than zero. The Tribunal has decided to maintain its previous approach of assigning some value to gamma by using a range of 0.3 to 0.5. It believes that this range reflects both the uncertainty surrounding the value investors attach to imputation tax credits, as well as the different franking credit distribution rates of companies.

## A3.7 The Tribunal's considerations in relation to tax rate

### The Tribunal's finding is to use the statutory tax rate of 30 per cent.

This finding is consistent with the 2003 determinations, and with findings made by the Tribunal in other industries.

## A3.8 The Tribunal's considerations in relation to equity beta

### The Tribunal's finding on the range of an equity beta range is 0.80 to 1.0.

The Tribunal's final decision on the equity beta differs from its draft determination. The Tribunal's final finding on the range of an equity beta range is set out in section 7.3.4.

## A3.9 The Tribunal's considerations in relation to debt beta

#### The Tribunal's finding is that the appropriate value for debt beta is zero.

The debt beta reflects the risk of a debt security and how it correlates with the market. The debt beta mainly reflects the default risk of debt securities. The relative riskiness of an individual security is reflected in the issuing company's credit rating. In practice, the debt beta is unobservable and unmeasurable, and is solely used in the equity beta conversion formula.

In the 2003 determination, the Tribunal used a debt beta range of 0.06 to 0.14. For the 2005 determination, the Tribunal's finding to use a debt beta assumption of zero, consistent with its 2005 decision on AGLGN's access arrangement and evidence of market practice contained in independent expert reports.<sup>112</sup>

See for example, Cannavan, Finn & Gray, 2004, The value of dividend imputation tax credits in Australia, Journal of Financial Economics 73,1, pp 167-197; Bellamy, D and S. Gray, 2004. Using Stock Price Changes to Estimate the Value of Dividend Franking Credits. Working Paper University of Queensland, Business School; Chu, H., Partington G. The market value of dividends: evidence from a new method, working paper, UTS, 2001.

<sup>&</sup>lt;sup>112</sup> See for example, Grant Samuel, KPMG, Price Waterhouse Coopers, from 2003 to 2005.