

Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation

From date of Gazettal

Water — Determinations and Final Report
July 2009

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Hunter Water Corporation

Determination No. 4, 2009

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Preliminary

1 Background

- (a) Section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW) provides the Independent Pricing and Regulatory 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.

- (b) The Hunter Water Corporation (the **Corporation**) is listed as a government agency for the purposes of Schedule 1 of the IPART Act.

However, Schedule 1 excludes any water or sewerage services provided by the Corporation in respect of the Dungog local government area prior to the commencement of IPART's first determination made under section 11 of the IPART Act for the Corporation after commencement of the *Independent Pricing and Regulatory Tribunal Amendment (Hunter Water) Regulation 2008* (NSW) (the **Regulation**).

The Regulation commenced on 27 June 2008. This is IPART's first determination made under section 11 of the IPART Act for the Corporation after commencement of the Regulation.

Accordingly, the water and sewerage services provided by the Corporation in respect of the Dungog local government area are no longer excluded for the purposes of Schedule 1 of the IPART Act from the Commencement Date.

- (c) The services of the Corporation declared as monopoly services under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997* (the **Order**) are:

- (1) water supply services;
- (2) sewerage services;
- (3) stormwater drainage services;
- (4) trade waste services;
- (5) 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;
- (6) 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 (1) to (5); and
- (7) other water supply, sewerage and drainage services for which no alternative supply exists,

(together the **Monopoly Services**).

Accordingly, IPART may determine the prices for the Monopoly Services.

- (d) On 15 July 2008, the Minister for Water directed IPART under section 16A of the IPART Act to, when determining the maximum price for government monopoly services provided by the Corporation from 1 July 2009, include in the maximum price an amount representing the efficient cost of complying with the requirements imposed on the Corporation to:
 - (1) immediately bring forward the construction of a 450 billion litre dam at Tillegra; and
 - (2) provide a subsidy of up to \$10 million for the Kooragang Island water recycling project.
- (e) In investigating and reporting on the pricing of the Monopoly Services, IPART has had regard to a broad range of matters, including:
 - (1) the issues directed by the Minister for Water; and
 - (2) the criteria set out in section 15(1) of the IPART Act.
- (f) In accordance with section 13A of the IPART Act, IPART has fixed a maximum price for the Monopoly Services or has established a methodology for fixing the maximum price. Certain prices in this determination have been set using a methodology to allow for the possibility of a variation between forecast expenditure (accepted by IPART) and actual expenditure on Tillegra Dam by the Corporation for the period 1 July 2009 to 31 December 2011. Reasons for IPART's use of a methodology, as required by section 13A(3) of the IPART Act, are set out in Schedule 9.
- (g) Under section 18(2) of the IPART Act, the Corporation may not fix a price below that determined by IPART without the approval of the Treasurer.

2 Application of this determination

- (a) 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.
- (b) This determination commences on 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 2013. The maximum prices in this determination prevailing as at 30 June 2013 continue to apply beyond 30 June 2013 until this determination is replaced.

3 Replacement of Determination No. 6 of 2005

Subject to clauses 2.4(b) and 2.4(d) of Schedule 8, this determination replaces Determination No. 6 of 2005 from the Commencement Date. The replacement does not affect anything done or omitted to be done, or rights and obligations accrued under Determination No. 6 of 2005 prior to its replacement.

4 Monitoring

IPART 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 Schedules

- (a) Schedule 1 and the tables in that schedule set out the maximum prices that the Corporation may charge for water supply services in relation to:
 - (1) Properties outside the Shire of Dungog; and
 - (2) Properties in the Shire of Dungog which are directly connected to the Chichester Main.
- (b) Schedule 2 and the tables in that schedule set out the maximum prices that the Corporation may charge for water supply services in relation to Properties in the Shire of Dungog which are not directly connected to the Chichester Main.
- (c) Schedule 3 and the tables in that schedule set out the maximum prices that the Corporation may charge for sewerage services.
- (d) Schedule 4 and the tables in that schedule set out the maximum prices that the Corporation may charge for stormwater drainage services.
- (e) Schedule 5 and the tables in that schedule set out the maximum prices that the Corporation may charge for trade waste services.
- (f) Schedule 6 and the tables in that schedule set out the maximum prices that the Corporation may charge for backlog sewerage services and other sewerage services.
- (g) Schedule 7 and the table in that schedule set out the maximum prices that the Corporation may charge for ancillary and miscellaneous customer services.
- (h) Schedule 8 sets out the definitions and interpretation provisions.
- (i) Schedule 9 sets out the reasons why IPART has chosen to set a methodology for fixing a maximum price.

Schedule 1 Water supply services for Properties outside the Shire of Dungog and Properties in the Shire of Dungog which are directly connected to the Chichester Main¹

1 Application

This schedule sets the maximum prices that the Corporation may charge for services under paragraph (a) of the Order (water supply services) supplied to Properties outside the shire of Dungog and Properties in the Shire of Dungog which are directly connected to the Chichester Main.²

The maximum prices that the Corporation may charge for water supply services supplied to Properties in the Shire of Dungog which are not directly connected to the Chichester Main are set out in Schedule 2.

2 Categories for pricing purposes

Prices for water supply services supplied to Properties outside the Shire of Dungog and Properties in the Shire of Dungog which are directly connected to the Chichester Main have been determined for 2 categories:

- (a) Metered Properties; and
- (b) Unmetered Properties.

¹ For the avoidance of doubt, this Schedule applies to water supply services provided by the Corporation to:

- (a) all Properties located outside the Shire of Dungog; and
- (b) all Properties located in the Shire of Dungog which are directly connected to the Chichester Main.

² The maximum price that may be levied by the Corporation for the provision of water supply services to Gosford City Council and Wyong Shire Council is contained in separate Determination No 5, 2009.

3 Charges for water supply services of Filtered Water to Metered Properties

The maximum price that may be levied by the Corporation for the provision of Filtered Water to a Metered Property (which is outside the Shire of Dungog or in the Shire of Dungog and directly connected to the Chichester Main) connected to the Water Supply System for a Billing Cycle is:

- (a) **from the Commencement Date to 30 June 2012**, the sum of the following:
- (1) the water service charge calculated as follows:

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge set out in Table 1 (corresponding to the applicable Meter size and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge calculated as follows:
- (A) **for each kL of Filtered Water used up to and including 50,000kL per Year** – the water usage charge in Table 2 corresponding to the applicable Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period; and
- (B) **for each kL of Filtered Water used above 50,000kL per Year** – the water usage charge in Table 4 corresponding to the applicable location and Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period; and

- (b) **from 1 July 2012 to 30 June 2013**, the sum of the following:
- (1) the water service charge calculated as follows:

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge set out in Table 1
(corresponding to the applicable Meter size and Period in that
table);

ΔT = the adjustment as determined under clause 1.3 of
Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge calculated as follows:
- (A) **for each kL of Filtered Water used up to and including 50,000kL per Year** – the water usage charge in Table 2 corresponding to the applicable Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period; and
 - (B) **for each kL of Filtered Water used above 50,000kL per Year** – the water usage charge in Table 4 corresponding to the applicable location and Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period.

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 which is outside the Shire of Dungog or in the Shire of Dungog and directly connected to the Chichester Main for a Billing Cycle is:

- (a) **from the Commencement Date to 30 June 2012**, the sum of the following:
- (1) the water service charge calculated as follows:

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge set out in Table 1
(corresponding to the applicable Meter size and Period in that
table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge in Table 3 corresponding to the applicable Period, multiplied by the volume (in kL) of Unfiltered Water used in the Meter Reading Period; and

(b) **from 1 July 2012 to 30 June 2013**, the sum of the following:

- (1) the water service charge calculated as follows:

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge set out in Table 1 (corresponding to the applicable Meter size and Period in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge in Table 3 corresponding to the applicable Period, multiplied by the volume (in kL) of Unfiltered Water used in the Meter Reading Period.

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 (which is outside the Shire of Dungog or in the Shire of Dungog and directly connected to the Chichester Main) connected to the Water Supply System for a Billing Cycle is calculated as follows:

(a) **from the Commencement Date to 30 June 2012:**

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge set out in Table 1 (corresponding to the applicable Diameter Pipe size and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

(b) **from 30 June 2012 to 1 July 2013:**

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge set out in Table 1 (corresponding to the applicable Meter size and Period in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

6 Levying charges on Multi Premises

6.1 Water supply charges for Multi Premises

- (a) Clause 6 of this schedule prescribes how the maximum prices in this schedule are to be levied on Multi Premises outside the Shire of Dungog or in the Shire of Dungog and directly connected to the Chichester Main, and specifically how they are to be levied on persons who own, control or occupy the Multi Premises.
- (b) Clauses 3 and 4 of this schedule do not apply to charges for Metered Properties if this clause 6 is capable of applying to those Metered Properties.

6.2 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:

- (c) **from the Commencement Date to 30 June 2012:**

$$\left(\left(\frac{WSC}{P} \times BC \right) + E \right) \times \frac{F}{G}$$

Where:

WSC = the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

E = the water usage charge for each Common Water Meter calculated by applying clause 3(a)(2) and clause 4(a)(2) (as applicable) of this schedule for the Meter Reading Period;

F = the Unit Entitlement of that Strata Title Lot; and

G = the total Unit Entitlement of that Strata Title Building; and

(d) **from 1 July 2012 to 30 June 2013:**

$$\left(\left(\left(\frac{WSC - \Delta T}{P} \right) \times BC \right) + E \right) \times \frac{F}{G}$$

Where:

WSC = the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

E = the water usage charge for each Common Water Meter calculated by applying clause 3(b)(2) and clause 4(b)(2) (as applicable) of this schedule for the Meter Reading Period;

F = the Unit Entitlement of that Strata Title Lot; and

G = the total Unit Entitlement of that Strata Title Building.

6.3 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;
- (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:

- (d) on the Strata Title Lot is the following:
 - (1) **from the Commencement Date to 30 June 2012**, the sum of the following:
 - (A) the water service charge equal to:

$$\frac{A}{B} \times \left(\frac{WSC}{P} \times BC \right)$$

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;

WSC = the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (B) the water usage charge for the Meter servicing that Strata Title Lot calculated by applying clause 3(a)(2) and clause 4(a)(2) (as applicable) of this schedule for the Meter Reading Period; and

- (2) **from 1 July 2012 to 30 June 2013:**

- (A) the water service charge equal to:

$$\frac{A}{B} \times \left(\left(\frac{WSC - \Delta T}{P} \right) \times BC \right)$$

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;

WSC = the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (B) the water usage charge for the Meter servicing that Strata Title Lot calculated by applying clause 3(b)(2) and clause 4(b)(2) (as applicable) of this schedule for the Meter Reading Period; and
- (e) on the Owners Corporation of that Strata Title Building is the water usage charge calculated as follows:

$$WUC \times (A - B)$$

Where:

WUC = the water usage charge in clause 3(a)(2), clause 3(b)(2), clause 4(a)(2) and clause 4(b)(2) (as applicable);

A = the total volume of water recorded by all Common Water Meters for that Strata Title Building; and

B = the total volume of water recorded by the Meters servicing all the Strata Title Lots within that Strata Title Building.

6.4 Multi Premises which is not a Strata Title Building

For a Multi Premises which:

- (a) is not a Strata Title Building;
- (b) is connected to the Water Supply System; and
- (c) 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:

(d) **from the Commencement Date to 30 June 2012**, the sum of the following:

(1) the water service charge calculated as follows:

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Meter size and Period);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

(2) the water usage charge for each Common Water Meter calculated by applying clause 3(a)(2) and clause 4(a)(2) (as applicable) of this schedule for the Meter Reading Period; and

(e) **from 1 July 2012 to 30 June 2013**, the sum of the following:

(1) the water service charge calculated as follows:

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge in Table 1 for each Common Water Meter (corresponding to the applicable Meter size and Period);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

(2) the water usage charge for each Common Water Meter calculated by applying clause 3(b)(2) and clause 4(b)(2) (as applicable) of this schedule for the Meter Reading Period.

Tables 1, 2, 3 and 4

Table 1 Water service charge for Metered Properties and Unmetered Properties outside the Shire of Dungog or in the Shire of Dungog and directly connected to the Chichester Main

Meter / Diameter Pipe size	Meter equivalent	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
20mm	1.00	39.94	40.38 x (1+ΔCPI ₁)	40.51 x (1+ΔCPI ₂)	41.87 x (1+ΔCPI ₃)
25mm	1.56	62.40	63.09 x (1+ΔCPI ₁)	63.30 x (1+ΔCPI ₂)	65.43 x (1+ΔCPI ₃)
32mm	2.56	102.25	103.36 x (1+ΔCPI ₁)	103.70 x (1+ΔCPI ₂)	107.19 x (1+ΔCPI ₃)
40mm	4.00	159.76	161.50 x (1+ΔCPI ₁)	162.04 x (1+ΔCPI ₂)	167.49 x (1+ΔCPI ₃)
50mm	6.25	249.62	252.35 x (1+ΔCPI ₁)	253.19 x (1+ΔCPI ₂)	261.70 x (1+ΔCPI ₃)
65mm	10.56	421.85	426.47 x (1+ΔCPI ₁)	427.89 x (1+ΔCPI ₂)	442.27 x (1+ΔCPI ₃)
80mm	16.00	639.03	646.01 x (1+ΔCPI ₁)	648.17 x (1+ΔCPI ₂)	669.95 x (1+ΔCPI ₃)
100mm	25.00	998.48	1,009.39 x (1+ΔCPI ₁)	1,012.77 x (1+ΔCPI ₂)	1,046.79 x (1+ΔCPI ₃)
150mm	56.25	2,246.58	2,271.13 x (1+ΔCPI ₁)	2,278.72 x (1+ΔCPI ₂)	2,355.29 x (1+ΔCPI ₃)
200mm	100.00	3,993.92	4,037.55 x (1+ΔCPI ₁)	4,051.06 x (1+ΔCPI ₂)	4,187.17 x (1+ΔCPI ₃)
250mm	156.25	6,240.49	6,308.68 x (1+ΔCPI ₁)	6,329.78 x (1+ΔCPI ₂)	6,542.45 x (1+ΔCPI ₃)
300mm	225.00	8,986.31	9,084.50 x (1+ΔCPI ₁)	9,114.89 x (1+ΔCPI ₂)	9,421.13 x (1+ΔCPI ₃)
350mm	306.25	12,231.37	12,365.01 x (1+ΔCPI ₁)	12,406.37 x (1+ΔCPI ₂)	12,823.21 x (1+ΔCPI ₃)

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

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

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water usage charge ^a	1.57	$1.68 \times (1 + \Delta CPI_1)$	$1.81 \times (1 + \Delta CPI_2)$	$1.93 \times (1 + \Delta CPI_3)$

^a This water usage charge also applies where there is a recycled water top up.

Table 3 Unfiltered Water usage charge

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water usage charge	1.20	$1.29 \times (1 + \Delta CPI_1)$	$1.38 \times (1 + \Delta CPI_2)$	$1.48 \times (1 + \Delta CPI_3)$

Table 4 Water usage charge for water consumption exceeding 50,000kL

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Location				
Kurri Kurri	1.55	$1.66 \times (1 + \Delta CPI_1)$	$1.78 \times (1 + \Delta CPI_2)$	$1.91 \times (1 + \Delta CPI_3)$
Lookout	1.45	$1.55 \times (1 + \Delta CPI_1)$	$1.65 \times (1 + \Delta CPI_2)$	$1.76 \times (1 + \Delta CPI_3)$
Newcastle	1.41	$1.51 \times (1 + \Delta CPI_1)$	$1.61 \times (1 + \Delta CPI_2)$	$1.71 \times (1 + \Delta CPI_3)$
Seaham - Hexham	1.26	$1.34 \times (1 + \Delta CPI_1)$	$1.42 \times (1 + \Delta CPI_2)$	$1.49 \times (1 + \Delta CPI_3)$
South Wallsend	1.48	$1.58 \times (1 + \Delta CPI_1)$	$1.69 \times (1 + \Delta CPI_2)$	$1.80 \times (1 + \Delta CPI_3)$
Tomago- Kooragang	1.22	$1.30 \times (1 + \Delta CPI_1)$	$1.37 \times (1 + \Delta CPI_2)$	$1.44 \times (1 + \Delta CPI_3)$
All other locations (except those Properties in the Shire of Dungog which are not directly connected to the Chichester Main)	1.57	$1.68 \times (1 + \Delta CPI_1)$	$1.81 \times (1 + \Delta CPI_2)$	$1.93 \times (1 + \Delta CPI_3)$

Schedule 2 Water supply services to Properties in the Shire of Dungog which are not directly connected to the Chichester Main

1 Application

This schedule sets the maximum prices that the Corporation may charge for services under paragraph (a) of the Order (water supply services) supplied to Properties in the Shire of Dungog which are not directly connected to the Chichester Main.

2 Categories for pricing purposes

Prices for water supply services supplied to Properties in the Shire of Dungog which are not directly connected to the Chichester Main have been determined for 2 categories:

- (a) Metered Properties; and
- (b) Unmetered Properties.

3 Charges for water supply services of Filtered Water to Metered Properties

The maximum price that may be levied by the Corporation for the provision of Filtered Water to a Metered Property in the Shire of Dungog which is not directly connected to the Chichester Main but is connected to the Water Supply System for a Billing Cycle is:

- (a) **from the Commencement Date to 30 June 2012**, the sum of the following:
 - (1) the water service charge calculated as follows:

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge set out in Table 5 (corresponding to the applicable Meter size and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

(2) the water usage charge calculated as follows:

(A) **for each kL of Filtered Water used up to and including 50,000kL per Year** - the water usage charge in Table 6 corresponding to the applicable Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period; and

(B) **for each kL of Filtered Water used above 50,000kL per Year** - the charge in Table 8 corresponding to the applicable Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period; and

(b) **from 1 July 2012 to 30 June 2013**, the sum of the following:

(1) the water service charge calculated as follows:

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge set out in Table 5 (corresponding to the applicable Meter size and Period in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

(2) the water usage charge calculated as follows:

(A) **for each kL of Filtered Water used up to and including 50,000kL per Year** - the water usage charge in Table 6 corresponding to the applicable Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period; and

(B) **for each kL of Filtered Water used above 50,000kL per Year** - the water usage charge in Table 8 corresponding to the applicable location and Period, multiplied by the volume (in kL) of Filtered Water used in the Meter Reading Period.

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 in the Shire of Dungog which is not directly connected to the Chichester Main for a Billing Cycle is:

- (a) **from the Commencement Date to 30 June 2012**, the sum of the following:

- (1) the water service charge calculated as follows:

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge set out in Table 5 (corresponding to the applicable Meter size and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge in Table 7 corresponding to the applicable Period, multiplied by the volume (in kL) of Unfiltered Water used in the Meter Reading Period; and

- (b) **from 1 July 2012 to 30 June 2013**, the sum of the following:

- (1) the water service charge calculated as follows:

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge set out in Table 5 (corresponding to the applicable Meter size and Period in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge in Table 7 corresponding to the applicable Period, multiplied by the volume (in kL) of Unfiltered Water used in the Meter Reading Period.

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 in the Shire of Dungog which is not directly connected to the Chichester Main but is connected to the Water Supply System for a Billing Cycle is calculated as follows:

- (a) **from the Commencement Date to 30 June 2012:**

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge set out in Table 5 (corresponding to the applicable Diameter Pipe size and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (b) **from 30 June 2012 to 1 July 2013:**

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge set out in Table 5 (corresponding to the applicable Meter size and Period in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

6 Levying charges on Multi Premises

6.1 Water supply charges for Multi Premises

- (a) Clause 6 of this schedule prescribes how the maximum prices in this schedule are to be levied on Multi Premises in the Shire of Dungog which are not directly connected to the Chichester Main, and specifically how they are to be levied on persons who own, control or occupy the Multi Premises.
- (b) Clauses 3 and 4 of this schedule do not apply to charges for Metered Properties if this clause 6 is capable of applying to those Metered Properties.

6.2 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:

- (c) **from the Commencement Date to 30 June 2012:**

$$\left(\left(\frac{WSC}{P} \times BC \right) + E \right) \times \frac{F}{G}$$

Where:

WSC = the water service charge in Table 5 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

E = the water usage charge for each Common Water Meter calculated by applying clause 3(a)(2) and clause 4(a)(2) (as applicable) of this schedule for the Meter Reading Period;

F = the Unit Entitlement of that Strata Title Lot; and

G = the total Unit Entitlement of that Strata Title Building; and

(d) **from 1 July 2012 to 30 June 2013:**

$$\left(\left(\left(\frac{WSC - \Delta T}{P} \right) \times BC \right) + E \right) \times \frac{F}{G}$$

Where:

WSC = the water service charge in Table 5 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

E = the water usage charge for each Common Water Meter calculated by applying clause 3(b)(2) and clause 4(b)(2) (as applicable) of this schedule for the Meter Reading Period;

F = the Unit Entitlement of that Strata Title Lot; and

G = the total Unit Entitlement of that Strata Title Building.

6.3 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;
- (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:

(d) on the Strata Title Lot is the following:

- (1) **from the Commencement Date to 30 June 2012**, the sum of the following:
 - (A) the water service charge equal to:

$$\frac{A}{B} \times \left(\frac{WSC}{P} \times BC \right)$$

Where:

A = the meter equivalent in Table 5 corresponding to the Meter size of that Strata Title Lot;

B = the amount equal to the sum of the meter equivalents in Table 5 corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building;

WSC = the water service charge in Table 5 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (B) a water usage charge for the Meter servicing that Strata Title Lot calculated by applying clause 3(a)(2) and clause 4(a)(2) (as applicable) of this schedule for the Meter Reading Period; and
- (2) **from 1 July 2012 to 30 June 2013**, the sum of the following:
- (A) the water service charge equal to:

$$\frac{A}{B} \times \left(\left(\frac{WSC - \Delta T}{P} \right) \times BC \right)$$

Where:

A = the meter equivalent in Table 5 corresponding to the Meter size of that Strata Title Lot;

B = the amount equal to the sum of the meter equivalents in Table 5 corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building;

WSC = the water service charge in Table 5 for each Common Water Meter (corresponding to the applicable Period and Meter size in that table);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (B) the water usage charge for the Meter servicing that Strata Title Lot calculated by applying clause 3(b)(2) and clause 4(b)(2) (as applicable) of this schedule for the Meter Reading Period; and

- (e) on the Owners Corporation of that Strata Title Building is the water usage charge calculated as follows:

$$WUC \times (A - B)$$

Where:

WUC = the water usage charge in clause 3(a)(2), clause 3(b)(2), clause 4(a)(2) and clause 4(b)(2) (as applicable);

A = the total volume of water recorded by all Common Water Meters for that Strata Title Building; and

B = the total volume of water recorded by the Meters servicing all the Strata Title Lots within that Strata Title Building.

6.4 Multi Premises which is not a Strata Title Building

For a Multi Premises which:

- (a) is not a Strata Title Building;
- (b) is connected to the Water Supply System; and
- (c) 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:

- (d) **from the Commencement Date to 30 June 2012**, the sum of the following:

- (1) the water service charge equal to:

$$\frac{WSC}{P} \times BC$$

Where:

WSC = the water service charge in Table 5 for each Common Water Meter (corresponding to the applicable Meter size and Period);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the water usage charge for each Common Water Meter calculated by applying clause 3(a)(2) and clause 4(a)(2) (as applicable) of this schedule for the Meter Reading Period; and

(e) **from 1 July 2012 to 30 June 2013**, the sum of the following:

(1) the water service charge calculated as follows:

$$\left(\frac{WSC - \Delta T}{P} \right) \times BC$$

Where:

WSC = the water service charge in Table 5 for each Common Water Meter (corresponding to the applicable Meter size and Period);

ΔT = the adjustment as determined under clause 1.3 of Schedule 8;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

(2) the water usage charge for each Common Water Meter calculated by applying clause 3(b)(2) and clause 4(b)(2) (as applicable) of this schedule for the Meter Reading Period.

Tables 5, 6, 7 and 8

Table 5 Water service charge for Metered Properties and Unmetered Properties in the Shire of Dungog which are not directly connected to the Chichester Main

Meter / Diameter Pipe size	Meter equivalent	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
20mm	1.00	112.82	105.21 x (1+ΔCPI ₁)	95.83 x (1+ΔCPI ₂)	88.75 x (1+ΔCPI ₃)
25mm	1.56	176.28	164.39 x (1+ΔCPI ₁)	149.73 x (1+ΔCPI ₂)	138.68 x (1+ΔCPI ₃)
32mm	2.56	288.82	269.33 x (1+ΔCPI ₁)	245.32 x (1+ΔCPI ₂)	227.21 x (1+ΔCPI ₃)
40mm	4.00	451.28	420.84 x (1+ΔCPI ₁)	383.31 x (1+ΔCPI ₂)	355.01 x (1+ΔCPI ₃)
50mm	6.25	705.13	657.56 x (1+ΔCPI ₁)	598.92 x (1+ΔCPI ₂)	554.71 x (1+ΔCPI ₃)
65mm	10.56	1,191.67	1,111.27 x (1+ΔCPI ₁)	1,012.17 x (1+ΔCPI ₂)	937.46 x (1+ΔCPI ₃)
80mm	16.00	1,805.13	1,683.34 x (1+ΔCPI ₁)	1,533.23 x (1+ΔCPI ₂)	1,420.05 x (1+ΔCPI ₃)
100mm	25.00	2,820.52	2,630.22 x (1+ΔCPI ₁)	2,395.67 x (1+ΔCPI ₂)	2,218.83 x (1+ΔCPI ₃)
150mm	56.25	6,346.16	5,918.00 x (1+ΔCPI ₁)	5,390.26 x (1+ΔCPI ₂)	4,992.37 x (1+ΔCPI ₃)
200mm	100.00	11,282.06	10,520.89 x (1+ΔCPI ₁)	9,582.69 x (1+ΔCPI ₂)	8,875.33 x (1+ΔCPI ₃)
250mm	156.25	17,628.22	16,438.90 x (1+ΔCPI ₁)	14,972.96 x (1+ΔCPI ₂)	13,867.71 x (1+ΔCPI ₃)
300mm	225.00	25,384.64	23,672.01 x (1+ΔCPI ₁)	21,561.06 x (1+ΔCPI ₂)	19,969.50 x (1+ΔCPI ₃)
350mm	306.25	34,551.31	32,220.24 x (1+ΔCPI ₁)	29,347.00 x (1+ΔCPI ₂)	27,180.71 x (1+ΔCPI ₃)

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

Table 6 Filtered Water usage charge for water consumption of 50,000kL or less

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water usage charge ^a	1.57	$1.68 \times (1 + \Delta CPI_1)$	$1.81 \times (1 + \Delta CPI_2)$	$1.93 \times (1 + \Delta CPI_3)$

^a This water usage charge also applies where there is a recycled water top up.

Table 7 Unfiltered Water usage charge

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water usage charge	1.20	$1.29 \times (1 + \Delta CPI_1)$	$1.38 \times (1 + \Delta CPI_2)$	$1.48 \times (1 + \Delta CPI_3)$

Table 8 Water usage charge for water consumption exceeding 50,000kL

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water usage charge for Properties located in the Shire of Dungog which are not directly connected to the Chichester Main (but which are supplied from Chichester Dam)	1.22	$1.30 \times (1 + \Delta CPI_1)$	$1.37 \times (1 + \Delta CPI_2)$	$1.44 \times (1 + \Delta CPI_3)$

Schedule 3 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 3 categories:

- (a) Residential Properties;
- (b) Metered Non Residential Properties; and
- (c) Unmetered Non Residential Properties.

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:

$$\frac{SSC}{P} \times BC$$

Where:

SSC = the sewerage service charge set out in Table 9 (corresponding to the applicable Period and Meter size in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

4 Charges for sewerage services to Metered Non Residential Properties

The maximum price that may be levied by the Corporation for sewerage services to a Metered Non Residential Property 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 calculated as follows:

$$\left(\frac{SSC}{P} \times BC \right) \times DF$$

Where:

SSC = the sewerage service charge in Table 10 (corresponding to the applicable Period and Meter size in that table);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days; and

DF = the Discharge Factor for that Metered Non Residential Property; and

- (b) the sewerage usage charge calculated as follows:

$$(A \times DF) \times SUC$$

Where:

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

DF = the Discharge Factor for that Metered Non Residential Property; and

SUC = the sewerage usage charge in Table 11 (corresponding to the applicable Period in that table).

5 Charges for sewerage services to Unmetered Non Residential Properties

The maximum price that may be levied by the Corporation for sewerage services to an Unmetered Non Residential Property connected to the Sewerage System is:

$$\left(\frac{SSC}{P} \times BC \right) \times DF$$

Where:

SSC = the sewerage service charge in Table 10 (corresponding to the applicable Period and Diameter Pipe size in that table);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days; and

DF = the Discharge Factor for that Unmetered Non Residential Property.

6 Levying sewerage service charges on Multi Premises

6.1 Sewerage service charges on Multi Premises

- (a) Clause 6 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.
- (b) Clauses 3 and 4 of this schedule do not apply to charges for Metered Properties if this clause 6 is capable of applying to those Metered Properties.

6.2 Strata Title Lot (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 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 sewerage service charge for that Billing Cycle equal to the higher of:

- (1) the sewerage service charge calculated as follows:

$$\frac{SSC}{P} \times BC$$

Where:

SSC = the sewerage service charge in Table 12 (corresponding to the applicable Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycles Days; and

- (2) a sewerage service charge calculated as follows:

$$\left(\frac{SSC}{P} \times BC \right) \times \frac{E}{G}$$

Where:

SSC = the sewerage service charge in Table 9 (corresponding to the Meter size of each Common Water Meter);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

E = the Unit Entitlement for that Strata Title Lot; and

G = the total Unit Entitlement for that Strata Title Building.

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

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

- (a) is connected to the Sewerage System;
- (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:

- (d) on the Strata Title Lot for the provision of sewerage services to that Strata Title Lot is the sewerage service charge for that Billing Cycle equal to the higher of:
 - (1) the sewerage service charge calculated as follows:

$$\frac{SSC}{P} \times BC$$

Where:

SSC = the sewerage service charge in Table 12 (corresponding to the applicable Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

(2) a sewerage service charge calculated as follows:

$$\left(\frac{SSC}{P} \times BC \right) \times \frac{E}{G}$$

Where:

SSC = the sewerage service charge in Table 9 (corresponding to the Meter size of each Common Water Meter);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

E = the meter equivalent in Table 9 (corresponding to the Meter size of that Strata Title Lot); and

G = the amount equal to the sum of the meter equivalents in Table 9 (corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building); and

(e) on the Owners Corporation of that Strata Title Building is the sewerage usage charge for the Meter Reading Period calculated as follows:

$$\left(A \times \frac{B}{C} \right) \times DF \times SUC$$

Where:

A = the water in kL (recorded by all Common Water Meters) that is in excess of the water recorded by the Meters servicing all Strata Title Lots within that Strata Title Building for the Meter Reading Period;

B = the sum of the Unit Entitlements for all Non Residential Strata Title Lots in that Strata Title Building;

C = the total Unit Entitlement for that Strata Title Building;

DF = the Discharge Factor for that Strata Title Building; and

SUC = the sewerage usage charge in Table 11 of this schedule.

6.4 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:

$$\left(\frac{SSC}{P} \times BC \right) \times DF \times \left(\frac{E}{G} \right)$$

Where:

SSC = the sewerage service charge in Table 10 (corresponding to the Meter size of each Common Water Meter);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

DF = the Discharge Factor for that Strata Title Lot;

E = the Unit Entitlement for that Strata Title Lot; and

G = the total Unit Entitlement for that Strata Title Building; and

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

$$\left(A \times DF \right) \times SUC \times \left(\frac{E}{G} \right)$$

Where:

A = the water in kL (recorded by all Common Water Meters) for the Meter Reading Period;

DF = the Discharge Factor for that Strata Title Lot;

SUC = the sewerage usage charge in Table 11 for each Common Water Meter;

E = the Unit Entitlement for that Strata Title Lot; and

G = the total Unit Entitlement for that Strata Title Building.

6.5 Strata Title Lot (Non Residential Property) 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 is a Non Residential Property and which:

- (a) is connected to the Sewerage System;
- (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:

- (d) on the Strata Title Lot is the sum of the following:
 - (1) a sewerage service charge equal to:

$$\left(\frac{SSC}{P} \times BC \right) \times DF \times \frac{E}{G}$$

Where:

SSC = the sewerage service charge in Table 10 (corresponding to the Meter size of each Common Water Meter);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days;

DF = the Discharge Factor for that Strata Title Lot;

E = the meter equivalent in Table 10 (corresponding to the Meter size of that Strata Title Lot); and

G = the amount equal to the sum of the meter equivalents in Table 10 (corresponding to the Meter sizes of all the Strata Title Lots within that Strata Title Building); and

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

$$(A \times DF) \times SUC$$

Where:

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

DF = the Discharge Factor for that Strata Title Lot; and

SUC = the sewerage usage charge in Table 11 (corresponding to the applicable Period in that table) for the Meter servicing that Strata Title Lot; and

- (e) on the Owners Corporation of the Strata Title Building is the sewerage usage charge for the Meter Reading Period calculated as follows:

$$\left(A \times \frac{B}{C} \right) \times DF \times SUC$$

Where:

A = the water in kL (recorded by all Common Water Meters) that is in excess of the water recorded by the Meters servicing all Strata Title Lots within that Strata Title Building for the Meter Reading Period;

B = the sum of the Unit Entitlements for all Non Residential Strata Title Lots in that Strata Title Building;

C = the total Unit Entitlement for that Strata Title Building;

DF = the Discharge Factor for the Strata Title Building; and

SUC = the sewerage usage charge in Table 11 of this schedule.

6.6 Multi Premises (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;
 - (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 sewerage service charge for that Billing Cycle equal to the higher of:

- (1) the sewerage service charge calculated as follows:

$$\frac{SSC}{P} \times BC$$

Where:

SSC = the sewerage service charge in Table 9 for each Common Water Meter (corresponding to the applicable Meter size and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (2) the sewerage service charge calculated as follows:

$$\left(\frac{SSC}{P} \times BC \right) \times D$$

Where:

SSC = the sewerage service charge in Table 12 (corresponding to the applicable Period in that table);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days; and

D = the number of Properties within that Multi Premises.

6.7 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;
- (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:

$$\left(\frac{SSC}{P} \times BC \right) \times DF$$

Where:

SSC = the sewerage service charge in Table 10 for each Common Water Meter (corresponding to the applicable Meter size and Period in that table);

P = the applicable Period Days;

BC = the applicable Billing Cycle Days; and

DF = the Discharge Factor for that Multi Premises; and

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

$$(A \times DF) \times SUC$$

Where:

A = the water in kL (recorded by all Common Water Meters) for the Meter Reading Period;

DF = the Discharge Factor for that Multi Premises; and

SUC = the sewerage usage charge in Table 11 for each Common Water Meter (corresponding to the applicable Period in that table).

Tables 9, 10, 11 and 12

Table 9 Sewerage service charges for Residential Properties

Meter / Diameter Pipe Size	Meter equiva- lent	Commence- ment Date to 30 June 2010 (\$) ^a	1 July 2010 to 30 June 2011 (\$) ^a	1 July 2011 to 30 June 2012 (\$) ^a	1 July 2012 to 30 June 2013 (\$) ^a
20mm	1.00	462.43	480.24 x (1+ΔCPI ₁)	496.90 x (1+ΔCPI ₂)	514.10 x (1+ΔCPI ₃)
25mm	1.56	722.54	750.38 x (1+ΔCPI ₁)	776.41 x (1+ΔCPI ₂)	803.29 x (1+ΔCPI ₃)
32mm	2.56	1,183.82	1,229.42 x (1+ΔCPI ₁)	1,272.07 x (1+ΔCPI ₂)	1,316.10 x (1+ΔCPI ₃)
40mm	4.00	1,849.71	1,920.97 x (1+ΔCPI ₁)	1,987.61 x (1+ΔCPI ₂)	2,056.41 x (1+ΔCPI ₃)
50mm	6.25	2,890.18	3,001.51 x (1+ΔCPI ₁)	3,105.64 x (1+ΔCPI ₂)	3,213.14x (1+ΔCPI ₃)
65mm	10.56	4,884.39	5,072.55x (1+ΔCPI ₁)	5,248.52 x (1+ΔCPI ₂)	5,430.21 x (1+ΔCPI ₃)
80mm	16.00	7,398.84	7,683.86 x (1+ΔCPI ₁)	7,950.43 x (1+ΔCPI ₂)	8,225.64 x (1+ΔCPI ₃)
100mm	25.00	11,560.70	12,006.03 x (1+ΔCPI ₁)	12,422.54 x (1+ΔCPI ₂)	12,852.56 x (1+ΔCPI ₃)
150mm	56.25	26,011.56	27,013.58 x (1+ΔCPI ₁)	27,950.73 x (1+ΔCPI ₂)	28,918.26 x (1+ΔCPI ₃)
200mm	100.00	46,242.77	48,024.14 x (1+ΔCPI ₁)	49,690.18 x (1+ΔCPI ₂)	51,410.24 x (1+ΔCPI ₃)
250mm	156.25	72,254.33	75,037.72 x (1+ΔCPI ₁)	77,640.90 x (1+ΔCPI ₂)	80,328.50 x (1+ΔCPI ₃)
300mm	225.00	104,046.24	108,054.31 x (1+ΔCPI ₁)	111,802.89 x (1+ΔCPI ₂)	115,673.04 x (1+ΔCPI ₃)
350mm	306.25	141,618.49	147,073.92 x (1+ΔCPI ₁)	152,176.16 x (1+ΔCPI ₂)	157,443.86 x (1+ΔCPI ₃)

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

^a The charges in this table are presented net of the 50% Discharge Factor which is applied to Residential Properties when calculating sewerage service charges.

Table 10 Sewerage service charges for Non Residential Properties

Meter / Diameter Pipe Size	Meter equiva- lent	Commence- ment Date to 30 June 2010 (\$) ^a	1 July 2010 to 30 June 2011 (\$) ^a	1 July 2011 to 30 June 2012 (\$) ^a	1 July 2012 to 30 June 2013 (\$) ^a
20mm	1.00	924.86	960.48 x (1+ΔCPI ₁)	993.80 x (1+ΔCPI ₂)	1,028.20 x (1+ΔCPI ₃)
25mm	1.56	1,445.08	1,500.75 x (1+ΔCPI ₁)	1,552.82 x (1+ΔCPI ₂)	1,606.57 x (1+ΔCPI ₃)
32mm	2.56	2,367.63	2,458.84 x (1+ΔCPI ₁)	2,544.14 x (1+ΔCPI ₂)	2,632.20 x (1+ΔCPI ₃)
40mm	4.00	3,699.42	3,841.93 x (1+ΔCPI ₁)	3,975.21 x (1+ΔCPI ₂)	4,112.82 x (1+ΔCPI ₃)
50mm	6.25	5,780.35	6,003.02 x (1+ΔCPI ₁)	6,211.28 x (1+ΔCPI ₂)	6,426.28 x (1+ΔCPI ₃)
65mm	10.56	9,768.78	10,145.10 x (1+ΔCPI ₁)	10,497.05 x (1+ΔCPI ₂)	10,860.42 x (1+ΔCPI ₃)
80mm	16.00	14,797.69	15,367.72 x (1+ΔCPI ₁)	15,900.86 x (1+ΔCPI ₂)	16,451.28 x (1+ΔCPI ₃)
100mm	25.00	23,121.39	24,012.07 x (1+ΔCPI ₁)	24,845.09 x (1+ΔCPI ₂)	25,705.12 x (1+ΔCPI ₃)
150mm	56.25	52,023.12	54,027.16 x (1+ΔCPI ₁)	55,901.45 x (1+ΔCPI ₂)	57,836.52 x (1+ΔCPI ₃)
200mm	100.00	92,485.55	96,048.28 x (1+ΔCPI ₁)	99,380.35 x (1+ΔCPI ₂)	102,820.48 x (1+ΔCPI ₃)
250mm	156.25	144,508.67	150,075.43 x (1+ΔCPI ₁)	155,281.80 x (1+ΔCPI ₂)	160,657.00 x (1+ΔCPI ₃)
300mm	225.00	208,092.48	216,108.62 x (1+ΔCPI ₁)	223,605.79 x (1+ΔCPI ₂)	231,346.08 x (1+ΔCPI ₃)
350mm	306.25	283,236.98	294,147.85 x (1+ΔCPI ₁)	304,352.32 x (1+ΔCPI ₂)	314,887.72 x (1+ΔCPI ₃)

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

^a For Non-Residential Properties a variable Discharge Factor (as determined by the Corporation) is applied, depending on the type of business. A Discharge Factor has not been applied to the non residential sewerage service charge presented. A Discharge Factor of 50 per cent is applied for Residential Properties (see Table 9).

Table 11 Sewerage usage charge for Metered Non Residential Properties

Charge	Commencement Date to 30 June 2010 (\$/kL) ^a	1 July 2010 to 30 June 2011 (\$/kL) ^a	1 July 2011 to 30 June 2012 (\$/kL) ^a	1 July 2012 to 30 June 2013 (\$/kL) ^a
Sewerage usage charge, per kL of water used	0.62	$0.62 \times (1 + \Delta CPI_1)$	$0.62 \times (1 + \Delta CPI_2)$	$0.62 \times (1 + \Delta CPI_3)$

^a A variable Discharge Factor (as determined by the Corporation) is applied, depending on the type of business.

Table 12 Sewerage service charge for Multi Premises which are Residential Properties

Charge	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
Sewerage service charge for Multi Premises which are Residential Properties	302.50	$314.15 \times (1 + \Delta CPI_1)$	$325.05 \times (1 + \Delta CPI_2)$	$336.30 \times (1 + \Delta CPI_3)$

Schedule 4 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,
- that are within a Drainage Area.

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 calculated as follows:

$$\frac{SC}{P} \times BC$$

Where:

SC = the stormwater drainage service charge in Table 13 (corresponding to the applicable Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

4 Stormwater drainage charges for Non Residential Properties

The maximum price that may be levied by the Corporation for stormwater drainage services to a Non Residential Property for a Billing Cycle is calculated as follows:

$$\frac{SC}{P} \times BC$$

Where:

SC = the stormwater service charge set out in Table 14 (corresponding to the applicable Period and land size in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

Tables 13 and 14

Table 13 Stormwater service charge for Residential Properties

Charge	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
Stormwater service charge	75.42	$76.92 \times (1 + \Delta CPI_1)$	$78.46 \times (1 + \Delta CPI_2)$	$80.02 \times (1 + \Delta CPI_3)$

Table 14 Stormwater service charge for Non Residential Properties

Charge	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
Non Residential Property – small (<1,000m ²) or low impact ^a	75.42	$76.92 \times (1 + \Delta CPI_1)$	$78.48 \times (1 + \Delta CPI_2)$	$80.02 \times (1 + \Delta CPI_3)$
Non Residential Property – medium (1,001 to 10,000m ²)	136.32	$139.04 \times (1 + \Delta CPI_1)$	$141.81 \times (1 + \Delta CPI_2)$	$144.63 \times (1 + \Delta CPI_3)$
Non Residential Property – large (10,001 to 45,000m ²)	867.11	$884.39 \times (1 + \Delta CPI_1)$	$902.02 \times (1 + \Delta CPI_2)$	$919.99 \times (1 + \Delta CPI_3)$
Non Residential Property – very large (>45,000m ²)	2,755.00	$2,809.90 \times (1 + \Delta CPI_1)$	$2,865.89 \times (1 + \Delta CPI_2)$	$2,923.00 \times (1 + \Delta CPI_3)$

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

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 have been determined for 2 categories:

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

3 Charges for trade waste administrative and inspection services

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

- (a) the annual trade waste agreement fee (for a Major Agreement, a Moderate Agreement or a Minor Agreement) for a Billing Cycle calculated as follows:

$$\frac{ATWF}{P} \times BC$$

Where:

ATWF = the annual trade waste agreement fee in Table 15 (corresponding to the applicable type of agreement and Period in that table);

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days; and

- (b) the other trade waste agreement fee or inspection fee in Table 15 (corresponding to a Major Agreement, a Moderate Agreement or a Minor Agreement 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 16, corresponding to the applicable Period and wastewater treatment catchment area in that table;
- (b) where an applicable trade waste agreement specifies a load limit and that load limit is exceeded,³ the trade waste high strength incentive charge in Table 17, corresponding to the applicable Period and wastewater treatment catchment area in that table; and
- (c) the trade waste services and tankering services charges in Table 18, corresponding to the applicable Period in that table.

³ This charge is only capable of applying to trade waste discharged pursuant to a trade waste agreement entered into or renewed after the Commencement Date.

Tables 15, 16, 17 and 18

Table 15 Trade waste agreement and inspection fees

Charge	Commence- ment Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
Minor Agreement				
New minor agreement establishment fee	118.05	$118.05 \times (1+\Delta\text{CPI}_1)$	$118.05 \times (1+\Delta\text{CPI}_2)$	$118.05 \times (1+\Delta\text{CPI}_3)$
Existing minor agreement holders:				
Annual agreement fee ^a	112.38	$112.38 \times (1+\Delta\text{CPI}_1)$	$112.38 \times (1+\Delta\text{CPI}_2)$	$112.38 \times (1+\Delta\text{CPI}_3)$
Inspection fee ^a	108.90	$108.90 \times (1+\Delta\text{CPI}_1)$	$108.90 \times (1+\Delta\text{CPI}_2)$	$108.90 \times (1+\Delta\text{CPI}_3)$
Existing renew / reissue	97.93	$97.93 \times (1+\Delta\text{CPI}_1)$	$97.93 \times (1+\Delta\text{CPI}_2)$	$97.93 \times (1+\Delta\text{CPI}_3)$
Moderate Agreement				
New major agreements establishment fee	617.82	$617.82 \times (1+\Delta\text{CPI}_1)$	$617.82 \times (1+\Delta\text{CPI}_2)$	$617.82 \times (1+\Delta\text{CPI}_3)$
Existing major agreement holders:				
Annual agreement fee ^b	879.41	$879.41 \times (1+\Delta\text{CPI}_1)$	$879.41 \times (1+\Delta\text{CPI}_2)$	$879.41 \times (1+\Delta\text{CPI}_3)$
Inspection fee	108.90	$108.90 \times (1+\Delta\text{CPI}_1)$	$108.90 \times (1+\Delta\text{CPI}_2)$	$108.90 \times (1+\Delta\text{CPI}_3)$
Existing renew / reissue	446.57	$446.57 \times (1+\Delta\text{CPI}_1)$	$446.57 \times (1+\Delta\text{CPI}_2)$	$446.57 \times (1+\Delta\text{CPI}_3)$
Major Agreement				
New major agreements establishment fee ^c	617.82	$617.82 \times (1+\Delta\text{CPI}_1)$	$617.82 \times (1+\Delta\text{CPI}_2)$	$617.82 \times (1+\Delta\text{CPI}_3)$
Existing major agreement holders:				
Annual agreement fee	451.99	$451.99 \times (1+\Delta\text{CPI}_1)$	$451.99 \times (1+\Delta\text{CPI}_2)$	$451.99 \times (1+\Delta\text{CPI}_3)$
Inspection fee	108.90	$108.90 \times (1+\Delta\text{CPI}_1)$	$108.90 \times (1+\Delta\text{CPI}_2)$	$108.90 \times (1+\Delta\text{CPI}_3)$
Existing renew / reissue	446.57	$446.57 \times (1+\Delta\text{CPI}_1)$	$446.57 \times (1+\Delta\text{CPI}_2)$	$446.57 \times (1+\Delta\text{CPI}_3)$

^a The cost of one inspection is covered by the Annual Agreement Fee. Additional inspections, if necessary, are charged an inspection fee for each inspection.

^b The moderate agreement annual fee includes high-strength charges for the average discharge quality of these customers.

^c Separate high-strength and constituent charges for heavy metals, phosphorous and sulphate apply and are not included in the annual major agreement fee.

Table 16 Trade waste high strength charges^a

Wastewater treatment catchment area	Commencement Date to 30 June 2010 (\$/kg)	1 July 2010 to 30 June 2011 (\$/kg)	1 July 2011 to 30 June 2012 (\$/kg)	1 July 2012 to 30 June 2013 (\$/kg)
Belmont	1.09	$1.09 \times (1+\Delta\text{CPI}_1)$	$1.09 \times (1+\Delta\text{CPI}_2)$	$1.09 \times (1+\Delta\text{CPI}_3)$
Boulder Bay	1.53	$1.53 \times (1+\Delta\text{CPI}_1)$	$1.53 \times (1+\Delta\text{CPI}_2)$	$1.53 \times (1+\Delta\text{CPI}_3)$
Branxton	3.97	$3.97 \times (1+\Delta\text{CPI}_1)$	$3.97 \times (1+\Delta\text{CPI}_2)$	$3.97 \times (1+\Delta\text{CPI}_3)$
Burwood Beach	0.72	$0.72 \times (1+\Delta\text{CPI}_1)$	$0.72 \times (1+\Delta\text{CPI}_2)$	$0.72 \times (1+\Delta\text{CPI}_3)$
Cessnock	1.68	$1.68 \times (1+\Delta\text{CPI}_1)$	$1.68 \times (1+\Delta\text{CPI}_2)$	$1.68 \times (1+\Delta\text{CPI}_3)$
Clarence Town	14.73	$14.73 \times (1+\Delta\text{CPI}_1)$	$14.73 \times (1+\Delta\text{CPI}_2)$	$14.73 \times (1+\Delta\text{CPI}_3)$
Dora Creek	1.02	$1.02 \times (1+\Delta\text{CPI}_1)$	$1.02 \times (1+\Delta\text{CPI}_2)$	$1.02 \times (1+\Delta\text{CPI}_3)$
Dungog	9.65	$9.65 \times (1+\Delta\text{CPI}_1)$	$9.65 \times (1+\Delta\text{CPI}_2)$	$9.65 \times (1+\Delta\text{CPI}_3)$
Edgeworth	0.77	$0.77 \times (1+\Delta\text{CPI}_1)$	$0.77 \times (1+\Delta\text{CPI}_2)$	$0.77 \times (1+\Delta\text{CPI}_3)$
Farley	0.98	$0.98 \times (1+\Delta\text{CPI}_1)$	$0.98 \times (1+\Delta\text{CPI}_2)$	$0.98 \times (1+\Delta\text{CPI}_3)$
Kearsley	13.74	$13.74 \times (1+\Delta\text{CPI}_1)$	$13.74 \times (1+\Delta\text{CPI}_2)$	$13.74 \times (1+\Delta\text{CPI}_3)$
Karuah	29.71	$29.71 \times (1+\Delta\text{CPI}_1)$	$29.71 \times (1+\Delta\text{CPI}_2)$	$29.71 \times (1+\Delta\text{CPI}_3)$
Kurri Kurri	2.38	$2.38 \times (1+\Delta\text{CPI}_1)$	$2.38 \times (1+\Delta\text{CPI}_2)$	$2.38 \times (1+\Delta\text{CPI}_3)$
Morpeth	1.09	$1.09 \times (1+\Delta\text{CPI}_1)$	$1.09 \times (1+\Delta\text{CPI}_2)$	$1.09 \times (1+\Delta\text{CPI}_3)$
Paxton	17.82	$17.82 \times (1+\Delta\text{CPI}_1)$	$17.82 \times (1+\Delta\text{CPI}_2)$	$17.82 \times (1+\Delta\text{CPI}_3)$
Raymond Terrace	1.67	$1.67 \times (1+\Delta\text{CPI}_1)$	$1.67 \times (1+\Delta\text{CPI}_2)$	$1.67 \times (1+\Delta\text{CPI}_3)$
Shortland	2.21	$2.21 \times (1+\Delta\text{CPI}_1)$	$2.21 \times (1+\Delta\text{CPI}_2)$	$2.21 \times (1+\Delta\text{CPI}_3)$
Tanilba Bay	3.04	$3.04 \times (1+\Delta\text{CPI}_1)$	$3.04 \times (1+\Delta\text{CPI}_2)$	$3.04 \times (1+\Delta\text{CPI}_3)$
Toronto	1.39	$1.39 \times (1+\Delta\text{CPI}_1)$	$1.39 \times (1+\Delta\text{CPI}_2)$	$1.39 \times (1+\Delta\text{CPI}_3)$

^a These charges apply where the concentration strength is greater than 350mg/L for BOD or NFR, whichever is the higher. Where a load limit is specified in a trade waste agreement, these charges apply to trade waste discharged up to, and including, the load limit. Trade waste discharged in excess of that load limit is to be charged in accordance with clause 4(b) of Schedule 5 and Table 17.

Table 17 Trade waste high strength incentive charges where the load limit in a trade waste agreement is exceeded

Wastewater treatment catchment area	Commencement Date to 30 June 2010 (\$/kg)^a	1 July 2010 to 30 June 2011 (\$/kg)^a	1 July 2011 to 30 June 2012 (\$/kg)^a	1 July 2012 to 30 June 2013 (\$/kg)^a
Belmont	3.27	$3.27 \times (1 + \Delta CPI_1)$	$3.27 \times (1 + \Delta CPI_2)$	$3.27 \times (1 + \Delta CPI_3)$
Boulder Bay	4.58	$4.58 \times (1 + \Delta CPI_1)$	$4.58 \times (1 + \Delta CPI_2)$	$4.58 \times (1 + \Delta CPI_3)$
Branxton	11.91	$11.91 \times (1 + \Delta CPI_1)$	$11.91 \times (1 + \Delta CPI_2)$	$11.91 \times (1 + \Delta CPI_3)$
Burwood Beach	2.15	$2.15 \times (1 + \Delta CPI_1)$	$2.15 \times (1 + \Delta CPI_2)$	$2.15 \times (1 + \Delta CPI_3)$
Cessnock	5.05	$5.05 \times (1 + \Delta CPI_1)$	$5.05 \times (1 + \Delta CPI_2)$	$5.05 \times (1 + \Delta CPI_3)$
Clarence Town	44.20	$44.20 \times (1 + \Delta CPI_1)$	$44.20 \times (1 + \Delta CPI_2)$	$44.20 \times (1 + \Delta CPI_3)$
Dora Creek	3.05	$3.05 \times (1 + \Delta CPI_1)$	$3.05 \times (1 + \Delta CPI_2)$	$3.05 \times (1 + \Delta CPI_3)$
Dungog	28.96	$28.96 \times (1 + \Delta CPI_1)$	$28.96 \times (1 + \Delta CPI_2)$	$28.96 \times (1 + \Delta CPI_3)$
Edgeworth	2.31	$2.31 \times (1 + \Delta CPI_1)$	$2.31 \times (1 + \Delta CPI_2)$	$2.31 \times (1 + \Delta CPI_3)$
Farley	2.93	$2.93 \times (1 + \Delta CPI_1)$	$2.93 \times (1 + \Delta CPI_2)$	$2.93 \times (1 + \Delta CPI_3)$
Kearsley	41.21	$41.21 \times (1 + \Delta CPI_1)$	$41.21 \times (1 + \Delta CPI_2)$	$41.21 \times (1 + \Delta CPI_3)$
Karuah	89.12	$89.12 \times (1 + \Delta CPI_1)$	$89.12 \times (1 + \Delta CPI_2)$	$89.12 \times (1 + \Delta CPI_3)$
Kurri Kurri	7.14	$7.14 \times (1 + \Delta CPI_1)$	$7.14 \times (1 + \Delta CPI_2)$	$7.14 \times (1 + \Delta CPI_3)$
Morpeth	3.27	$3.27 \times (1 + \Delta CPI_1)$	$3.27 \times (1 + \Delta CPI_2)$	$3.27 \times (1 + \Delta CPI_3)$
Paxton	53.46	$53.46 \times (1 + \Delta CPI_1)$	$53.46 \times (1 + \Delta CPI_2)$	$53.46 \times (1 + \Delta CPI_3)$
Raymond Terrace	5.02	$5.02 \times (1 + \Delta CPI_1)$	$5.02 \times (1 + \Delta CPI_2)$	$5.02 \times (1 + \Delta CPI_3)$
Shortland	6.64	$6.64 \times (1 + \Delta CPI_1)$	$6.64 \times (1 + \Delta CPI_2)$	$6.64 \times (1 + \Delta CPI_3)$
Tanilba Bay	9.13	$9.13 \times (1 + \Delta CPI_1)$	$9.13 \times (1 + \Delta CPI_2)$	$9.13 \times (1 + \Delta CPI_3)$
Toronto	4.18	$4.18 \times (1 + \Delta CPI_1)$	$4.18 \times (1 + \Delta CPI_2)$	$4.18 \times (1 + \Delta CPI_3)$

^a These charges apply to trade waste discharge that is in excess of any load limit specified in an applicable trade waste agreement.

Table 18 Trade waste services and tankering services charges

Charge	Commencement Date to 30 June 2010	1 July 2010 to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
Trade waste services charges				
Heavy Metal – Burwood Beach WWTW Catchment (\$/kg)	16.70	$16.70 \times (1 + \Delta CPI_1)$	$16.70 \times (1 + \Delta CPI_2)$	$16.70 \times (1 + \Delta CPI_3)$
Heavy Metal – All other catchments (\$/kg)	19.26	$19.26 \times (1 + \Delta CPI_1)$	$19.26 \times (1 + \Delta CPI_2)$	$19.26 \times (1 + \Delta CPI_3)$
Phosphorus (concentrations >11mg/L) (\$/kg)	1.84	$1.84 \times (1 + \Delta CPI_1)$	$1.84 \times (1 + \Delta CPI_2)$	$1.84 \times (1 + \Delta CPI_3)$
Sulphate (\$/kg)	$[\{\$0.14 \times (SO_4 / 2000)\} / \text{kg}]$	$[\{\$0.14 \times (SO_4 / 2000)\} / \text{kg}] \times (1 + \Delta CPI_1)$	$[\{\$0.14 \times (SO_4 / 2000)\} / \text{kg}] \times (1 + \Delta CPI_2)$	$[\{\$0.14 \times (SO_4 / 2000)\} / \text{kg}] \times (1 + \Delta CPI_3)$
Tankering services charges				
Establish Tankering agreement (\$)	197.82	$197.82 \times (1 + \Delta CPI_1)$	$197.82 \times (1 + \Delta CPI_2)$	$197.82 \times (1 + \Delta CPI_3)$
Renew agreement (\$)	126.25	$126.25 \times (1 + \Delta CPI_1)$	$126.25 \times (1 + \Delta CPI_2)$	$126.25 \times (1 + \Delta CPI_3)$
Monthly invoicing fee (\$)	NA	NA	NA	NA
Delivery processing fee (\$/delivery docket)	3.90	$3.90 \times (1 + \Delta CPI_1)$	$3.90 \times (1 + \Delta CPI_2)$	$3.90 \times (1 + \Delta CPI_3)$
Portable Toilet Effluent (\$/kL)	12.54	$12.54 \times (1 + \Delta CPI_1)$	$12.54 \times (1 + \Delta CPI_2)$	$12.54 \times (1 + \Delta CPI_3)$
Septic Effluent (\$/kL)	NA	NA	NA	NA
Septic sludge (\$/kL)	NA	NA	NA	NA
Septic Waste (\$/kL)	3.76	$3.76 \times (1 + \Delta CPI_1)$	$3.76 \times (1 + \Delta CPI_2)$	$3.76 \times (1 + \Delta CPI_3)$
Ship Waste (\$/kL)	6.99	$6.99 \times (1 + \Delta CPI_1)$	$6.99 \times (1 + \Delta CPI_2)$	$6.99 \times (1 + \Delta CPI_3)$
High Strength Waste (\$/kL) ^a				
volume charge (\$/kL)	3.47	$3.47 \times (1 + \Delta CPI_1)$	$3.47 \times (1 + \Delta CPI_2)$	$3.47 \times (1 + \Delta CPI_3)$

Charge	Commencement Date to 30 June 2010	1 July 2010 to 30 June 2011	1 July 2011 to 30 June 2012	1 July 2012 to 30 June 2013
load charge (\$/kg)	Charges from Table 16 for the relevant wastewater treatment works within the wastewater treatment catchment area	Charges from Table 16 for the relevant wastewater treatment works within the wastewater treatment catchment area	Charges from Table 16 for the relevant wastewater treatment works within the wastewater treatment catchment area	Charges from Table 16 for the relevant wastewater treatment works within the wastewater treatment catchment area

^a Tankered high strength waste is charged a volume charge plus a load charge. The load charge is the high strength charge in Table 16 for the relevant wastewater treatment works which the waste is delivered.

Schedule 6 Backlog sewerage services and other sewerage services

1 Application

This schedule sets the maximum prices that the Corporation may charge under paragraph (b) of the Order (sewerage services), for backlog sewerage services (under the Priority Sewerage Program).

It also sets out the maximum prices that the Corporation may charge under paragraph (b) of the Order (sewerage services) to recover the capital costs of connecting Clarence Town Properties to the Sewerage System.

2 Categories for pricing purposes

Prices have been determined for Residential Properties, Non Residential Properties and Vacant Land.

3 Environmental improvement charge for Residential Properties, Non Residential Properties and Vacant Land⁴

- (a) The maximum price that may be levied by the Corporation on a Residential Property, a Non Residential Property or Vacant Land for providing backlog sewerage services (under the Priority Sewerage Program) that are not recovered through either direct beneficiary contributions or NSW Government community service obligation payments for a Billing Cycle is calculated as follows:

$$\frac{EIC}{P} \times BC$$

Where:

EIC = the environmental improvement charge in Table 19 for the applicable Period;

P = the applicable Period Days;

⁴ 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.

BC = the applicable Billing Cycle Days.

- (b) For the purposes of clause 3(a) of this schedule, the environmental improvement charge in Table 19 does not apply where:
- (1) 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
 - (2) the Property is owned and occupied by an Eligible Pensioner.

4 Clarence Town sewer charge for Clarence Town Properties

The maximum price that may be levied by the Corporation for the service of providing a Clarence Town Property with connection to the Sewerage System for a Billing Cycle is calculated as follows:

$$\frac{SC}{P} \times BC$$

Where:

SC = the Clarence Town sewer charge in Table 20 for the applicable Period;

P = the applicable Period Days; and

BC = the applicable Billing Cycle Days.

Tables 19 and 20

Table 19 Environmental improvement charge

Charge	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
Environmental improvement charge	33.23	$33.23 \times (1 + \Delta CPI_1)$	$33.23 \times (1 + \Delta CPI_2)$	$33.23 \times (1 + \Delta CPI_3)$

Table 20 Clarence Town sewer charge

Charge	Commencement Date to 30 June 2010 (\$)	1 July 2010 to 30 June 2011 (\$)	1 July 2011 to 30 June 2012 (\$)	1 July 2012 to 30 June 2013 (\$)
Clarence Town sewer charge	207.80	$107.43 \times (1 + \Delta CPI_1)$	$107.43 \times (1 + \Delta CPI_2)$	$107.43 \times (1 + \Delta CPI_3)$

Schedule 7 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

- (a) The maximum charge that may be levied by the Corporation for an ancillary and miscellaneous service in Table 21 is:
 - (1) from the Commencement Date to 30 June 2010 - the corresponding charge in Table 21;
 - (2) from 1 July 2010 to 30 June 2011 - the corresponding charge in Table 21 multiplied by $(1+\Delta\text{CPI}_1)$;
 - (3) from 1 July 2011 to 30 June 2012 - the corresponding charge in Table 21 multiplied by $(1+\Delta\text{CPI}_2)$; and
 - (4) from 1 July 2012 to 30 June 2013 - the corresponding charge in Table 21 multiplied by $(1+\Delta\text{CPI}_3)$.
- (b) A reference in Table 21 to "NA" means that the Corporation does not provide the relevant service.

Table 21

Table 21 Charges for ancillary and miscellaneous services

No.	Ancillary and miscellaneous service	(\$)
1	Conveyancing Certificate	
a)	Over the Counter Over the counter statement of outstanding rates and charges at a specific date which is issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property	28.57
b)	Electronic Electronic statement of outstanding rates and charges at a specific date which is issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.	8.73
2	Property Sewerage Diagram-up to and including A4 size- (where available) Diagram showing the location of the house-service line, building and sewer for a property.	
a)	Certified	NA
b)	Uncertified	
i.	Over the Counter	16.83
ii.	Electronic	NA
3	Service Location Diagram	
a)	Over the Counter Over the counter plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewer main is available.	23.53
b)	Electronic Broker or agent lodges an application via Land and Property Information, interfaces and extracts property details, produces an electronic plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewer main is available.	13.71
4	Meter Reading – Special Reads and by Appointment Meter reader required to attend customer's property for the purpose of obtaining a special reading outside of the existing meter read schedule.	
	During business hours	24.26
	Outside of business hours (by appointment)	44.57

Table 21

No.	Ancillary and miscellaneous service	(\$)
5	Billing Record Search Statement	
	a) Up to and including 5 years	64.11
	This charge is applied when customers request a search of Hunter Water's archived financial reports which provide account details for up to 5 years. Account details for the current and previous financial year are free of charge. This charge is applied for each property requiring a billing record search.	
	b) For multiple properties An hourly rate to prepare historical billing and consumption data to owners of multiple properties.	80.52 per hour
6	Building over or Adjacent to Sewer Advice	80.21
	Statement of Approval Status for existing Building Over or Adjacent to a Sewer.	
7	Water Reconnection – after restriction	
	During business hours	61.87
	Restoration of water supply during business hours (8am to 3pm) to a property which has been restricted for non-payment of accounts.	
	Outside business hours	166.24
	Restoration of water supply outside of business hours (3pm to 8am) to a property which has been restricted for non-payment of accounts.	
8	Workshop Flow Rate Test of Meter	
	a) Without Strip Test	
	Removal, transportation and flow rate test of a mechanical meter at the customer's request to determine the accuracy of the water meter.	
	20mm	162.08
	25mm	162.08
	32mm	221.31
	40mm	231.70
	50mm	
	Light	265.98
	Heavy	476.90
	('light' being a Meter weighing less than 10 kgs and 'heavy' being a Meter weighing 10 kgs or more)	
	65mm	478.98
	80mm	487.29
	100mm	591.19
	150mm	733.53
	b) With Strip Test	
	Removal, transportation, flow rate and strip test of a mechanical meter at the customer's request to determine the accuracy of the	

No.	Ancillary and miscellaneous service	(\$)
	water meter.	
	20mm	224.42
	25mm	224.42
	32mm	283.65
	40mm	294.04
	50mm	
	Light	328.32
	Heavy	539.24
	('light' being a Meter weighing less than 10 kgs and 'heavy' being a Meter weighing 10 kgs or more)	
	65mm	541.32
	80mm	549.63
	100mm	653.53
	150mm	795.87
9	Application for water disconnection	
	a) Application for water disconnection (all sizes)	98.65
	b) Application for recycled water disconnection	127.80
10	Application for Water Service Connection (up to and including 25mm)	104.94
	Process applications to connect a new water service. This covers the administration fee only. There will be a separate charge payable to the utility if they also perform the physical connection.	
11	Application for Water Service Connection-(32-65mm)	305.47
	This covers administration and system capacity analysis as required.	
12	Application for Water Service Connection-(80mm or greater)	560.02
	This covers administration and system capacity analysis as required.	
13	Application to assess a Water main Adjustment	
	This covers preliminary advice as to the feasibility of the project and will result in either:	
	a) a rejection of the project in which cases the fee covers the associated investigation costs;	275.34
	or	
	b) conditional approval in which case the fee covers the administrative costs associated with the investigation and record amendment.	275.34
14	Standpipe Hire Security bond	
	Payable by standpipe hirers and refundable upon return of the standpipe	

Table 21

No.	Ancillary and miscellaneous service	(\$)
	in an undamaged state and upon payment of all outstanding hire and usage charges.	
	20mm standpipe	290.92
	32mm low flow standpipe	353.26
	32mm high flow standpipe	779.25
	50mm standpipe	779.25
15	Standpipe Hire – monthly and tri-annual fees	
	Hire fees payable for the use of a portable metered standpipe owned by Hunter Water that is used to extract water from a water main.	
	Monthly Fee:	
	20mm standpipe	8.78
	32mm low flow standpipe	9.82
	32mm high flow standpipe	16.99
	50mm standpipe	16.99
	Tri-annual Fee	
	20mm standpipe	39.79
	32mm low flow standpipe	40.83
	32mm high flow standpipe	48.00
	50mm standpipe	48.00
16	Standpipe Water Usage Fee	Water usage charge per kL as per Table 2
17	Backflow Prevention Device Application and Registration Fee	24.16
	Charge for the initial application and registration of a backflow prevention device.	
18	Backflow Prevention Device Annual Administration Fee and Test	
	a) Annual administration fee	15.84
	Charge for the maintenance of backflow prevention device records including logging of inspection reports.	
	b) Backflow Device Test	251.44
	This fee is for arranging to test a customer's backflow device as a result of that customer failing to arrange their own test as per the Customer Contract.	
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)	7.16

No.	Ancillary and miscellaneous service	(\$)
	Gravity Sewer Mains (\$ per Metre)	10.78
	Rising Sewer Mains (\$ per Metre)	7.16
	Reinspection	NA
20	Statement of Available Pressure	
	Water pressure report detailing relative water pressures in Hunter Water's water mains. This fee covers assessment of available pressures at three specific flow rates from a single connection point to Hunter Water's main. Additional points of connection and flow values can be assessed at additional cost at the Technical Services Hourly Rate (charge no. 52).	299.23

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
21	Application to Connect or Disconnect Sewer Services or for a Special Internal Inspection Permit	129.88	NA
	Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.		
22	Application to Connect or Disconnect Water & Sewer Services (combined application)	104.94	NA
	Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.		
23	Irregular & Dishonoured Payments		
	Fees 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:		
	- Cheques	22.81	NA
	- Credit Card decline	No charge	NA
	- Direct Debit decline	25.40	NA
	Australia Post:		
	- Cheques	38.39	NA
24	Request for Separate Metering of Units (per plan)		
	Process a request for separate sub-metering of individual units within a registered Strata Plan or Community Title. Fee per plan, regardless of number of units.	40.99	NA

Table 21

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
25	Unauthorised Connections Charge to recover costs and appropriate application fees where a connected service is located but no application to connect has been lodged with Hunter Water.	153.77	NA
26	Building Plan Stamping Approval of basic building and development plans certifying that the proposed construction does not adversely impact on Hunter Water's assets.	12.05	NA
27	Determining Requirements for Building Over/Adjacent to Sewer or Easement Statement of conditional requirements to Council approved building plans to safeguard Hunter Water's assets.	86.96	NA
28	Hiring of a Metered Standpipe a) Application to Hire a Metered Standpipe Process applications for the hire of portable metered standpipes. b) Breach of Standpipe Hire Conditions Fee for failing to provide a standpipe meter reading as required by the standpipe hire agreement. The standpipe hire agreement specifies that if three breaches occur the standpipe hire agreement will be terminated. Breach 1 Breach 2 Breach 3 – step 1 Breach 3 – step 2 (customer fails to return standpipe)	170.40 20.68 26.03 30.03 32.73	NA NA NA NA NA
29	Meter Affixtures/Handling Fee Installation of a water meter to the water connection framework. a) Installation of water meters for new connections up to 50mm (light duty) b) For water meters 50mm or larger, delivery of meter by Hunter Water	23.84 18.18	NA NA
30	Inspection of Non-Compliant Meters Reinspection of a proposed multi-metered development or stand alone property where a second inspection is required for separate metering as meter frames were either non-compliant or were not accessible at initial inspection.	50.44	Contractor hourly rate if required
31	Standard Plumbing Inspections a) General plumbing inspection	97.82	NA

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
	b) Additional recycled water connection inspection	100.78	NA
	c) Hourly rate for commercial and industrial plumbing inspections	NA	71.54
32	Connect to or Building Over/Adjacent to Stormwater Channel for a Single Residence 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.	73.92	NA
33	Stormwater Channel Connection 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.	259.75	NA
34	Hydraulic Design Assessment This is the standalone fee for assessment of internal water and sewer services for a single building proposing to connect to Hunter Water's existing infrastructure network. The base fee includes assessment of a single point of connection to a standard water main frontage and gravity sewer connection point within the lot. Drawings must be formatted to comply with Hunter Water's Hydraulic Design Policy and the NSW Code of Practice: Plumbing and Drainage.		
	a) Up to 10 drawings	268.06	NA
	b) 11 to 50 drawings	268.06 + 23.90 per drawing in excess of 10 drawings	NA
	c) More than 50 drawings	1223.94 + 20.78 per drawing in excess of 50	NA
35	Pump Station Design Assessment Pump station designs prepared by consultants are audited to ensure compliance with Hunter Water standards.		
	Water Pump Station	3,511.82	NA
	Sewer Pump Station	3,867.16	NA
	Recycled Water Pump Station	3,511.82	NA
36	Application to Assess Sewer Main Adjustment This fee covers preliminary advice as to the feasibility of the project and either:	358.46	NA
	a) a rejection of the project in which case the fee covers the associated investigation costs; or		

Table 21

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
	b) conditional approval in which case the fee covers the administration costs associated with the investigation and record amendment.		
37	Indicative Developer Charge Application This fee covers determination of indicative developer charges.	207.80	NA
38	Revision of Development Assessment This fee covers the cost of reviewing development assessment requirements.	297.15	NA
39	Bond Application This fee covers the lodging and release of a bond, and an estimation of the cost of outstanding works for a single asset, where a developer wishes to provide security in lieu of constructing works to facilitate early release of Hunter Water compliance certificates. Additional assets can be included at the Technical Services Hourly Rate (charge no.52).	1,354.86	NA
40	Bond Variation This charge covers Hunter Water's administration cost for adjustment of securities (per adjustment).	195.33	NA
41	Development Assessment Application The application fee covers the basic processing of each application to determine if there are any requirements such as developer charges or the design and construction of works.	358.46	NA
42	Application for Water or Sewer Main Extensions Unserviced property owners can apply for approval to extend water and/or sewer mains to an existing development on an existing lot.	358.46	NA
43	Assessment of Minor Works Where the necessary works are less than 25 metres in length and less than 2.5 metres in depth, they are considered to be 'Minor Works'.	642.10	NA
44	Major Works a) Major Works Design Review and Contract Preparation Following approval of the designs, construction quality is assessed by Hunter Water. Hunter Water also carries out the work-as-executed survey and connections to live water mains. These fees are separately charged. b) Major Works Design Re-assessment	2,191.25	NA
		288.84	NA

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
45	Connection to Existing Water System This fee covers shut down of water supply to allow connections to existing mains and recharging the mains.		
	a) Major Works (valve shutdown)	624.44	NA
	b) Major Works (non-valve shutdown)	258.71	NA
46	Insertion or Removal of Tee & Valve This fee applies when the developer elects for Hunter Water to insert the connection to existing mains.		
	a) Valve shutdown and charge up	947.57	NA
	b) Non-vale shutdown and charge up	580.80	NA
47	Application for Additional Sewer Connection Point Existing development requiring alternative sewer connection points must make an application to Hunter Water. Review of options and assessment of drawings or designs is covered by other additional fees.	259.75	NA
48	Tee and Valve Connection 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.	190.14	NA
49	Minor Works Inspection Fee Auditing of works constructed under minor works contracts to ensure that specified quality is being achieved.	167.28	NA
50	Major Works Inspection and WAE Fee 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	4,485.36	NA
	Sewer Pump Stations	6,076.07	NA
	Recycled Water Pump Station	4,485.36	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.	358.46	Plus Technical Services Hourly Rate if required

Table 21

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
52	Technical Services Hourly Rate This fee provides an hourly rate for additional technical work to be undertaken where base services are exceeded.	NA	102.86
53	Remote Application Fee 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.	222.35	NA
54	Preliminary Servicing Advice This charge covers technical assessment of a proposed development and general advice on the level of developer servicing charges in advance of development consent being issued by the determining authority (usually Council or Department of Planning).	338.71	NA
55	Servicing Strategy Review Major developments often require the preparation of separate water, sewerage and/or recycled water servicing strategies for the whole development. Each asset group (ie water, sewer and recycled water are each an asset group) attracts an assessment fee.	594.31	NA
56	Environmental Assessment Report Review This fee covers Hunter Water's review of the report to ensure the outcomes comply with relevant legislative and regulatory requirements.	594.31	Plus Technical Services Hourly Rate
57	Recycled Water Inspection and work as executed (WAE) Fee Some developments require inspection and WAE services for dual reticulation (recycled water). This is in addition to the water and sewer inspection fee (ie Fee No. 19).	9.82 per metre	NA
58	Reservoir Construction Inspection and WAE Fee Comprises inspection/audit works constructed under major works contracts to ensure that specified quality is achieved.	By quotation	NA
59	Water cart tanker a) Inspection of water cart tanker Initial or annual inspection of water cart tanker to ensure the air gap and backflow prevention is sufficient. b) Reinspection of water cart tanker due to non-compliance Reinspection of a water cart tanker where non-compliant at the initial inspection.	118.45 102.34	NA NA

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
60	Inaccessible Meter-Reading Agreement Preparation of an agreement with a customer whereby the customer provides Hunter Water with a water metering reading.	47.48	NA
61	Inaccessible Meter – Imputed Charge for Breach of Meter-Reading Agreement Charge for water and sewer usage when a customer breaches their Meter Reading Agreement with Hunter Water. This is in addition to water and sewer usage charges raised when an actual meter reading is obtained.	17.46 plus imputed usage charge.	NA
62	Damaged Meter Replacement Replacement of a meter that has been wilfully or accidentally damaged by a third party.		
	20mm meter	73.09	NA
	25mm meter	114.29	NA
	32mm meter	154.81	NA
	40mm meter	179.75	NA
	50mm light meter	295.08	NA
	50mm heavy meter	347.03	NA
	65mm meter	440.54	NA
	80mm meter	450.93	NA
	100mm meter	471.71	NA
	150mm meter	840.55	NA
	250mm meter	2,915.43	NA
	300mm meter	3,703.00	NA
63	Affix a separate meter to a unit Fee for affixing a meter to a unit where the meter frame is compliant with requirements.	31.22	NA
64	Recycled water meter affix fee Fee for affixing a meter to a recycled water service customer's property.	49.87	NA
65	Plumbing non-compliance follow up inspection fee Fee imposed on licensed plumbers for follow up inspections due to non-compliant plumbing work.	84.57	NA
66	Application for recycled water service connection – domestic Fee for processing applications and mandatory inspections for recycled water services.		

Table 21

No.	Ancillary and miscellaneous service	Fixed Charge (\$)	Hourly Charge (\$)
a)	pre-laid service:	298.19	NA
b)	redevelopment:	380.27	NA

Schedule 8 Definitions and interpretation

1 Definitions

1.1 General definitions

In this determination:

Billing Cycle means each consecutive period of four months ending on 28 February (29 February in a leap year), 30 June or 31 October (as the case may be) during a Period.

Billing Cycle Days means, as applicable, the following:

- (a) for the period from the Commencement Date to 31 October 2009, the number of days between the Commencement Date and 31 October 2009 (inclusive);
- (b) for the period from 1 November to 28 February, 120 days;
- (c) for the period from 1 November to 29 February (which occurs only in the Period from 1 July 2011 to 30 June 2012), 121 days;
- (d) for the period from 1 March to 30 June, 122 days; or
- (e) for the period from 1 July to 31 October, 123 days.

Chichester Dam means the 21,500 megalitre capacity dam located at the top of the Williams River catchment in the Hunter region of New South Wales approximately 22 kilometres north of Dungog.

Chichester Main means the Chichester Trunk Gravitational Main which transports water from the Chichester Dam to reservoirs in Maitland, Cessnock and Newcastle.

Clarence Town means the area in the plan attached as Appendix B which is indicated to be within the “catchment boundary”.

Clarence Town Property means a Residential Property, Non Residential Property or Vacant Land located in Clarence Town.

Commencement Date means the Commencement Date defined in clause 2(b) (Application of this determination) of the Preliminary section 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* (NSW).

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

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

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.

Drainage Area means a drainage area declared in accordance with section 46 of the *Hunter Water Act 1991* (NSW).

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* (Cth).

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

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

kL means kilolitre or one thousand litres.

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

Major Agreement, in relation to a trade waste agreement, has the meaning given to that term in the Trade Waste Policy.

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 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).

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

Minor Agreement, in relation to a trade waste agreement, has the meaning given to that term in the Trade Waste Policy.

Moderate Agreement, in relation to a trade waste agreement, has the meaning given to that term in the Trade Waste Policy.

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

Multi Premises means a premises 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* (NSW).

Order means the Order defined in clause 1(c) (Background) of the Preliminary section 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* (NSW).

Period means the Commencement Date to 30 June 2010, 1 July 2010 to 30 June 2011, 1 July 2011 to 30 June 2012 or 1 July 2012 to 30 June 2013 (as the case may be).

Period Days means, as applicable, the following:

- (a) for the period from the Commencement Date to 30 June 2010, 365 days;
- (b) for the period from 1 July 2010 to 30 June 2011, 365 days;
- (c) for the period from 1 July 2011 to 30 June 2012, 366 days; or
- (d) for the period from 1 July 2012 to 30 June 2013, 365 days.

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 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.

Shire of Dungog means the area constituted as such under the Local Government Act, and indicated on the plan attached as Appendix A.

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

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

Tillegra Dam means the 450 billion litre dam to be constructed in the Upper Williams Valley in the Hunter region of New South Wales pursuant to a

direction by the Minister for Water made under section 20P of the *State Owned Corporations Act 1989* (NSW).

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

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 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.

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

Vacant Land means:

- (a) in relation to Schedules 1, 2, 3, 4 and 7, land that has no capital improvements and no connection to the Water Supply System; and
- (b) in relation to Schedule 6, land that has no capital improvements and no connection to the Water Supply System at the time the backlog sewerage services (under 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 IPART.

$$(b) \Delta CPI_1 = \left(\frac{CPI_{Jun2009} + CPI_{Sep2009} + CPI_{Dec2009} + CPI_{Mar2010}}{CPI_{Jun2008} + CPI_{Sep2008} + CPI_{Dec2008} + CPI_{Mar2009}} \right) - 1$$

$$\Delta CPI_2 = \left(\frac{CPI_{Jun2010} + CPI_{Sep2010} + CPI_{Dec2010} + CPI_{Mar2011}}{CPI_{Jun2008} + CPI_{Sep2008} + CPI_{Dec2008} + CPI_{Mar2009}} \right) - 1$$

$$\Delta CPI_3 = \left(\frac{CPI_{Jun2011} + CPI_{Sep2011} + CPI_{Dec2011} + CPI_{Mar2012}}{CPI_{Jun2008} + CPI_{Sep2008} + CPI_{Dec2008} + CPI_{Mar2009}} \right) - 1$$

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

- (c) The subtext (for example $CPI_{Jun,year\ n}$) when used in relation to paragraph (b) above means the CPI for the June quarter and year in which the calculation was made and (for example, $CPI_{Jun,year\ n-1}$) means the CPI for the June quarter in the year immediately preceding June, year_n.

1.3 Adjustment to 2012/13 water service charges to reflect the variation between forecast and actual cumulative capital expenditure on Tillegra Dam by the Corporation for the period 1 July 2009 to 31 December 2011

ΔT = the relevant adjustment to the water service charges where the actual cumulative capital expenditure on Tillegra Dam by the Corporation for the period 1 July 2009 to 31 December 2011 is:

- (a) greater than \$49.85 million (\$2008/09) - \$0; or
- (b) greater than \$39.88 million (\$2008/09) but less than or equal to \$49.85 million (\$2008/09) - \$12.49 (\$2009/10); or
- (c) greater than \$29.91 million (\$2008/09) but less than or equal to \$39.88 million (\$2008/09) - \$14.76 (\$2009/10); or
- (d) greater than \$19.94 million (\$2008/09) but less than or equal to \$29.91 million (\$2008/09) - \$17.03 (\$2009/10); or
- (e) greater than \$9.97 million (\$2008/09) but less than \$19.94 million (\$2008/09) - \$19.30 (\$2009/10); or
- (f) greater than \$0 but less than or equal to \$9.97 million (\$2008/09) - \$21.57 (\$2009/10).

1.4 A worked example of the adjustment to 2012/13 water service charges to reflect the variation between forecast and actual cumulative capital expenditure on Tillegra Dam by the Corporation for the period 1 July 2009 to 31 December 2011

- (a) Assume for the purpose of this worked example only that:

- (1) the Corporation's actual cumulative capital expenditure on Tillegra Dam for the period 1 July 2009 to 31 December 2011 is \$10 million; and
- (2) the customer has a 20mm connection.
- (b) The adjustment to the water service charge is \$19.30 (as determined under clause 1.3 above.
- (c) The applicable water service charge (prior to any adjustment) for a property (not located in the Shire of Dungog) with a 20mm connection for 2012/13 is \$41.87 (as set out in Table 1).
- (d) Therefore, the annual water service charge for that property for 2012/13 (before any CPI adjustment) is:

$$\$41.87 - \$19.30 = \$22.57.$$

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, appendix, 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;
- (e) a reference to a person includes a reference to the person's executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation), replacements and assigns;
- (f) a reference to an officer includes a reference to the officer who replaces him or her, or who substantially succeeds to his or her powers or functions; and
- (g) a reference to a body, whether statutory or not:
 - (1) which ceases to exist; or
 - (2) whose powers or functions are transferred to another body,

is a reference to the body which replaces it or which substantially succeeds to its powers or functions.

2.2 Explanatory notes and clarification notice

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

2.3 Prices exclusive of GST

Unless otherwise indicated, 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:
 - (1) **for the number of days falling before the Commencement Date** - the water usage charge or the sewerage usage charge under Determination No. 6 of 2005, prior to that determination being replaced by this determination; and
 - (2) **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 one Period, the Corporation must levy any charge applying in this determination on a pro-rata basis.
- (d) For the avoidance of doubt, the maximum:
 - (1) water service charge;
 - (2) sewerage service charge;
 - (3) stormwater drainage service charge;
 - (4) annual trade waste agreement fee (for minor and major trade waste agreements);
 - (5) annual tankering renewal fee; and
 - (6) environmental improvement charge,that may be levied by the Corporation for the period 1 July 2009 up to, but not including, the Commencement Date, is the relevant charge under Determination No. 6 of 2005, prior to that determination being replaced by this determination, applied on a pro-rata basis.

Example:

For example, if the Commencement Date was 4 July 2009, the water service charge for the period 1 July 2009 to 3 July 2009 would be calculated as follows:

$$\frac{SC_1}{365} \times 3$$

Where:

SC_1 = the water service charge under Determination No. 6 of 2005 prior to that determination being replaced by this determination.

The maximum water service charge for the period from 4 July 2009 to 31 October 2009 would then be calculated in accordance with this determination.

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'.

Schedule 9 Statement of reasons why IPART has chosen to set a methodology for fixing a maximum price

Under section 13A of the IPART Act, IPART may set maximum prices or may determine a methodology for setting maximum prices.

In this determination, IPART has employed a methodology for fixing the maximum prices that the Corporation may charge as service charges for water supply services in Schedules 1 and 2. The methodology allows for an adjustment to service charges where the Corporation's actual cumulative expenditure on Tillegra Dam for the period 1 July 2009 to 31 December 2011 is less than or equal to 50 per cent of the forecast cumulative capital expenditure accepted by IPART for the same period.

This adjustment to service charges reflects the return on and of forecast capital expenditure on Tillegra Dam that has been incorporated into prices in this determination, but which becomes over-recovered if actual cumulative capital expenditure is materially less than forecast capital expenditure. IPART considers that allowing for such an adjustment is appropriate given the size of the Tillegra Dam project and the uncertainty associated with the timing of both the environmental approval and the capital expenditure required to complete it.

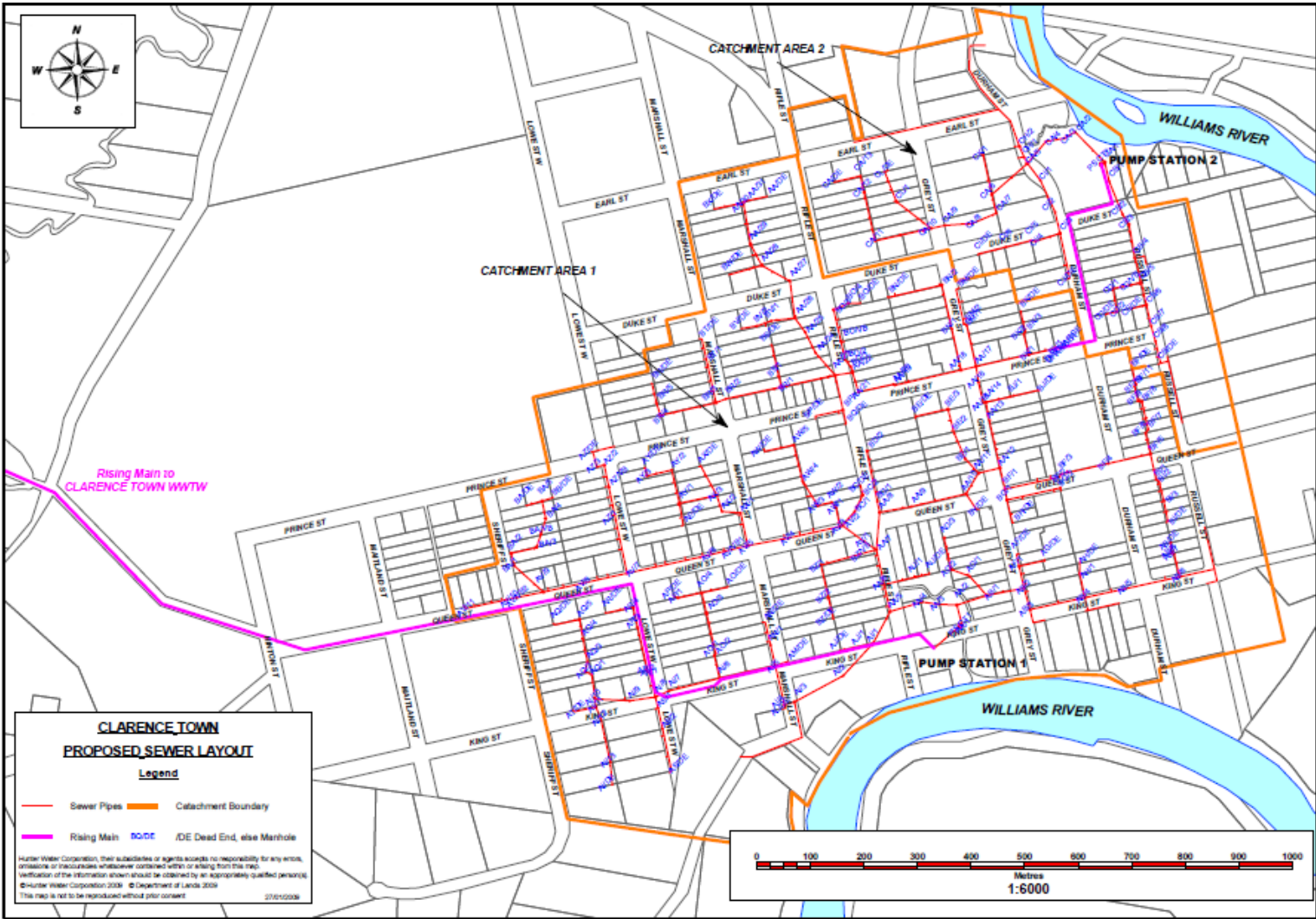


Appendices

A Shire of Dungog



B Clarence Town



Hunter Water Corporation, Gosford City Council and Wyong Shire Council

Determination No. 5, 2009

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Preliminary

1 Background

- (a) Section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992* (NSW) (**IPART Act**) provides the Independent Pricing and Regulatory Tribunal (**IPART**) 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.
- (b) Hunter Water Corporation (the **Corporation**) is listed as a government agency for the purposes of Schedule 1 of the IPART Act.
- (c) Water supply authorities constituted under the *Water Management Act 2000* (NSW) are also listed as government agencies for the purposes of Schedule 1 of the IPART Act. Gosford City Council (**Gosford Council**) and Wyong Shire Council (**Wyong Council**) are each water supply authorities constituted under the Water Management Act.
- (d) The services of the Corporation, Gosford Council and Wyong Council declared as monopoly services under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997* (the **Order**) are:
 - (1) water supply services;
 - (2) sewerage services;
 - (3) stormwater drainage services;
 - (4) trade waste services;
 - (5) 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;
 - (6) 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 (1) to (5); and
 - (7) other water supply, sewerage and drainage services for which no alternative supply exists,(together the **Monopoly Services**).

Accordingly, IPART may determine the prices for the Monopoly Services of the Corporation, Gosford Council and Wyong Council.
- (e) IPART determined prices for various Monopoly Services supplied by:
 - (1) the Corporation, in Determination No. 4 of 2009;
 - (2) Gosford Council, in Determination No. 1 of 2009; and
 - (3) Wyong Council, in Determination No. 2 of 2009,(together, the **Related Determinations**).

- (f) IPART did not, in the Related Determinations, determine the prices for water supply services from:
 - (1) the Corporation to Gosford Council and Wyong Council; and
 - (2) Gosford Council and Wyong Council to the Corporation.Such water supply services are one of the Monopoly Services for which IPART may determine prices. This determination sets out those prices.
- (g) In investigating and reporting on the pricing of water transfers between the Corporation and Gosford Council and Wyong Council, IPART has had regard to a broad range of matters, including the criteria set out in section 15(1) of the IPART Act. In accordance with section 13A of the IPART Act, IPART has fixed a maximum price for the water supply services provided by the Corporation, Gosford Council and Wyong Council.
- (h) Under section 18(2) of the IPART Act, the Corporation, Gosford Council and Wyong Council may not fix a price below that determined by IPART without the approval of the Treasurer.

2 Application of this determination

- (a) This determination sets out the maximum prices or sets a methodology for fixing the maximum prices that each of the Corporation, Gosford Council and Wyong Council may charge for the water supply services specified in this determination.
- (b) This determination commences on 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 2013. The maximum prices in this determination prevailing as at 30 June 2013 continue to apply beyond 30 June 2013 until this determination is replaced.

3 Monitoring

IPART may monitor the performance of the Corporation, Gosford Council or Wyong Council for the purposes of:

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

4 Schedules

- (a) Schedule 1 and the table in that schedule sets out the maximum price that the Corporation may charge Gosford Council and Wyong Council for water supply services.
- (b) Schedule 2 and the table in that schedule sets out the maximum price that Gosford Council may charge the Corporation for water supply services.
- (c) Schedule 3 and the table in that schedule sets out the maximum price that Wyong Council may charge the Corporation for water supply services.
- (d) Schedule 4 sets out the definitions and the interpretation provisions.

Schedule 1 Water supply services by the Corporation

1 Application

This schedule sets the maximum prices that the Corporation may charge Gosford Council and Wyong Council for services under paragraph (a) of the Order (water supply services).

2 Categories for pricing purposes

Prices have been determined for 2 categories:

- (a) water supply services of Filtered Water to Gosford Council; and
- (b) water supply services of Filtered Water to Wyong Council.

3 Charges for water supply services of Filtered Water to Gosford Council

The maximum price that may be levied by the Corporation for the provision of water supply services of Filtered Water to Gosford Council is the water supply charge in Table 1 corresponding to the applicable Period multiplied by the volume (in kL) of Filtered Water supplied to Gosford Council during the relevant billing period.

4 Charges for water supply services of Filtered Water to Wyong Council

The maximum price that may be levied by the Corporation for the provision of water supply services of Filtered Water to Wyong Council is the water supply charge in Table 1 corresponding to the applicable Period multiplied by the volume (in kL) of Filtered Water supplied to Wyong Council during the relevant billing period.

Table 1

Table 1 Water supply charge for Gosford Council and Wyong Council

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water supply charge	1.27	$1.27 \times (1 + \Delta CPI_1)$	$1.27 \times (1 + \Delta CPI_2)$	$1.27 \times (1 + \Delta CPI_3)$

Schedule 2 Water supply services by Gosford Council

1 Application

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

2 Categories for pricing purposes

Prices have been determined for the water supply services of Filtered Water to the Corporation.

3 Charges for water supply services of Filtered Water to the Corporation

The maximum price that may be levied by Gosford Council for the provision of water supply services of Filtered Water to the Corporation is the water supply charge in Table 2 corresponding to the applicable Period multiplied by the volume (in kL) of Filtered Water supplied to the Corporation during the relevant billing period.

Table 2

Table 2 Water supply charge for the Corporation

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water supply charge	1.27	$1.27 \times (1 + \Delta \text{CPI}_1)$	$1.27 \times (1 + \Delta \text{CPI}_2)$	$1.27 \times (1 + \Delta \text{CPI}_3)$

Schedule 3 Water supply services by Wyong Council

1 Application

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

2 Categories for pricing purposes

Prices have been determined for water supply services of Filtered Water to the Corporation.

3 Charges for water supply services of Filtered Water to the Corporation

The maximum price that may be levied by Wyong Council for the provision of water supply services of Filtered Water to the Corporation is the water supply charge in Table 3 corresponding to the applicable Period multiplied by the volume (in kL) of Filtered Water supplied to the Corporation during the relevant billing period.

Table 3

Table 3 Water supply charge for the Corporation

Charge	Commencement Date to 30 June 2010 (\$/kL)	1 July 2010 to 30 June 2011 (\$/kL)	1 July 2011 to 30 June 2012 (\$/kL)	1 July 2012 to 30 June 2013 (\$/kL)
Water supply charge	1.27	$1.27 \times (1 + \Delta \text{CPI}_1)$	$1.27 \times (1 + \Delta \text{CPI}_2)$	$1.27 \times (1 + \Delta \text{CPI}_3)$

Schedule 4 Definitions and interpretation

1 Definitions

1.1 General definitions

In this determination:

Commencement Date means the Commencement Date defined in clause 2(b) (Application of this determination) of the Preliminary section of this determination.

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

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

Gosford Council means Gosford Council as defined in clause 1(c) (Background) of the Preliminary section of this determination.

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

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

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

kL means kilolitre or one thousand litres.

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

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

Period means the Commencement Date to 30 June 2010, 1 July 2010 to 30 June 2011, 1 July 2011 to 30 June 2012 or 1 July 2012 to 30 June 2013 (as the case may be).

Related Determinations means the Related Determinations as defined in clause 1(e) (Background) of the Preliminary section of this determination.

Wyong Council means Wyong Council as defined in clause 1(c) (Background) of the Preliminary section of this determination.

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 IPART.

$$(b) \Delta CPI_1 = \left(\frac{CPI_{Jun2009} + CPI_{Sep2009} + CPI_{Dec2009} + CPI_{Mar2010}}{CPI_{Jun2008} + CPI_{Sep2008} + CPI_{Dec2008} + CPI_{Mar2009}} \right) - 1$$

$$\Delta CPI_2 = \left(\frac{CPI_{Jun2010} + CPI_{Sep2010} + CPI_{Dec2010} + CPI_{Mar2011}}{CPI_{Jun2008} + CPI_{Sep2008} + CPI_{Dec2008} + CPI_{Mar2009}} \right) - 1$$

$$\Delta CPI_3 = \left(\frac{CPI_{Jun2011} + CPI_{Sep2011} + CPI_{Dec2011} + CPI_{Mar2012}}{CPI_{Jun2008} + CPI_{Sep2008} + CPI_{Dec2008} + CPI_{Mar2009}} \right) - 1$$

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

- (c) The subtext (for example $CPI_{Jun, year\ n}$) when used in relation to paragraph (b) above means the CPI for the June quarter and year in which the calculation was made and (for example, $CPI_{Jun, year\ n-1}$) means the CPI for the June quarter in the year immediately preceding June, year_n.

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;

- (e) a reference to a person includes a reference to the person's executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation), replacements and assigns;
- (f) a reference to an officer includes a reference to the officer who replaces him or her, or who substantially succeeds to his or her powers or functions; and
- (g) a reference to a body, whether statutory or not:
 - (1) which ceases to exist; or
 - (2) whose powers or functions are transferred to another body,is a reference to the body which replaces it or which substantially succeeds to its powers or functions.

2.2 Explanatory notes and clarification notice

- (a) Explanatory notes do not form part of this determination, but in the case of uncertainty may be relied on for interpretation purposes.
- (b) IPART 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, Gosford Council or Wyong Council may issue a bill for prices or charges under this determination.
- (b) If a billing period traverses more than one Period, the Corporation, Gosford Council or Wyong Council must levy any charge applying in this determination on a pro-rata basis.

Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation

From date of gazettal

Water — Final Report
July 2009

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1 Introduction and executive summary

The Independent Pricing and Regulatory Tribunal of NSW (IPART) has conducted a review of the prices that Hunter Water Corporation (Hunter Water) can charge for providing water services¹. The purpose of the review has been to determine the maximum prices for these services from the date the determination is gazetted to 30 June 2013 (the 2009 determination period). This report explains IPART's determination of the prices, including the rationale and analysis that underpin IPART's decisions.

IPART released a draft report and determination in April 2009. IPART received 69 submissions in response to the draft report. This followed IPART's release of an issues paper in July 2008, its receipt of 75 submissions in response to the issues paper, and the holding of a public hearing at Newcastle Town Hall in December 2008. IPART considered all of the issues raised in submissions and hearings, and has now determined final prices.

1.1 Summary of price outcomes under the determination

Under the determination, the bill for a typical residential customer increases by about \$220 or 31 per cent in real terms from 2008/09 to 2012/13.² The largest increase occurs in 2009/10, with prices then increasing steadily to 2012/13. Under Hunter Water's proposal, the bill for a typical residential customer would have increased by \$412 or 57 per cent by 2012/13.

1.1.1 Changes since the draft determination

While the final year's (2012/13) bill for a typical residential customer varies little between the draft and final determinations, bills are higher in the earlier years commencing in 2009/10. This mainly reflects IPART's decision to allow Hunter Water to earn the determined rate of return over the full period of the determination, and not just in the final year as was the case with the draft determination. As a

¹ Water services include water, sewerage and stormwater drainage services and related miscellaneous services.

² 'Real' increases in prices or customer bills mean the increases are in addition to any movements in the consumer price index (CPI). Therefore, the actual increase in a particular year will reflect the real increase allowed under IPART's determination, plus any increase (or decrease) in inflation over that year.

consequence, Hunter Water will be able to recover the efficient costs of providing its services, as assumed by IPART, over the full period of the determination.

Table 1.1 shows the annual variation in bills proposed by Hunter Water, IPART's draft determination and IPART's final determination. The actual bill received by a customer in any one year will vary from these figures with the addition of the percentage change in the CPI index.

The comparable water and sewerage bill for 2008/09 is \$718.47.

Table 1.1 Typical residential bill comparison for Hunter Water submission, IPART draft and IPART final determination (\$2008/09)

	2009/10	2010/11	2011/12	2012/13	Cumulative
Hunter Water submission	931.97	1,004.56	1,075.36	1,130.75	
\$ increase	213.50	72.59	70.80	55.39	412.28
% increase	29.7%	7.8%	7.0%	5.2%	57.4%
IPART draft determination	786.54	835.22	885.27	938.14	
\$ increase	68.07	48.68	50.05	52.87	219.67
% increase	9.5%	6.2%	6.0%	6.0%	30.6%
IPART final determination	817.49	857.05	897.22	939.08	
\$ increase	99.02	39.56	40.17	41.87	220.61
% increase	13.8%	4.8%	4.7%	4.7%	30.7%

Note: Typical residential bill is based on the provision of water and sewerage services at a consumption of 200kL per annum.

The changes to prices between the draft and final determinations reflect IPART's decisions to:

- ▼ increase the allowed operating expenditure for Hunter Water by 2.3 per cent to take account of new information provided by Hunter Water and to correct an error identified in the analysis of IPART's consultants³
- ▼ reduce sales forecasts by 3.6 per cent to take account of an error identified by Hunter Water in its forecast Tier 3 water sales⁴
- ▼ model prices to enable Hunter Water to earn the determined rate of return over the full period of the determination consistent with the approach adopted by IPART in recent determinations for Sydney Water and the Sydney Catchment Authority⁵

³ The reasons for IPART's decision to revise forecast efficient operating costs are set out in Chapter 6.

⁴ The reasons for IPART's decision to revise forecasts metered water sales are set out in Chapter 8.

⁵ The reasons for IPART's decision to revise the aggregate pricing approach are set out in Chapter 3.

- ▼ reduce the rate of return from 7.0 per cent in the draft determination to 6.5 per cent in the final determination to reflect updated market parameters, ensure consistency with other recent determinations and to strike a balance between the interests of Hunter Water and its customers, having regard to the issues raised by the Minister for Water in his letter to IPART.^{6,7}

Compared with the draft determination, the first three of these decisions put upward pressures on prices that are partially offset by the fourth decision.

In addition, IPART has incorporated a charge adjustment methodology in the determination that would reduce the size of the increase in the water service charge in 2012/13 if the construction of Tillegra Dam was materially delayed. IPART recognises that delays in the construction of Tillegra Dam are possible, given that it is yet to receive environmental approval. While this determination can deal with uncertainties associated with the timing of the construction of the dam within this price path, IPART would reopen this determination if Tillegra Dam were indefinitely delayed.

However, Tillegra Dam is not the major driver of Hunter Water's costs and therefore price increases. Under the final determination, Tillegra Dam accounts for \$32 or 15 per cent of the \$220 increase in bills for a typical residential customer over the period of the determination. Other factors include higher operating expenditure (eg, increases in power costs and additional staff including engineers and apprentices) and increased spending on sewerage systems and replacement and augmentation of (non-Tillegra) water supply systems.

The final determination continues the approach adopted in the draft determination to adjust the prices in line with the uptake of Tillegra Dam. The allowed rate of uptake reflects the projected growth in customer connections.

Table 1.2 highlights the key changes to residential charges for water, sewer and stormwater drainage services in 2012/13, the final year of the determination period.

⁶ Phillip Costa MP, Minister for Water, Letter to IPART, 21 May 2009.

⁷ The reasons for IPART decision on the rate of return are set out in Chapter 7 and Appendix G.

Table 1.2 Change to charges between draft and final determinations for residential water, sewerage and stormwater drainage services (\$2008/09)

	draft determination prices for 2012/13	final determination prices for 2012/13	change between draft and final determination
Water			
service charge pa	28.78	40.30	+\$11.52
usage charge per kL	1.86	1.86	no change
Sewer			
service charge pa	505.39	494.80	-\$10.59
usage charge per kL	0.00	0.00	no change
Stormwater drainage			
service charge pa	74.41	77.02	+\$2.61

Note: Water Service charge is based on a 20mm meter.

This review has been subject to a number of delays following the provision of late and updated information by Hunter Water, government decisions which required revised analysis and a range of other matters. As a consequence of these delays:

- ▼ stakeholders have incurred costs
- ▼ IPART has been required to undertake additional and duplicative analysis
- ▼ new prices will not take effect on 1 July – resulting in a revenue loss to Hunter Water.

It also noted that IPART's consultants recommended reductions to Hunter Water's operating forecasts where explanations of increased costs were not found to be satisfactory. IPART has accepted that recommendation in this determination. In principle, IPART is of the view that regulated agencies must provide timely, accurate and complete information to the review process, as it is the agency's responsibility to comprehensively justify to IPART and to stakeholders the efficiency of its costs and robustness of its pricing proposals.

IPART is concerned by the delays experienced in the course of this review. IPART has examined its processes and intends to implement new procedures to improve both the quality and timeliness of information provided by agencies in future reviews.

The sections below summarise the outcomes under the determination for Hunter Water's customers and revenue position. Please note that all figures in this report are presented in 2008/09 dollars (unless otherwise stated).

The bills and revenues for 2009/10 are calculated as if the higher prices determined for 2009/10 applied from 1 July 2009. However, as the higher prices will only apply from the date of gazettal and that date is not yet known, the actual customer bills and Hunter Water's revenue for 2009/10 will be less than the amounts shown in this report.

1.1.2 Outcomes for customers

In general, the prices Hunter Water can charge residential and non-residential customers for water, sewerage and stormwater drainage increase in real terms in each year of the determination period. Relative to current prices, the water usage price increases in real terms by 46.5 per cent (from \$1.27 per kL in 2008/09 to \$1.86 per kL in 2012/13). However, the annual water service charge for residential customers decreases by 2.8 per cent. The annual sewerage service charge increases by 54.1 per cent over the same period, but residential customers will no longer pay a sewerage usage charge (representing a 100 per cent reduction).

IPART has made a decision to discontinue the residential sewerage usage charge because it considers this charge is a de facto water usage charge, and the water usage charge is already acting as a price signal for the purposes of demand management. Further, residential sewerage usage charges were structured on the assumption that one half of the water used by residential customers would be discharged to the sewerage system. As Hunter Water pointed out, the introduction of BASIX and the increasing use of recycled water and rainwater tanks mean that customers' metered water usage is becoming a less reliable proxy for their sewerage usage, and this has potentially distortionary implications for customers.⁸

Table 1.3 lists the prices and price increases for residential customers under the determination.

Table 1.3 Determination on water, sewerage and stormwater drainage charges for residential customers (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Overall increase
Water						
Service charge pa	41.46	38.44	38.86	38.99	40.30	
Year on year increase		-7.3%	1.1%	0.3%	3.4%	-2.8%
Usage charge per kL	1.27	1.51	1.62	1.74	1.86	
Year on year increase		18.9%	7.3%	7.4%	6.9%	46.5%
Sewerage						
Service charge pa	321.17	445.08	462.21	478.25	494.80	
Year on year increase		38.6%	3.8%	3.5%	3.5%	54.1%
Usage per kL	0.47	0.00	0.00	0.00	0.00	
Year on year increase		-100.0%	0.0%	0.0%	0.0%	-100.0%
Stormwater drainage						
Service pa	61.52	72.59	74.04	75.51	77.02	
Year on year increase		18.0%	2.0%	2.0%	2.0%	25.2%

Note: Water Service charge is based on a 20mm meter.

⁸ Hunter Water Corporation *submission to IPART on prices to apply from 1 July 2009*, January 2009, p 99.

The percentage increase in residential customers' bills as a result of the determination varies, depending on their household water consumption. For example, Table 1.4 shows that households with water consumption of 100kL per year will face slightly higher percentage increases than those with higher levels of consumption. However, in dollar terms, households with higher water consumption will face larger bill increases than those with lower consumption due to the increase in the per kL water usage charge. Over the next four years, households with consumption of 100kL will face bill increases of \$185 in total while those with consumption of 750kL will face bill increases of \$416.

Table 1.4 Increases in residential annual bills for customers with varying water consumption under the determination (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Change 2008/09 to 2012/13
100 kL pa	567.97	666.49	695.05	723.22	753.08	185.11
% increase		17.3%	4.3%	4.1%	4.1%	32.6% (7.3% pa)
200 kL pa	718.47	817.49	857.05	897.22	939.08	220.61
% increase		13.8%	4.8%	4.7%	4.7%	30.7% (6.9% pa)
750 kL pa	1,546.22	1,647.99	1,748.05	1,854.22	1,962.08	415.86
% increase		6.6%	6.1%	6.1%	5.8%	26.9% (6.1% pa)

Note: Bills exclude stormwater drainage charges as most of Hunter Water's customers receive stormwater drainage services from local councils.

Source: Hunter Water submission and IPART modelling.

In its draft report, IPART called for a review by Government of rebates paid to pensioners served by Hunter Water. IPART welcomes the Government's announcement of higher pensioner rebates. These changes will increase the rebate available to a pensioner from a fixed dollar amount of \$175 to a percentage of the bill.⁹ The rebate received by an average pensioner - consuming 139kL of water - will increase to \$239 in 2012/13.

Table 1.5 shows the bill increases for a typical Hunter Water pensioner customer and the impact of the revised rebate.

⁹ NSW Treasury, 2008-09 Budget Statement Budget Paper No. 2 Appendix E Tax Expenditure and Concessional Charges Statement. See Table E18: Housing and Associated Amenities www.treasury.nsw.gov.au/_data/assets/file/0016/11545/bp2_e.rtf

Table 1.5 Increase in a typical pensioner's bill for water and sewerage services before and after the pensioner rebate under the determination (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Change 2008/09 to 2012/13
Full bill ^a	572	693	726	759	794	222
% Increase		21.3%	4.7%	4.5%	4.6%	38.8%
After pensioner rebate	397	486	509	53	55	157
% Increase		22.5%	4.6%	4.4%	4.4%	39.7%

^a Full bills reflect a typical customer who does not receive a pensioner rebate and who consumes 139 KL/year. Given the Environmental Improvement Charge (EIC) is waived for most pensioners, for comparison it is assumed that the EIC charge has been waived for the modelled 'full bill' customer.

Note: Assumes 139kL per year consumption which is the average pensioner consumption reported in IPART's 2008 household survey for the region.

The increase in commercial and industrial customers' bills will also vary, depending on their level of water consumption and the sewerage discharge factor applied to the business. However, as the water usage patterns of commercial and industrial customers are more diverse than those of residential customers, it is difficult to draw general conclusions about the impact of the determination on these customers.

IPART considers the price increases under the determination are necessary to ensure that Hunter Water can deliver its capital expenditure program over the next four years and recover the efficient costs of its operations. Hunter Water's capital program includes the Tilleggra Dam project, which has an estimated cost of over \$400 million.¹⁰ After taking account of the impacts of predicted population growth, the construction of the dam will reduce the probability that drought restrictions are imposed in the Hunter region from 1 in 21 years to 1 in 1,250 years. This is a very high level of drought security and IPART has not been provided with evidence regarding the value of customers' willingness to pay for this increased level of security.

The capital program also includes almost \$100 million in projects to comply with current Department of Environment and Climate Change (DECC) standards. These include projects to upgrade sewage treatment plants, and other sewerage system reliability projects such as the upgrade of Burwood Beach sewerage treatment plant (Stage 2), Newcastle sewerage transport system upgrade (Stages 1 and 2), Morpeth sewerage transport system upgrade (Stage 2), and the Windale/Gateshead system upgrade (Stages 1 and 2).

In addition, Hunter Water's capital program includes a number of significant water supply projects driven by forecast growth in customer connections and demand. These projects include the Tomaree/Tillgerry water supply and water treatment plant upgrade, and the Grahamstown water treatment plant upgrade.

¹⁰ This figure is net the sales of surplus land.

In setting prices, IPART assumed that Hunter Water will meet its service level commitments, and that cost reductions and efficiency savings will not be obtained at the expense of service standards. IPART notes that relative to the current situation, Hunter Water's service performance in some areas is expected to improve over the determination period. These improvements are largely the outcome of government or regulator decisions and, as such, have not been subject to customer willingness to pay analysis (or similar) which IPART would ordinarily require to support a decision to increase prices.

Table 1.6 shows the contribution that IPART's decisions on Hunter Water's requirements for operating expenditure and capital investment make to the expected increase in a typical residential customer's bill for water and sewerage services over the determination period. These include the contribution of the two projects which are the subject of Government directions (Tillegra Dam and Kooragang Island Recycled Water Scheme). More than half the expected increase (\$160) is attributed to the requirement for capital investment. Of this amount, approximately \$32 is attributed to the costs of constructing the Tillegra Dam, and \$0 is attributed to the Kooragang Island scheme (as Hunter Water indicated that it that it does not forecast providing any subsidy to this scheme). Around \$26 is attributed to the costs of complying with current DECC standards.

Table 1.6 Contribution of requirements for operating expenditure and capital investment to the expected increase in a typical residential customer's bill, 2008/09 to 2012/13 (\$2008/09)

	IPART determination
Operating expenditure	\$44
Capital investment:	
Tillegra Dam	\$32
Subsidy for Kooragang Island Recycled Water Scheme	\$0
Sewer projects required to meet DECC standards	\$26
Sewer transport and treatment plant upgrades	\$53
Water supply system development and upgrades	\$19
Other system augmentation, and water resource capital expenditure	\$30
	\$160
Removal of developer charges, (all costs recovered through customer prices)	\$16
Total	\$220

Note: Typical bills are based on households with water and sewerage services consuming 200kL of water per annum.

Source: Hunter Water submissions and IPART modelling.

It is important to note that the Government has directed IPART under Section 16A of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act) to include in its determination an amount which represents the efficient costs of Hunter Water complying with the Government direction in relation to the Tillegra Dam and Kooragang Island Recycled Water Scheme. The determination complies with this

direction. However, in setting prices, IPART also aimed to balance the various matters it is required to consider under section 15 of the IPART Act, including the impact of its price decisions on customers. As part of this balancing, it has mitigated the potential impact of Hunter Water's investment in Tillegra Dam on prices to customers in the 2009 determination period. (IPART's approach is summarised below, and discussed in detail in Chapter 4.)

Without this mitigation, Tillegra Dam could potentially have increased a typical residential customer's bill by an additional 9.8 per cent or \$70.16 over the 2009 determination period. That is, in the absence of any mitigation measures, the bill for a residential customer with water consumption of 200kL per annum would have increased from \$718.47 per annum in 2008/09 to \$1009.24 per annum in 2012/13 (compared to \$939.08 under the determination).

1.1.3 Outcomes for Hunter Water

IPART's decision is that Hunter Water's notional revenue requirement is \$951 million (\$2008/09) over the 2009 determination period (or an average of \$238 million (\$2008/09) per year). This amount, which reflects the full, efficient costs of providing its services and complying with the Government's directions, is significantly more than the annual revenue IPART allowed for in 2008/09 (under the 2005 Determination).

Figure 1.1 shows IPART's decisions on the cost components of Hunter Water's notional revenue requirement for each year of the 2009 determination period, and compares them to the revenue IPART allowed for in 2008/09. It indicates that much of the increase in the notional revenue requirement is due to the increase in the return on assets component. This component increases from \$86.7 million in 2008/09 to \$138.0 million in 2012/13, or from 47 per cent to 53 per cent of the total notional revenue requirement. The size of the operating expenditure component also increases, but by a much smaller amount¹¹. As a result, this component decreases from 42 per cent of the total revenue requirement in 2008/09 to 36 per cent in 2012/13.

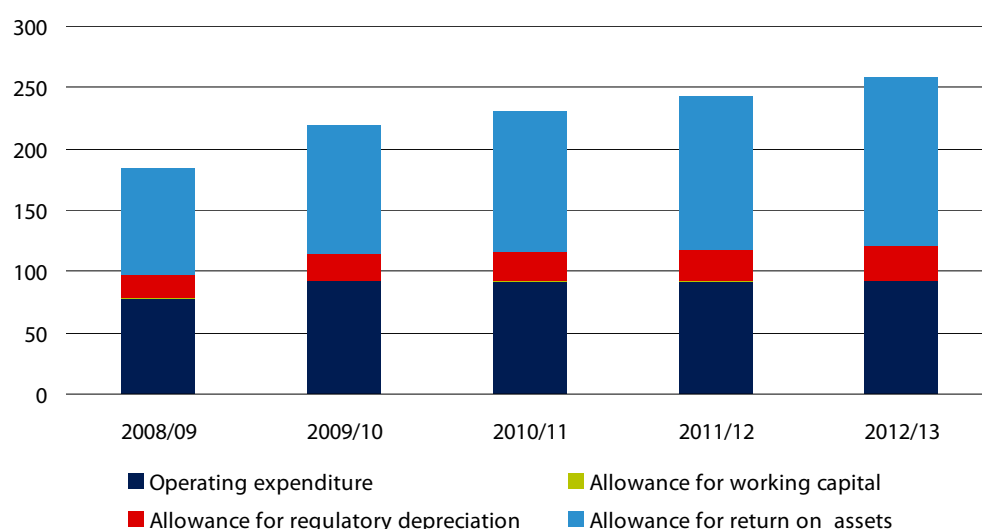
The large increase in the return on assets component is due to increases in the value of Hunter Water's regulatory asset base (RAB). These increases are due to the size of the capital program Hunter Water is undertaking, including the Tillegra Dam project. While taking account of more recent market conditions, IPART has made a decision to apply a rate of return of 6.5 per cent. This is the same rate of return as that which was adopted in the 2005 Determination, and less than the 7.0 per cent rate of return applied in the draft determination. This reflects changes in market conditions between the draft and final determinations as well as IPART's decision to apply a rate of return that is below the mid-point of the range (to strike a balance between the interests of Hunter Water and its customers and to ensure consistency with other recent determinations). In reaching this decision IPART had regard to the

¹¹ From \$77.7 million to \$93.4 million.

concerns of stakeholders including the Minister for Water. The Minister urged IPART to ensure that price increases were limited to:

...those absolutely necessary to ensure the ongoing supply of safe, healthy and reliable water and sewerage services for the region.¹²

Figure 1.1 Decisions on Hunter Water's notional annual revenue requirement and its components, 2009/10 to 2012/13 (\$2008/09)



Also, to achieve a balance between the factors it is required to consider in making price determinations, IPART considers that a portion of the notional revenue requirement associated with Hunter Water's efficient costs for Tillegra Dam¹³ should be recovered over more than one determination period. Further, it considers these costs should be recovered in a way that reflects the distribution of the benefits of the dam to Hunter Water's current and future customers, to ensure intergenerational equity. In line with this view, IPART made a decision to defer the recovery of \$31.0 million¹⁴ (\$2008/09) of the notional revenue requirement. This amount, together with its holding costs, will be recovered through future prices.

In addition, IPART made a decision for the final determination to apply a smoothed net present value (NPV) neutral approach in setting Hunter Water's prices.¹⁵ This is a change from the draft determination and ensures consistency with recent metropolitan water decisions.¹⁶

¹² Phillip Costa MP, Minister for Water, Letter to IPART, 21 May 2009.

¹³ These costs are reflected in the allowances for a return on assets and regulatory depreciation.

¹⁴ This amount reflects deferred revenue only, without the associated holding costs. Including holding costs, this amount is \$34.14 million (\$2008/09) – see Chapter 5.

¹⁵ These concepts and IPART's considerations are explained further in Chapter 3 and Appendix F.

¹⁶ See IPART determinations for Sydney Water (2008) and Sydney Catchment Authority (2009).

As a result of these decisions, IPART set prices to generate target revenue \$920.9 million (\$2008/09) over the determination period. IPART considers the target revenue is sufficient for Hunter Water to operate, maintain, renew and develop the assets required to deliver the regulated services, including implementing its capital investment program.

IPART's analysis and financial modelling indicates that Hunter Water will achieve a credit rating of at least BBB+ in each year of the 2009 determination period, with a higher rating in earlier years. The decrease in rating is partly due to IPART's decision to defer recovery of some revenue associated with Tillegra Dam.

1.2 Structure of this report

The following chapters explain IPART's determination and decisions in detail, including the analysis supporting each decision:

- ▼ Chapter 2 outlines the scope and context for the review, including IPART's review process, Hunter Water's operating and regulatory environment, and its submissions to IPART.
- ▼ Chapter 3 outlines IPART's price setting approach and its decisions related to this approach.
- ▼ Chapter 4 discusses IPART's approach to incorporating the efficient costs of Hunter Water's compliance with the Government's direction in relation to Tillegra Dam in the determination.
- ▼ Chapters 5, 6 and 7 provide an overview of IPART's decisions on Hunter Water's notional revenue requirement, and discuss the decisions on the revenue required for efficient operating expenditure and capital investment in more detail.
- ▼ Chapter 8 sets out the assumptions on forecast metered water sales and customer numbers IPART adopted in analysing the Hunter Water's revenue requirements and setting prices.
- ▼ Chapters 9 and 10 set out IPART's pricing decisions for the specific services provided by Hunter Water.
- ▼ Chapter 11 discusses the impact of IPART's pricing decisions on Hunter Water, its customers and the environment.

2 Scope and context for the review

IPART's review is to determine Hunter Water's maximum periodic charges for the water, sewerage and stormwater drainage services it provides to the residents and businesses in the Lower Hunter region of NSW, as well as its maximum charges for a range of trade waste, miscellaneous and ancillary services.

The review does not consider the costs associated with recycled water services and sewer mining. Under IPART's *Pricing arrangements for recycled water and sewer mining*, Hunter Water is responsible for setting the prices it charges for voluntary and mandatory recycled water schemes in a way that is consistent with IPART's pricing guidelines.¹⁷

The only matter related to recycled water costs IPART has considered is Hunter Water's estimates of the 'avoided' costs associated with the proposed Kooragang Island Recycled Water Scheme, which it seeks to recover through water and sewerage prices.¹⁸ This is consistent with IPART's recycled water pricing guidelines, which aim to ensure that the costs of recycled water are recovered from recycled water customers, while also providing for the sharing of costs with other customers where the recycled water scheme leads to community benefits in the form of avoided or deferred costs elsewhere in the system.

The following sections outline the context for this price review, including IPART's review process and the matters it considered as part of this review, and Hunter Water's operations and regulatory environment and its submissions to the review.

¹⁷ IPART, *Pricing arrangements for recycled water and sewer mining*, Determinations No 8 and 9, September 2006. Under these pricing arrangements, IPART only determines recycled water prices for mandated schemes where there is sufficient information for it to set efficient prices. To date, sufficient information has only been available to determine the prices of Sydney Water's recycled water scheme at Rouse Hill. A mandated scheme requires customers to connect due to government policy, a legislative or other requirement.

¹⁸ Hunter Water's estimate of these avoided costs is based on benefits associated with the deferment of the stage three upgrade of the Grahamstown water treatment plant, deferment of the need to upgrade the trunk delivery main from the plant and operating cost savings at Grahamstown water treatment plant. Hunter Water's estimates were reviewed by IPART and the results of this analysis are reported in Chapters 6 and 7.

2.1 Review process

IPART's review has included an extensive investigation and public consultation process. As part of the review, IPART:

- ▼ Released an Issues Paper in July 2008 to assist stakeholders in identifying and understanding the key issues for review.
- ▼ Invited Hunter Water to make submissions detailing its pricing proposal, and required it to provide extensive financial and performance data on the future capital and operating expenditure necessary to maintain customer service levels and respond to regulatory demands.¹⁹
- ▼ Invited other interested parties to make submissions on the Issues Paper and Hunter Water's submission.²⁰
- ▼ Held a public hearing in Newcastle on 12 December 2008 to discuss a wide range of issues raised by Hunter Water and other stakeholders.
- ▼ Engaged WS Atkins International Ltd/Cardno Limited (Atkins/Cardno) to review Hunter Water's capital expenditure, asset planning and operating expenditure proposals.
- ▼ Engaged Sinclair Knight Merz (SKM) to review Hunter Water's water sales forecasts over the next four years, to comment on the robustness of the approach used by Hunter Water to develop those forecasts, and to advise on the reasonableness of the assumptions on which the forecasts were based.
- ▼ Engaged SKM to comment on the robustness of the approach used by Hunter Water to calculate its water system yield, and to provide information to assist IPART's deliberations about the inter-generational benefits of the Tillegra Dam.
- ▼ Engaged Deloitte Touche Tohmatsu (Deloitte) / Halcrow to review Hunter Water's proposed miscellaneous and trade waste charges.
- ▼ Engaged Deloitte to advise on the accounting and taxation implications for Hunter Water of IPART's treatment of Tillegra Dam costs.
- ▼ Released a draft report and determination and invited stakeholders to make submissions in response to the drafts.²¹

Copies of the issues paper, draft report, draft determination, reports of the consultants, submissions and the transcript from the public hearing can be obtained from www.ipart.nsw.gov.au.

¹⁹ Hunter Water's first submission was received in September 2008. The second submission was received in October 2008. The third submission was received in January 2009.

²⁰ A total of 75 written submissions were received in response to the Issues Paper.

²¹ A total of 69 written submissions were received in response to the draft determination and draft report.

IPART has considered matters raised in submissions made in response to the issues paper and the draft determination in making its final determination. The new charges are expected to apply from the date the final determination is gazetted.

2.2 Matters considered

IPART is empowered to review and make determinations on Hunter Water's water, sewerage and stormwater prices under the *Independent Pricing and Regulatory Tribunal Act 1992* ("the IPART Act.") Section 15 of the IPART Act requires IPART to consider a broad range of matters when conducting reviews. These matters include:

- ▼ Consumer protection—protecting consumers from abuses of monopoly power; the standards of quality, reliability and safety of the services concerned; the social impact of decisions; and the effect on inflation.
- ▼ Economic efficiency — greater efficiency in the use and supply of services; the need to promote competition; and the effect of functions being carried out by another body.
- ▼ Financial viability — the rate of return on public sector assets including dividend requirements; the impact on pricing of borrowing, capital and the dividend requirements of agencies.
- ▼ Environmental protection — the promotion of ecologically sustainable development by appropriate pricing policies; considerations of demand management and least-cost planning. (The section 15 requirements are listed in full in Appendix A.)

In considering these matters, IPART must balance the diverse needs and interests of stakeholders while ensuring that Hunter Water is adequately recompensed for the services it provides. IPART also takes into account the principles issued by the Council of Australian Governments (COAG) and contained in the National Water Initiative.²²

In addition, for this determination, the Minister for Water (Minister) directed IPART under section 16A of the IPART Act to include in its determination the efficient costs of Hunter Water complying with a Government direction to immediately bring forward the construction of a 450 billion litre dam at Tillegra, and provide a subsidy of up to \$10 million for the Kooragang Island water recycling project. (A copy of that direction is included at Appendix B.)

Section 16A of the IPART Act states that the "portfolio Minister for a government agency may direct the Tribunal ... to include in the maximum price an amount representing the efficient cost of complying with a specified requirement imposed on the agency." Thus, the implications of the Minister's direction is that IPART's review of Hunter Water's costs associated with constructing Tillegra Dam and providing a

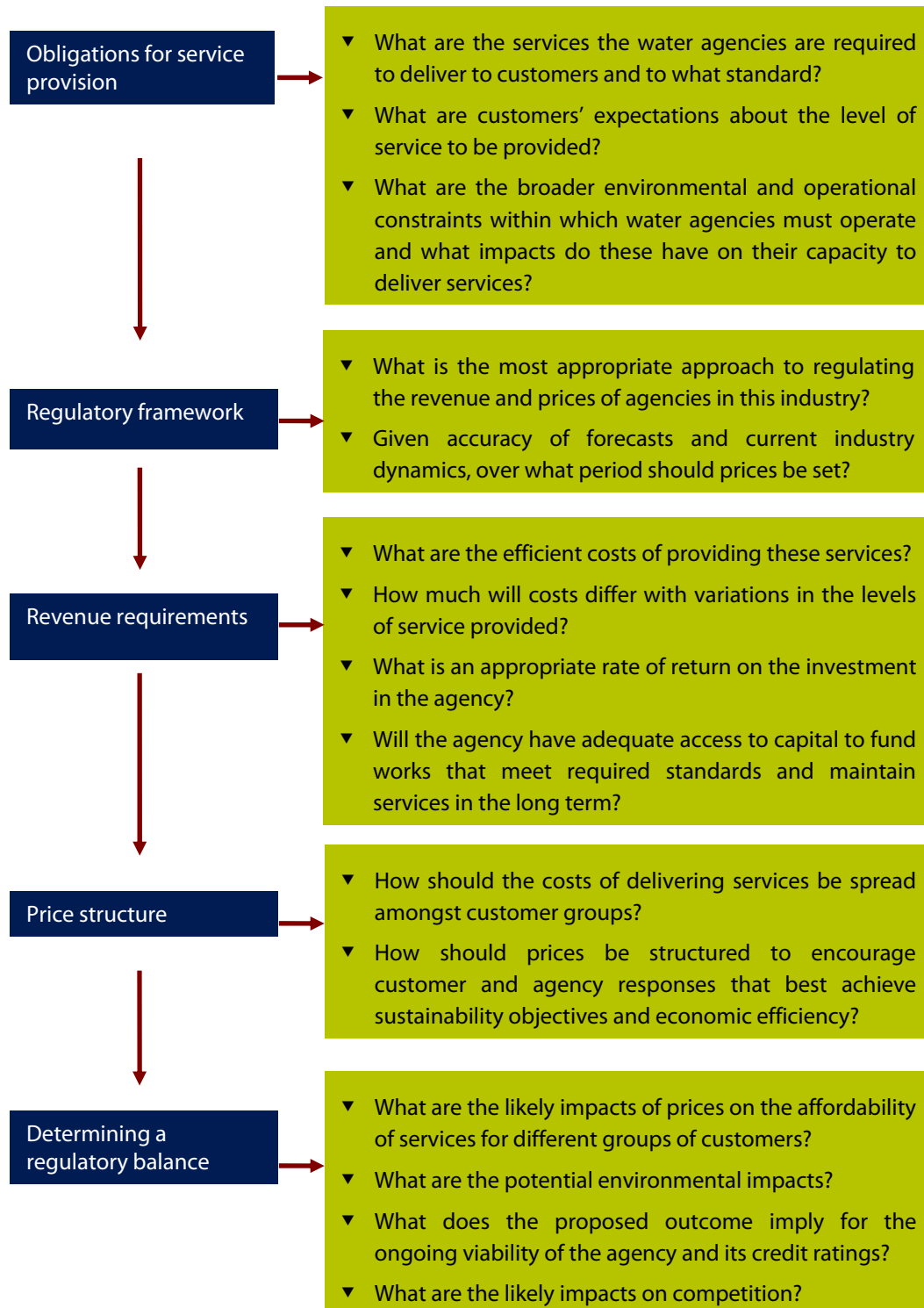
²² The National Water Initiative is built on the principles established in the 1994 COAG Water Reform Framework.

subsidy for the Kooragang Island Recycled Water Scheme is limited to assessing whether these projects are being undertaken in the most cost-effective way to meet the Minister's requirements (as well as considering how the Tillegra Dam's costs will be allocated among its beneficiaries). This is a more limited review than that required for Hunter Water's other capital and operating expenditure.

For other expenditure, IPART needs to consider whether Hunter Water's program of capital and operating expenditure represents the best way of meeting the community's requirements for water, sewerage, stormwater and recycled water services.

Because of the numerous complex and sometimes conflicting requirements that need to be addressed, IPART follows a determination process that provides a framework to efficiently deal with these requirements. The process is shown in Figure 2.1.

Figure 2.1 IPART's determination process



2.3 Hunter Water's operations

Hunter Water is a State Owned Corporation (SOC). Its roles and responsibilities are conferred on it under the *Hunter Water Act 1991*. The Act also establishes a set of subordinate instruments, including an operating licence and Memoranda of Understanding (MoU), which impose further requirements on Hunter Water.

Under the Hunter Water Act, the principal functions of Hunter Water are to provide, construct, operate, manage and maintain systems and services for supplying water, providing sewerage and drainage services, and disposing of waste water, subject to the terms of the operating licence.²³

Hunter Water's area of operations covers approximately 5,400km², serving a population of about 520,000 in the local government areas of Cessnock, Lake Macquarie, Maitland, Newcastle, Port Stephens and part of the Singleton Shire in the Lower Hunter. Currently, Hunter Water also provides bulk water to a small area of the Great Lakes.²⁴ From 1 July 2008, Hunter Water further expanded its reticulation operations to provide water and sewerage services to around 2,000 properties in the Dungog Shire, with the local council transferring its water and sewer assets to Hunter Water.

In recent years, Hunter Water has also supplied water to the Central Coast councils in response to drought conditions in those areas. After recent expansion, the link between Hunter Water's system and the Central Coast now has capacity to transfer approximately 35 ML per day.²⁵

Hunter Water is responsible for sourcing its own bulk water (whereas Sydney Water currently relies primarily on water supplied by the SCA). Consequently, in addition to its water and sewerage distribution networks and treatment facilities, its system includes the raw water sources of Chichester Dam (21,500 ML capacity), Grahamstown Dam (190,000 ML), Tomago Sandbeds (60,000 ML) and Anna Bay Sandbeds (16,000 ML).²⁶

Furthermore, in November 2006 the NSW Government announced the construction of a new dam and a Hunter/Central Coast 'Water Grid' plan for the region. The features of this plan, as explained in the Premier's announcement, are outlined in Box 2.1 below. It includes a 450,000 ML dam at Tillegra, expansion of the capacity of the Hunter to Central Coast pipeline (which has been partly funded by Hunter Water, the Central Coast Councils and the Federal Government), and a recycled water scheme on Kooragang Island for industrial customers.

²³ *Hunter Water Act 1991*, sections 4A and 12.

²⁴ Hunter Water Corporation, *H₂50 Plan – Securing Our Water Future*, December 2008, p 9 (H₂50 Plan).

²⁵ Ibid.

²⁶ Hunter Water Corporation, *Hunter Water 2007-08 Annual Report*, October 2008, p 7.

Box 2.1 NSW Government's announcement on new dam and Hunter/Central Coast water grid^a

The Dam and Water Grid plan includes:

- ▼ a new 450,000 ML dam at Tillegra (north of Dungog)
- ▼ four new pumps at Balickera (north of Newcastle) to extract an additional 650 ML of flood flows a day from the Williams River
- ▼ a \$25 million recycled water plant for Kooragang Island to reuse 3,000 ML of treated effluent a year in heavy industry around Newcastle Harbour
- ▼ increasing the capacity of the pipeline between Newcastle and the Central Coast from 27 ML to 35 ML a day.

According to the Premier's announcement:

- ▼ The dam will not only secure water supply for the Hunter, but will also "ensure that the crisis which exists on the Central Coast will not happen again".
- ▼ Hydro-electric turbines on the dam and reforestation of the cleared land will make the Tillegra project Australia's first 'carbon neutral' dam.
- ▼ Construction of the dam is expected to begin in mid-2008 (subject to environmental assessment and approvals, including providing for adequate environmental flows for the Williams River). Water from the dam is expected to be available in 2013.
- ▼ The Kooragang Island water recycling scheme will save about 3,000 ML of potable water each year and Hunter Water will start negotiations with prospective customers shortly.
- ▼ The package will be funded by the proceeds from the sale of water from Hunter Water to the Central Coast, future development contributions in the Hunter and Central Coast and the 2009-2013 IPART determination.

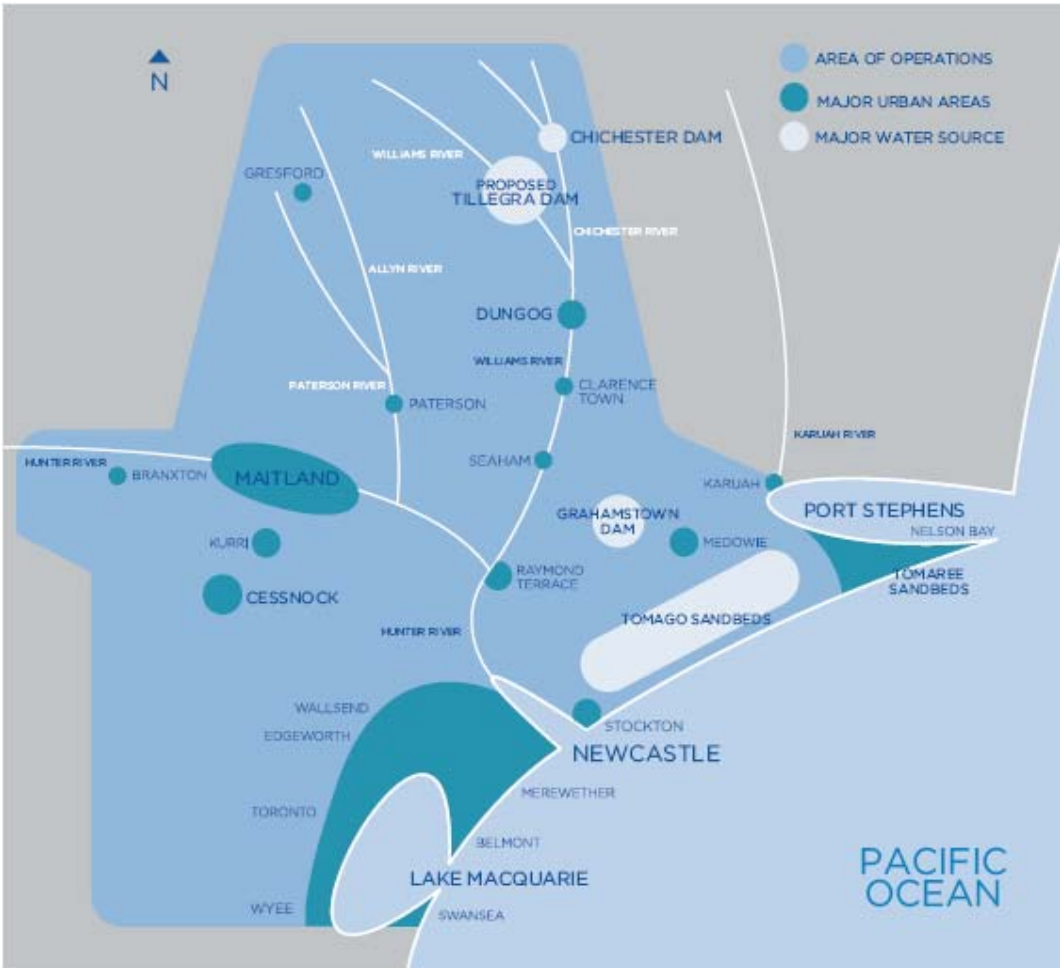
a Premier of New South Wales, News Release, "\$342 Million for New Dam and Hunter/Central Coast Water Grid", 13 November 2006.

As well as Tillegra Dam and the Kooragang Island Recycled Water Scheme, Hunter Water's H₂50 Plan²⁷ also includes 'third pipe dual reticulation' recycled water supply systems for some new residential developments. This is in addition to existing recycled water supply agreements that Hunter Water has in place for industrial customers. The H₂50 Plan also outlines the potential expansion of Hunter Water's water efficiency programs.

Hunter Water's current area of operations is illustrated in Figure 2.2.

²⁷ Hunter Water Corporation, *H₂50 Plan – Securing Our Water Future*, December 2008.

Figure 2.2 Hunter Water’s area of operations



Source: Hunter Water Corporation, *Hunter Water 2007-08 Annual Report*, p 6.

2.4 Regulatory framework²⁸

A range of regulators oversee Hunter Water's water industry functions. The primary regulators are:

- ▼ **IPART**, which is responsible for setting the maximum prices Hunter Water can charge for its monopoly services. IPART is also responsible for monitoring and reporting compliance with Hunter Water's operating licence, which imposes obligations relating to customer service, water quality, system performance, water conservation and demand management, an environmental management plan and indicators, catchment management and complaint and dispute handling. Hunter Water's operating licence was amended in 2007, with the amended licence commencing on 1 July 2007 and expiring on 30 June 2012.
- ▼ **Department of Water and Energy (DWE)**, which has primary responsibility for the management of water resources throughout NSW. DWE administers Hunter Water's Water Management Licence (WML), which authorises Hunter Water to extract water from the natural environment and monitor groundwater bores. The WML also imposes environmental flow requirements on Hunter Water, and requires it to provide a range of data, reports and information.
- ▼ **Department of Environment and Climate Change (DECC)**, which is responsible for monitoring and regulating sewer discharges from Hunter Water's sewerage system to the receiving waters. DECC issues Environment Protection Licences under the *Protection of the Environment Operations Act 1997* for Hunter Water's sewage transportation and treatment systems. These licences stipulate both quality and quantity conditions for discharge from each sewerage treatment works and specify operational controls and reporting requirements for the pipe network and pumping station.
- ▼ **NSW Health**, which is responsible for regulating the quality and safety of Hunter Water's drinking water. Under its operating licence, Hunter Water is required to provide NSW Health with a comprehensive water quality management plan outlining its strategies for ensuring that the quality of water supplied to customers complies with appropriate guidelines (including those specified by NSW Health). Hunter Water is also required to provide an Annual Water Quality Report, monthly monitoring results and event-based results. The operating licence requires Hunter Water to maintain a MoU with NSW Health recognising NSW Health as the drinking water quality regulator and facilitating effective interaction between the two organisations.

²⁸ This section describes the regulatory framework as at 30 June 2009. On 11 June 2009, the NSW Government announced a restructure of government departments to take effect from 1 July 2009. While these arrangements will result in the merger of some departments listed below, the regulatory functions will continue.

- ▼ The **Dams Safety Committee**, which is responsible for formulating measures to ensure the safety of dams and maintain surveillance of prescribed dams, including those under the management of Hunter Water. Under the *Dams Safety Act 1978* and the *Mining Act 1992*, the Dams Safety Committee's main objective is to ensure that all 'prescribed dams' in NSW are in such condition so as not to pose an unacceptable danger to downstream residents and property, or to adversely affect the public welfare and environment. This is achieved by requiring all dam owners to arrange for regular monitoring and surveillance of their dams, ongoing assessment of their behaviour on the basis of monitoring and surveillance information, regular review of the compliance of their dams with current standards and review of all such information and assessments by experienced personnel.²⁹

In addition to these regulators, Hunter Water is also subject to planning approvals and requirements relating to its proposed developments. For example, Tillegga Dam was referred to the Federal **Department of the Environment, Water, Heritage and the Arts** under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC). In January 2009, the Department determined that the construction of the Dam is a controlled activity and hence is subject to the approval of both the NSW Planning Minister and the Federal Minister for the Environment following assessment under bilateral agreement by the NSW Department of Planning which may, for example, impose requirements on its construction and operation to minimise its environmental impact.³⁰

2.5 Overview of Hunter Water's submission

Hunter Water provided its initial submission to IPART in September 2008. It provided a revised submission in October 2008 to address errors identified in the initial submission. Following the NSW Government's decision to discontinue developer charges for water and sewer services, Hunter Water provided a further revised submission in January 2009. IPART's draft determination was based on this January 2009 submission. Hunter Water provided Annual Information Returns (AIR) to support each submission. Further information was provided in May 2009 that had been updated to address a small number of errors identified by Hunter Water. (For ease, unless otherwise noted, all references to Hunter Water's submission in this report refer to the January 2009 submission and all references to Hunter Water's Annual Information Returns (AIR) refer to the January 2009 spreadsheets.)

In relation to operating expenditure, Hunter Water's submission indicated that it had spent around 13 per cent more than the expenditure allowed for in IPART's 2005 Determination over the four years from 2005/06 to 2008/09. For the 2009

²⁹ Dams Safety Committee, *DSC1 – General Information*, April 2005, see: <http://www.damsafety.nsw.gov.au/FTP/PUBLICATIONS/PDF/DSC01.pdf>.

³⁰ Australian Government Department of Environment, Water, Heritage and the Arts, *Decision of Assessment Approach*, 23 January 2009 (notice updated 6 February 2009 – EPBC 2008/4551).

determination period, Hunter Water forecast average operating expenditure of approximately \$97 million (\$2008/09) per year.³¹ This is 24 per cent more than the average annual operating expenditure of \$78.1 million IPART allowed for in the 2005 Determination, and 10 per cent more than Hunter Water's actual expenditure over the 2005 determination period.

In relation to capital expenditure, Hunter Water spent 47 per cent more than the expenditure allowed for in the 2005 Determination, with total expenditure over the period of \$534.3 million (\$2008/09) compared to \$364.2 million (\$2008/09) allowed for in the 2005 Determination. Hunter Water attributed its higher capital spending to NSW Government policies which required it to invest in a number of additional projects which were not included in the 2005 Determination. These projects include Tillegra Dam, Kooragang Recycled Water Scheme, new pumps at Balickera, and expansion of the capacity of the pipeline for bulk water transfers with the Central Coast.

Table 2.1 summarises Hunter Water's proposed notional revenue requirement and the cost building blocks it used to calculate this requirement.³² Tables 2.2 and 2.3 show Hunter Water's proposed prices and price increases, and their impact on combined water and sewerage bills for residential customers with various levels of water consumption.

Table 2.1 Hunter Water's proposed notional revenue requirement (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Operating expenditure	96.3	97.2	97.0	98.3
Allowance for return of capital (depreciation)	21.6	24.3	27.0	29.3
Allowance for return on assets	116.3	134.0	152.9	167.4
Allowance for working capital	0.7	0.6	1.0	1.7
Total	234.8	256.0	278.0	296.7

Note: Column totals may not sum due to rounding.

Source: Hunter Water submission with IPART calculations.

³¹ However, Hunter Water's forecasts within its submission include recycled water operating expenditure. IPART has removed these costs in its assessment of Hunter Water's operating expenditure. Hunter Water's forecast average operating expenditure, less recycled water costs, is \$96 million (\$2008/09) per year.

³² These terms are defined in Chapter 3.

Table 2.2 Hunter Water's proposed water, sewerage and stormwater drainage prices for residential customers (\$2008/09)

		2008/09	2009/10	2010/11	2011/12	2012/13	Change 2008/09 to 2012/13
Water	Service pa	41.46	57.38	65.13	74.29	82.41	
	% increase		38%	14%	14%	11%	99%
	Usage (\$/kL)	1.27	1.63	1.77	1.94	2.08	
	% increase		28%	9%	10%	7%	64%
Sewerage	Service pa	321.17	516.61	553.45	581.09	600.36	
	% increase		61%	7%	5%	3%	87%
	Usage (\$/kL)	0.47	0	0	0	0	
	% increase		-100%				-100%
Stormwater drainage	Service pa	61.52	65.81	67.52	68.17	68.83	
	% increase		7%	3%	1%	1%	12%

Note: Assumes a 20mm water meter. Prices exclude charges related to Hunter Water's contribution to the Climate Change Fund.

Source: Hunter Water submission, January 2009.

Table 2.3 Impact of Hunter Water's proposed prices on combined annual water and sewerage bills for residential customers (\$2008/09)

Water consumption	2008/09	2009/10	2010/11	2011/12	2012/13
100 kL pa	567.97	768.97	827.56	881.36	922.75
200 kL pa	718.47	931.97	1,004.56	1,075.36	1,130.75
300 kL pa	868.97	1,094.97	1,181.56	1,269.36	1,338.75
400 kL pa	1,019.47	1,257.97	1,358.56	1,463.36	1,546.75
750 kL pa	1,546.22	1,828.47	1,978.06	2,142.36	2,274.75

Note: Bills exclude stormwater drainage charges as most of Hunter Water's customers receive stormwater drainage services from local councils.

Source: Hunter Water submission, January 2009 and IPART calculations.

3 IPART's approach to setting prices

As part of its review, IPART considered and made decisions on several key components of the approach it uses to set prices for Hunter Water's water, sewerage and stormwater drainage services. The components include:

- ▼ the length of the determination period
- ▼ the approach for calculating Hunter Water's notional revenue requirement
- ▼ the approach for converting the notional revenue requirement into prices
- ▼ the approach for considering Hunter Water's service standards and monitoring its performance in delivering on capital projects.

The section below provides an overview of IPART's decisions on these components. The following sections discuss each decision in more detail. Chapter 4 provides further detail on IPART's approach and decision in relation to Tillegra Dam.

3.1 Overview of decisions on approach to setting prices

IPART's decision is to adopt a four-year determination period. This means it will set prices for the four years from the date on which its final determination is gazetted to 30 June 2013.

The notional revenue requirement represents IPART's view of Hunter Water's full, efficient costs in providing the regulated services for each year of the determination period (or maximum revenue IPART is prepared to allow for in setting prices). To calculate the notional revenue requirement, IPART used the building block approach, as it has done in previous determinations. For this determination, the calculation included determining Hunter Water's efficient costs in complying with the Government's direction on the Kooragang Recycled Water Scheme and Tillegra Dam.

Once it had calculated Hunter Water's notional revenue requirement, IPART considered the implications of this requirement for a range of other factors – including the size and rate at which prices would increase, the capacity of customers to pay increased prices, and the timeframe customers might need to adapt to higher price levels. For this determination, IPART also considered how the portion of the notional revenue requirement associated with Tillegra Dam should be recovered. IPART made a decision to defer some of this revenue, to be recovered through future

prices. (As Hunter Water indicated it did not expect to incur any costs in complying with the direction on the Kooragang Island Recycled Water Scheme, IPART did not need to consider how these costs should be recovered. See Chapter 5 for more detail.)

IPART then determined price structures and price levels for the various services which, when applied to Hunter Water's forecast metered water sales and customer numbers, yielded a target revenue requirement for each year. After considering the views of stakeholders and the issue of consistency with other recent metropolitan water determinations, for the final determination IPART decided to set price levels so that the present value of Hunter Water's target revenue equates with the present value of its notional revenue requirement over the determination period.³³ In doing so, IPART has maintained its draft decision to use a P-nought adjustment and glide path in setting prices (albeit that this approach now achieves the targeted rate of return of 6.5 per cent in NPV terms over the course of the determination period). This means that prices increase by a larger amount in the first year of the determination period and then rise more gradually and evenly over the subsequent years.

In relation to service standards, IPART made a decision to continue to monitor Hunter Water's performance in delivering on its proposed capital programs over the determination period by requiring it to report on a range of activities, output measures and its major capital projects. In addition, as license regulator, IPART will continue to conduct annual audits of Hunter Water's compliance with its operating licence obligations, which include service performance obligations.

3.2 Length of the determination period

Decision

- 1 IPART's decision is to adopt a four-year determination period (from the date the determination is gazetted to 30 June 2013).

IPART considered a range of factors in deciding on the length of the determination period. The advantages of a longer determination period include stronger incentives for Hunter Water to increase its economic efficiency, greater stability and predictability (which may lower Hunter Water's business risk and assist investment decision-making), and lower regulatory costs.

One of the main disadvantages is the increased risk associated with inaccuracies in the data used to make the determination. For example, if Hunter Water can reliably forecast its operating and capital expenditure profiles for only two years, a short determination period may be more appropriate. Other disadvantages include possible delays in customers benefiting from efficiency gains (because prices are not

³³ This is sometimes referred to as a 'NPV neutral' approach.

set to account for these gains until the next determination) and the risk that changes in the industry will affect the appropriateness of the determination.

In its submission, the Total Environment Centre (TEC) supported a four-year determination period as appropriate.³⁴

On balance, IPART concluded that a four-year determination period (from the date of gazettal to 30 June 2013) is appropriate for Hunter Water, and provides the best balance between the factors considered.

3.3 Approach to determining the notional revenue requirement

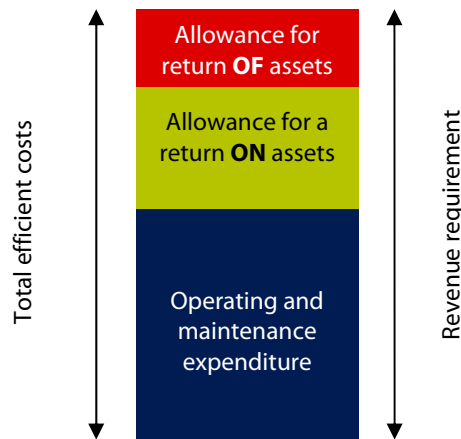
As for previous determinations, IPART used the building block approach to calculate the notional revenue requirement for Hunter Water. The building block approach ensures that the full, efficient costs of providing the regulated services are measured and monitored in a rigorous and transparent way. It is also consistent with the approach IPART uses in regulating other water businesses and industries in NSW.

To apply the building block approach, IPART made decisions on:

- ▼ the revenue required for operating expenditure over the determination period, including the forecast efficient operating and maintenance costs plus an allowance for working capital
- ▼ the revenue required for capital investment over the determination period, including:
 - an allowance for a return on assets
 - an allowance for a return of assets (regulatory depreciation).

The sum of these amounts represents IPART's view of Hunter Water's total efficient costs over the determination period, or its notional revenue requirement (Figure 3.1).

³⁴ The Total Environment Centre submission to IPART Issues Paper, 14 November 2008, p 5.

Figure 3.1 Building block approach

3.4 Approach for converting the notional revenue requirement into prices

Decision

2 IPART's decision is to:

- defer a portion of the revenue requirement associated with Tillegra Dam and recover this revenue over future determination periods
- apply a smoothed NPV neutral approach to setting prices
- maintain the use of a P-nought adjustment and glide path approach in setting prices, so that prices increase by a higher amount in the first year of the determination period and a smaller, even amount in each of the remaining years.

IPART's approach for converting the notional revenue requirement into prices involved several steps. First, it considered Hunter Water's forecast metered water sales and customer numbers. Next, it considered Hunter Water's proposed price structure and price levels, and their implications for the matters the IPART Act requires it consider.

Based on these considerations, it established Hunter Water's 'target revenue' for prices for the 2009 determination period such that the notional revenue would be fully recovered over the period³⁵ and considered how the portion of the notional revenue requirement associated with Tillegra Dam should be recovered. Finally, IPART set the P-nought adjustment, which involved deciding by how much prices

³⁵ However, as the review has been delayed and the determination will not commence on 1 July 2009, Hunter Water is unlikely to fully recover its 2009/10 target revenue.

will increase in the first year of the determination period, and then in each of the remaining years so that the target revenue equals the notional revenue requirement in the final year of the period (after taking account of its decision on Tillegra Dam). Each of these steps is discussed in more detail below.

3.4.1 Forecast metered water sales and customer numbers

As part of its submissions, Hunter Water forecast its metered water sales and customer numbers over the determination period. These forecasts are key inputs to IPART's price setting approach. Forecasts of water sales are important in determining the variable water usage charge, as the revenue this charge generates depends on how much water customers use. Forecasts of customer numbers are important in determining fixed service charges, as the revenue these charges generate depends on how many customers pay the charges.

IPART reviewed Hunter Water's forecasts to ensure they are reasonable.³⁶ This is important as unreasonable forecasts increase the risk that the prices set will lead to Hunter Water significantly over-recovering or under-recovering the required revenue. (IPART's review and decisions on forecast metered water sales and customer numbers are discussed in Chapter 8.)

3.4.2 Proposed price structure, price levels and target revenue

In deciding on price structure and price levels, IPART considered Hunter Water's proposed prices and the matters set out in section 15 of the IPART Act, including the impacts of the proposed prices on Hunter Water's customers and financial viability, and economic efficiency.³⁷ IPART is required to ensure that the prices it sets balance these competing interests. In the draft determination, prices did not generate IPART's determined notional revenue requirement in some or all years of the determination period, nor recover that revenue in future prices. For the final determination, this has been changed. IPART's decision on Hunter Water's 'target revenue' for the 2009 determination period and on the revenue which will be recovered through future prices reflects its view of the amount of revenue Hunter Water can generate from the regulated services without having a significant, adverse impact on any of these three interests.

³⁶ Since the release of the draft determination, Hunter Water has revised its sales forecasts to correct errors in its forecasts of Tier 3 sales. See Chapter 8.

³⁷ The section 15 requirements are listed in full in Appendix A.

In relation to price structure, IPART largely adopted the price structure proposed by Hunter Water. This price structure includes a combination of fixed service charges and a variable water usage charge, and has the following key features:

- ▼ a uniform or 'postage stamp' price³⁸ for most water and sewerage services within Hunter Water's area of operations
- ▼ a variable water usage charge that is designed to encourage efficient water consumption and is set with reference to the long run marginal cost (LRMC) of water supply³⁹
- ▼ location-based prices for large customers consuming more than 50,000 kilolitres per year
- ▼ a fixed water service charge that is calculated as the residual of the revenue requirement not recovered through usage charges
- ▼ fixed sewerage and stormwater drainage charges for residential customers that recover most of the costs associated with sewerage and stormwater drainage services
- ▼ no variable sewerage usage charge for residential customers
- ▼ a variable sewerage usage charge for non-residential customers, which is calculated on volume discharged as a proportion of the metered water supplied
- ▼ trade waste charges which are charged on the basis of the chemicals discharged into the sewerage system.

In relation to price levels, IPART considered the impact of price increases of various magnitudes in each year of the determination period, and assessed the effect of these increases on the bills of customers with varying consumption levels.

To consider the impact on Hunter Water's financial viability, IPART examined Hunter Water's forecast credit rating, taking into account its existing cash and debt levels and its ability to pay dividends, noting that the high capital expenditure requirements during the 2009 determination period may impact on dividend levels. IPART also considered Hunter Water's 'benchmark financial structure' and had regard to the Weighted Average Cost of Capital (WACC) parameter assumptions it made in determining the return on assets and return of asset cost blocks.⁴⁰

³⁸ A uniform or postage stamp price means that the price is the same for all customers within a particular customer class, regardless of their location within the Council's area of operations (and despite the fact that the costs of providing the service may vary depending on this location).

³⁹ The LRMC represents the incremental cost of measures to bring supply and demand into balance over the longer term.

⁴⁰ The WACC is a weighted average of the cost of debt and equity. See Chapters 6 and 7 and Appendix G.

In considering economic efficiency, IPART took account of the extent to which the prices send appropriate signals to customers about the need to conserve water and reflect the costs of the services provided, and the consistency of the variable usage charge with the Long Run Marginal Cost (LRMC) of water. As much as possible, the usage charge each customer class or group pays should reflect the marginal cost that their consumption imposes. The total cost to the community of the services provided is reflected in the aggregate of the fixed and usage charges. These services are capital intensive and the costs of the capital employed include the return that these resources could otherwise earn. Therefore, it is important that prices are sufficient to allow Hunter Water to earn a return on capital comparable to that earned by other water businesses. Signalling the true costs of water and related services encourages customers to use these services wisely.

3.4.3 Recovery of notional revenue requirement associated with Tillegra Dam through prices

To decide how the portion of the notional revenue requirement associated with Tillegra Dam should be recovered through prices, IPART considered Hunter Water's proposed approach and other stakeholders' comments, plus its requirements under section 15 of the IPART Act and the section 16A Direction. It also considered information about the dam and its expected yield.

It concluded that the full revenue requirement associated with the dam should be recovered over a longer period than the 2009 determination period, in a way that reflects the distribution of the dam's benefits to Hunter Water's current and future customers. This is necessary to mitigate the impact of the dam on prices for current users, and ensure intergenerational equity. Accordingly, IPART made a decision to defer a portion of the revenue requirement associated with Tillegra Dam and recover this revenue over future determination periods. IPART's considerations and decisions on this matter are discussed in further detail in Chapter 4.

3.4.4 NPV neutral approach

Having decided on the Hunter Water's target revenue for the 2009 determination period and on how the Tillegra Dam revenue should be recovered over time, IPART considered how prices would increase in each year of the determination period. In the 2005 Determination, IPART adopted a P-nought and glide path approach, where the increase in maximum prices in the first year of the determination period was higher than in subsequent years. A single 'X-factor'⁴¹ was set for subsequent years to ensure that prices changed smoothly over the remainder of the determination period in real terms, and that the target revenue in the final year of the determination period equalled the notional revenue requirement for that year.

⁴¹ This is a constant percentage increase applied to the total prices in each year. The 2005 Determination increased 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 its submission, Hunter Water proposed an aggregate pricing approach that would set prices so that the target revenue approximates the notional revenue requirement in NPV terms in every year of the determination period.⁴² In contrast, the Public Interest Advocacy Centre (PIAC) argued in favour of a glide path approach, under which prices increase by the same percentage in each year of the determination period to achieve full cost recovery in the final year. PIAC commented that:

PIAC understands that many low-income earners have little discretionary expenditure and few savings and is concerned that a price increase that adds 28.8 per cent to the average water bill in year one (*as proposed by Hunter Water*) will mean many of these households will experience extreme difficulty managing their bills.⁴³

After considering stakeholder views and the matters it is required to consider, IPART made the draft decision that it would not use either the NPV neutral approach proposed by Hunter Water, or the glide path approach. Rather, it used a P-nought adjustment and glide path approach, as it did for the 2005 Determination. That is, it set prices so they increase by a higher amount in the first year of the determination, then increase more gradually and smoothly in the subsequent years.

In response to the draft determination IPART received submissions from Hunter Water and Sydney Water that highlighted inconsistencies between the approach IPART adopted in the draft determination and its approach in other recent metropolitan water reviews. Further, Hunter Water argued that the draft determination approach was inconsistent with the approach of the majority of other Australian economic regulators. Hunter Water argued that an NPV smoothed approach would preserve the concept of capital maintenance, smooth prices and achieve full cost recovery over the regulatory period.

In its final determination, IPART has decided to set prices so that the present value of Hunter Water's target revenue equates to the present value of the notional revenue requirement over the determination period. In doing so, it has maintained its draft decision to set prices so that the price increases in the first year of the determination period are higher than in subsequent years. IPART considers that a 13.8 per cent initial year increase (rather than the 29.7 per cent increase proposed by Hunter Water) addresses PIAC's concerns about the impact of large adjustments in prices for customers on fixed or low incomes.⁴⁴ At the same time, IPART's approach delivers

⁴² Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, section 8.5. A NPV neutral (or net present value neutral) price modelling approach matches the target revenue from tariffs of the agency with the notional revenue requirement to achieve full cost recovery at the targeted rate of return in each year of the price path. This approach is associated with higher financial returns for the agency and higher prices for customers in the initial years of the determination period than under either a P-nought or glide path approach.

⁴³ Public Interest Advocacy Centre submission to IPART Issues Paper, 11 November 2008, p 3. This comment was in response to Hunter Water's original submissions. Hunter Water's January 2009 submission proposed a 29.7 per cent increase in the initial year.

⁴⁴ Percentage increases are for the typical residential customer, based on a consumption of 200kL per annum for water and sewer services.

the necessary revenue for Hunter Water to maintain an investment grade credit rating.

In coming to this decision, IPART considered the potential financial implications on customers. It has also taken into account the revenue required for Hunter Water to fund its operating and capital expenditure needs.

3.5 Approach for considering service standards and monitoring performance in delivering on capital projects

Decision

- 3 IPART's decision is to require Hunter Water to report on progress against the activities and output measures described in Appendix E, to monitor expenditure against its major capital works projects and report on them annually, and to monitor and report six monthly on its expenditure on Tillegra Dam.

For this review, Hunter Water has reported progress in achieving each of the 2005 output targets. IPART reviewed the reported information as part of its assessment of Hunter Water's progress. Box 3.1 provides a summary of this information and Appendix D provides more detail.

In its submission, Hunter Water proposed a range of output measures for the 2009 determination. In the draft determination, IPART revised the existing output measures based on the advice of its consultants, Atkins/Cardno and submissions from Hunter Water. In response to the draft determination, Hunter Water has provided further information, particularly on the targets and drivers of activities and outputs. The list of output measures for the 2009 determination period is provided in Appendix E.

In its submission, the Total Environment Centre has suggested a widening of the focus of the output measures to include water conservation, recycling and stormwater channel rehabilitation targets. IPART has decided not to widen the targets to avoid duplication with the requirements of other regulatory instruments (eg, Operating Licence) or inconsistency with its *Recycled Water Guidelines*.⁴⁵

Hunter Water has provided a list of the capital projects it plans to undertake over the 2009 determination period⁴⁶. IPART expects Hunter Water to monitor expenditure on these projects and provide annual progress reports. As described in Chapter 4, the determination includes a methodology to adjust prices in the last year of the determination in the event that the construction of Tillegra Dam is materially delayed resulting in under-expenditure of 50 per cent or more of the project. To facilitate that mechanism, IPART requires Hunter Water to report six monthly on its Tillegra Dam expenditure. In addition, Hunter Water should provide a

⁴⁵ The Total Environment Centre submission to IPART Draft Report, May 2009, p 5.

⁴⁶ This list is included in its January 2009 submission as Appendix D.

reconciliation of its expenditure and outcomes against the forecast capital and operating expenditure IPART allows for in making its final determination.

In its submission to the draft determination Sydney Water raised its concerns regarding the role of outputs measures in the price determination process. Sydney Water raised three concerns:

1. Sydney Water suggested that a number of the draft outputs were, in fact, activities or inputs. IPART notes that some of the draft measures are activities and has now renamed the measures activities and outputs.
2. Sydney Water raised the issue of how IPART might measure performance against the target, given that in some instances not achieving the target may be sensible and efficient.⁴⁷ IPART agrees that a practical approach needs to be adopted when measuring performance against the targets at the end of the determination period. In this review, IPART found that Hunter Water's decision to delay seven projects following changes in the external environment was a sensible and efficient response. Box 3.1 summarises IPART's assessment of Hunter Water's performance over the determination period. Specifically it highlights that IPART only has concerns about four of the 17 output targets that were not achieved over the determination period. IPART found that six of the projects not delivered were delayed for reasons outside of Hunter Water control and that Hunter Water's decision to not proceed as planned with seven of the projects was an efficient response to new information. This illustrates the pragmatic nature of IPART's assessment of performance against output targets.
3. Sydney Water raised the issue of the regulatory risks faced by a utility over the determination period, if its capital program deviates from the capital program forecast for the determination. Sydney Water identified that in some circumstances it may be efficient to deviate from forecasts. IPART agrees that the announcement of government decisions in the course of the determination period, new information and other matters may result in efficient and prudent amendments to an agency's capital program in the course of a determination period. IPART notes that such matters are considered in the roll forward of the regulatory asset base. However, IPART is firmly of the view that activities and output measures provide a useful starting point for the next price review's assessment of prudent expenditure.⁴⁸

Output and activities measures contribute to the price review process in a number of ways.

Firstly, and most critically, the measures assist in the communication to the community and stakeholders the reasons for price movements. The measures provide clear and practical illustrations of 'what the new prices are for'.

⁴⁷ Sydney Water gave the example that if growth is slower than forecast, it is efficient for Sydney Water to defer projects until they become necessary.

⁴⁸ Sydney Water, *Sydney Water response to Review of prices for Hunter Water Corporation – Draft Determination and Report*, May 2009.

Secondly, IPART considers that activities and output measures provide a useful starting point for assessing prudent expenditure and a basis for reporting on any deviation from targets established. In the 2005 Determination, independent consultants (Atkins/Cardno) were engaged to assess Hunter Water's operating and capital expenditure. They noted that it had been difficult to assess whether past projects were prudent as it was not possible to verify actual outputs against those planned. They recommended that IPART specify outputs for each agency to facilitate a more robust review in later determinations. Accordingly, in the 2005 Determination, IPART specified a set of output measures with target levels established by Hunter Water based on its proposed expenditure program. These measures have been useful in the course of this determination in considering the prudence of expenditure.

Thirdly, the measures provide a link between actual and proposed expenditure to meet quality outcomes. As such, the measures are a useful reference in considering the efficiency of forecast expenditures. Therefore, IPART considers that the requirement for Hunter Water to report against activities and output measures should be retained.

Box 3.1 Hunter Water's performance against output measures over the 2005 determination period

Under the 2005 Determination, Hunter Water was required to report against 50 output measures for its water, sewerage and stormwater services and for corporate (including customer) services. In general, these measures were defined as the completion of particular schemes or on a kilometre basis.

Over the determination period, IPART has concluded that:

- ▼ Hunter Water has achieved 33 of these output measures. These include the renewal/upgrade of more than 55 kilometres of water mains; the construction of a new water pumping station at Belmont; the sewerage of Fern Bay, Kitchener and Lochinvar as part of the Priority Sewerage Program; the upgrade of Lake Macquarie, Cessnock and Beresfield/Morpeth sewerage transport systems; the upgrade of the Belmont and Cessnock sewerage treatment plants; and the replacement of more than 50,000 customer meters.
 - ▼ Six of the projects included in the output measures have been delayed due to factors beyond Hunter Water's control (largely delays in agreements with developers about the financing of these projects). The Government's recent decision to set water and sewerage developer charges in the Hunter region at zero should mean that in the future, such delays do not impact Hunter Water's delivery of its forward capital program.
 - ▼ Following changes in the external environment and/or the findings of its reviews,, Hunter Water identified seven projects as either not being the most efficient solution or not needed at this time. While Atkins/Cardno has reported these projects as delayed, IPART considers the decision not to proceed with them is sensible and, potentially, efficient.
 - ▼ Four projects are reported as delayed. The St John Telarah and Harpers Hill pump station upgrades were delayed following Hunter Water's re-prioritisation of its projects. The Newcastle sewerage transport system upgrade which was to have been completed by 2009/10 is not expected to be completed until 2010/11. The renewal/refurbishment of critical sewer mains project has been delayed while new techniques are trialled.
-

4 Treatment of Tillegra Dam capital expenditure

As Chapter 2 discussed, the Government has directed IPART under section 16A of the IPART Act to include in its determination the efficient costs of bringing forward the construction of Tillegra Dam. This means that IPART's review of Hunter Water's costs in relation to Tillegra Dam has been limited to assessing whether the agency is undertaking the project in the most cost efficient way to meet the Minister's requirements, and when and how those costs should best be recovered. IPART's review has not extended to whether expenditure on the dam is also prudent.

Tillegra Dam is the largest single item in Hunter Water's forward capital program over the 2009 determination period, and has attracted significant community interest. It was also the subject of most of the stakeholder submissions IPART received for this review. In addition, much of the increased capacity the dam will provide is needed to supply future rather than current customers. This raises the issue of inter-generational equity and how the costs of the dam ought to be recovered from its beneficiaries.⁴⁹

Given these factors, IPART has specifically considered the most appropriate mechanism for recovering these costs through prices for water and sewer services. IPART considered Hunter Water's proposals on recovering the costs and stakeholder comments related to this issue. It commissioned Sinclair Knight Merz (SKM) to review Hunter Water's calculation of the impact of the dam on its water system yield, and provide information to assist IPART's deliberations about the dam's inter-generational benefits. It also commissioned Deloitte to advise on the accounting and taxation implications for Hunter Water of IPART's treatment of Tillegra Dam costs.

The section below summarises IPART's decision on its approach to recovering the costs of Tillegra Dam. The other sections discuss its considerations, analysis and decision in more detail. IPART's decision on Hunter Water's efficient costs associated with the dam is discussed in Chapter 7.

⁴⁹ In its first two submissions, Hunter Water proposed that 60 per cent of the costs of Tillegra Dam be recovered through developer charges. However, subsequently, the NSW Government has decided to set developer charges for water and sewerage services in the Hunter region at zero.

4.1 Overview of decision on recovering the costs of Tillegra Dam

IPART's decision is to adopt the approach to Tillegra Dam costs proposed in its draft determination and report. Additionally, IPART has determined an adjustment mechanism which allows for an adjustment to water service charges in the last year of the determination should Hunter Water's actual cumulative capital expenditure on Tillegra Dam for the period 1 July 2009 to 31 December 2011 be less than or equal to 50 per cent of the cumulative capital expenditure for that period that IPART has accepted as being efficient for the purposes of making this determination.

IPART considers that the portion of Hunter Water's notional revenue requirement associated with the dam (ie, part of the allowances for regulatory depreciation and a return on assets) should be recovered over time, and in a manner that reflects the distribution of benefits of the dam to Hunter Water's current and future customers and hence ensures inter-generational equity. This means that some of the revenue requirement related to costs in the 2009 determination period should be deferred and recovered from future prices. In IPART's view this deferral achieves the requirements of the Section 16A Direction for full recovery of the costs of the dam while still having appropriate regard for the Section 15 factors listed in the Act.

This approach aligns the profile for recovery of Hunter Water's costs for Tillegra Dam with the respective benefits that the dam provides to the current and future population. The approach also alleviates the cost burden on the relatively small base of current customers and thereby addresses inter-generational equity concerns. Furthermore, because Hunter Water will fully recover the costs of Tillegra Dam over time, the long-term financial viability of Hunter Water is not affected. Following the release of its draft determination and report, IPART received advice that this treatment of Tillegra Dam costs will not result in any adverse accounting or taxation outcomes for Hunter Water.

In response to concerns raised by stakeholders following IPART's draft determination and report that approvals had not yet been given and could be delayed, IPART has incorporated a mechanism into its final decision that reduces the revenue collected for Tillegra Dam should its construction be significantly delayed. In the event of a material delay, customers would be compensated by reduced prices in the final year of the determination period. As set out in Chapter 1, while this determination can deal with uncertainties associated with the timing of the construction of the dam within this price path, if Tillegra Dam were indefinitely delayed IPART would make a new determination.

4.2 Hunter Water's proposals

In November 2006, the State Government announced the construction of the Tillegra Dam. Hunter Water's *H₂50 Plan* identifies Tillegra Dam as the most cost-effective option to address immediate and long-term supply needs and increased drought security for its customers.⁵⁰ The dam will significantly augment Hunter Water's water supply system. It will provide 450,000 ML of storage capacity and Hunter Water calculates that it will increase the annual yield of its supply system from 68,000 ML to 120,000 ML per year.⁵¹ Hunter Water states that this augmentation is required to provide drought security for current customers and service projected population growth in the region.⁵²

Hunter Water expects construction of the dam to be completed in 2014 at an estimated cost of \$406.3 million in nominal terms (net the sale of surplus land).⁵³ It estimates that around two-thirds of this cost will be incurred within the 2009 determination period.⁵⁴ However, environmental approval has not yet been given. Hunter Water expects this decision in the first half of 2010.

In its initial submission, Hunter Water proposed splitting the costs of Tillegra Dam between existing customers (through prices over the 2009 determination period) and new customers (through developer charges) at 40 and 60 per cent respectively.⁵⁵ Hunter Water stated that a recent review of the long-term average yield of its water supply system found that the Hunter region is very vulnerable to long droughts where storages can plummet from 100 per cent full to 40 per cent in only 18 months.⁵⁶ The review also found that potential rapid depletion of storages meant that the Hunter region did not have the necessary lead times to implement drought contingency measures, such as constructing a desalination plant, to meet community needs in times of drought.

Hunter Water argued that, in the absence of the decision to construct Tillegra Dam, alternative measures would have been needed to improve drought security for existing customers. Applying an opportunity cost approach that looked at the cost of undertaking other drought security measures such as desalination and additional bores, Hunter Water estimated that the drought security benefit of the dam for the current community was approximately \$155 million.⁵⁷ That is, the costs of an alternative drought security initiative avoided through the construction of the Tillegra Dam were approximately 40 per cent of the cost of dam.

⁵⁰ Hunter Water Corporation, *H₂50 Plan – Securing Our Water Future*, December 2008, p 91.

⁵¹ Ibid, pp 82 and 86.

⁵² Ibid, chapter 12; and Hunter Water Corporation, *Submission to IPART on prices to apply from 1 July 2009*, January 2009, chapter 7.

⁵³ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, September 2008, pp 75-77.

⁵⁴ Ibid, p 77.

⁵⁵ Ibid, pp 86-87.

⁵⁶ Ibid, p 75.

⁵⁷ Ibid, p 87.

Hunter Water's initial submission estimated that its approach to splitting costs would increase the average residential customer's water and sewerage bill by \$38 per annum.⁵⁸ In addition, it estimated that developer charges would increase by \$1400 per lot.⁵⁹ Thus under Hunter Water's original proposal, effectively the entire cost of the dam would be paid for upfront, although purchasers of greenfield sites would be responsible for a large portion.

However, as Chapter 2 noted, following the Government's decision to abolish developer charges for water and sewer services, Hunter Water submitted a revised submission in January 2009. It proposed to recover its entire efficient costs for Tillegra Dam from current customers through prices for water and sewer services. Hunter Water estimated that this would increase average residential water and sewerage bills by \$60 per annum in the current determination period.

In response to IPART's draft determination and report, Hunter Water accepted IPART's proposed treatment of Tillegra Dam costs. In their submission, Hunter Water states, "Hunter Water accepts that there is a case for re-profiling revenue in order to meet customer affordability and intergenerational equity considerations. However, the fifty-year period of re-profiling for revenue to recover the Tillegra Dam costs appears to be unprecedented in any regulatory environment. While Hunter Water accepts the outcomes of the current review, it will undertake a review of the methodology for discussion as part of the review for the 2013 price determination."⁶⁰ However, Hunter Water also identifies what they perceive to be a number of risks inherent in this approach, specifically the impact on Hunter Water's borrowings and the possibility that there may be other substantial demands for capital investment in the future. These risks and the appropriateness of Hunter Water hedging against risks are discussed in Chapter 7.

4.3 Stakeholder comments

IPART's issues paper and Hunter Water's initial submission were released before the Government announced its decision to abolish developer charges. Therefore, public submissions to the issues paper predominantly commented on Hunter Water's initial proposal to split the costs of Tillegra Dam between customers and developers rather than on Hunter Water's revised proposal to recover all costs through customer bills.

⁵⁸ Ibid, p 9.

⁵⁹ Ibid, p 88.

⁶⁰ Hunter Water Corporation submission to IPART Draft Determination and Report on prices to apply from 1 July 2009, May 2009, p 19.

A large number of stakeholders made submissions that questioned the need to build Tillegra Dam. Most objected to the dam on economic grounds, submitting that they do not want to pay for an unnecessary dam and its associated price impacts. Many also cited environmental concerns. For example:

- ▼ The **No Tillegra Dam Group** stated that Tillegra Dam is unjustifiable, and therefore, it opposed any increase in water rates to fund it. It called on IPART to conduct a full and independent review of the need for the dam, and requested it to direct Hunter Water to undertake a full cost and benefit analysis. Many of the submissions from individuals also raised these points.
- ▼ The **Dungog Shire Council** submitted that it considers that a number of costs associated with Tillegra Dam have been left out. These include opportunity costs or 'community costs' which include lost farming income, and lost rates to council.

In contrast, development industry stakeholders including the **Urban Taskforce** and the **Urban Development Institute** were concerned that Hunter Water's initial proposal to recover 60 per cent of the costs of Tillegra Dam through developer charges was not justified.

As noted above, the Government's section 16A direction to IPART means that reviewing the need for Tillegra Dam and the prudence of Hunter Water's capital investment in the dam is outside the scope of IPART's review. In addition, the Government's decision to abolish developer charges means that concerns about Hunter Water's initial proposal to recover some of the dam's costs through these charges are no longer relevant.

In response to its draft determination and report, IPART received a further large number of submissions from stakeholders concerning Tillegra Dam. A number of submissions have raised concerns about the inclusions of costs associated with the dam in prices before it has been approved⁶¹ or constructed.

In its submission the Public Interest Advocacy Centre (**PIAC**) states, "PIAC appreciates that IPART has rejected a more costly proposal from Hunter Water by deferring some of the expense until the following determination, but questions the approach that implements a price component for customers to pay for a dam that is yet to be approved."⁶²

Likewise **No Tillegra Dam** group states, "IPART has been asked to approve price increases in part to start a cost recovery process for a project that has yet to gain approval and still may not. It is highly unusual, and extremely unfair that HWC's

⁶¹ The Tillegra Dam project was referred to the Department of Environment, Heritage, Water and the Arts (DEHWA) in October 2008. DEHWA subsequently determined that the dam was likely to have a significant impact on local wetlands and thus required assessment and approval under the *Environment Protection and Biodiversity Conservation Act 1999*. This approval has not yet been obtained. At this point in time the EIS is yet to be submitted for the consideration of the Minister.

⁶² Public Interest Advocacy Centre submission to IPART, May 2009, p 4.

customers are being asked to start paying for a piece of infrastructure that may never be built".⁶³

The **Board of Hunter Councils** which represents the eleven local government areas of the Hunter Region objects to the speed with which the Tribunal is proposing to recover the costs of Tillegra Dam. It states in its submission that Hunter Water must, "match the very long term nature of its investment with a similarly long term payment co-contribution from its stakeholders".⁶⁴

IPART also received a large number of submissions commenting on the level of drought security provided by Tillegra Dam. IPART has received many submissions based on a form letter issued by the No Tillegra Dam group. That suggested form letter and these submissions misquote the draft report yet still attribute it to IPART's Report⁶⁵. The **No Tillegra Dam Group** has (correctly) quoted the draft report in its submission, going on to state, "Our members and supporters, along with many other who have contacted us regarding this matter, have indicated a strong disinclination to pay for this level of drought security".⁶⁶

4.4 SKM's review of Hunter Water's water system yield

IPART commissioned SKM to review Hunter Water's methodology for calculating the impact of Tillegra Dam on its water supply system yield and to provide information to assist IPART's deliberations about the inter-generational benefits of the dam.

SKM found that Hunter Water's methodology was conceptually sound and well calibrated. SKM modelled a range of scenarios to provide robust estimates of the impact of Tillegra Dam on the Hunter region's water supply system, using the system performance criteria adopted by Hunter Water and, for comparative purposes, the system performance criteria adopted by the Sydney Catchment Authority.⁶⁷ System performance criteria refer to standards of service for the maximum frequency that drought restrictions are imposed and the length of time imposed, and the probability that storages will reach critical levels (in this case, 5 per cent or less).

⁶³ No Tillegra Dam Group submission to IPART, May 2009, p 3.

⁶⁴ Board of Hunter Councils submission to IPART, May 2009, p 2.

⁶⁵ The Draft Report states, "First, the approach recognises that the dam will provide a very high improvement in drought security for the current customer base. However, for many current customers the extent of the improvement in drought security may seem excessive relative to the risks and the costs. Indeed, IPART has not yet been provided with evidence to convince it that customers attribute value to these benefits comparable to the costs of the dam" (p 37). IPART's quote has been altered to read "the extent of the improvement in drought security is excessive relative to the risks and costs. There is no evidence that customers attribute value to these benefits comparable to the costs of the dam".

⁶⁶ No Tillegra Dam Group submission to IPART, May 2009, p 6.

⁶⁷ The system performance criteria of the Sydney Catchment Authority have previously been subject to a process of public review and expert audit in the course of the review by IPART of the Authority's operating licence.

SKM found that, in the absence of the potential negative impacts of climate change:

- ▼ Depending on the system performance criteria applied, Hunter Water's system will need to be augmented some time between 2010 and 2025.
- ▼ Depending on the system performance criteria applied, construction of Tillegra Dam will provide sufficient water for projected population growth until some time between 2053 and 2058.
- ▼ Construction of the dam will reduce the likelihood that water restrictions will need to be imposed in the Hunter region in 2025 from 1 in 21 years to 1 in 1,250 years, and in 2050 from 1 in 8 years to 1 in 170 years.⁶⁸

4.5 IPART's analysis and decision

As a general rule, IPART seeks to recover the costs of capital projects from users proportionate with the benefit they received or the value they derived from those projects.⁶⁹ IPART also considers the timing of the recovery of those costs, and whether this matches the timing of users' receipt of benefits or value.

In the case of Tillegra Dam, IPART recognises that while the dam provides a very significant immediate drought security benefit for current customers, not all of capacity will be utilised until after 2050. Applying IPART's normal building block approach, which recovers costs as they are expended, would result in a substantial price increase for current customers that is not in proportion to the benefits they will receive over the 2009 determination period. Therefore, IPART has developed an alternative approach for recovering Hunter Water's efficient capital investment in the dam over time.

In reaching its decision, IPART considered Hunter Water's proposal and SKM's findings as discussed above. IPART has also had regard to the section 15 matters – particularly the impact of its decisions on customers (especially on the affordability of services and inter-generational equity) and Hunter Water's financial viability. In addition, it investigated how other regulators have treated large, under-utilised assets for pricing purposes. Based on these considerations, IPART developed an approach for treating the costs of Tillegra Dam that it considers appropriately balances the costs and benefits of the dam for current and future customers, and ensures Hunter Water will, as directed by the Government, recover the full, efficient costs of its capital investment in the dam over time. Since the draft determination IPART has received advice that this treatment of Tillegra Dam costs will not result in any adverse accounting or taxation outcomes for Hunter Water.

The sections below summarise how other regulators have treated similar assets to Tillegra Dam in setting prices, and set out IPART's decision.

⁶⁸ Sinclair Knight Merz, *Review of Yield Estimates for Hunter region*, December 2008, Chapter 8.

⁶⁹ In IPART's 2006 *Bulk Water Determination* IPART found that "future expenditure that related to current or future users was allocated according to which party (users or the community) created the costs or the need to incur the costs (impactor pays)." p 23.

4.5.1 Other regulators' treatment of large, under-utilised assets in setting prices

IPART identified several recent examples of other economic regulators treating large, initially under-utilised assets differently to other assets for pricing purposes. For example:

- ▼ The Commission of Energy Regulation (Ireland) made a draft decision in relation to the under-utilised gas interconnector pipeline between Ireland and Scotland. It decided to defer recovery of regulatory depreciation on this asset to allow a short-term reduction in the revenues recovered without the stranding of the asset.⁷⁰
- ▼ The Australian Competition and Consumer Commission made a decision in relation to the Central Ranges Pipelines Access Arrangements in which under-recovered revenue was permitted to be capitalised into the capital base and hence recovered in future arrangements.⁷¹

IPART also notes that its decision in 2004 to defer recovery of some of the revenue associated with depreciation until the next determination period for Country Energy for reasons of customer affordability also serves as a precedent for the deferral of revenue, in specific circumstances.⁷²

As these decisions show, economic regulators can and do use a variety of approaches and treatments when confronted with the need to balance financial viability, customer impacts and other factors when considering large assets with initially under-utilised capacity.

4.5.2 IPART's approach and decision

In making its determination, IPART used an approach for recovering the efficient costs associated with Tillegra Dam that has three key elements. First, the approach recognises that the dam will provide a very high improvement in drought security for the current customer base.⁷³ However, for many current customers the extent of the improvement in drought security may seem excessive relative to the risks and the cost. Indeed, IPART has not yet been provided with evidence to convince it that customers attribute value to these benefits comparable to the costs of the dam. Clearly the value of these drought security benefits will grow over time as the customer base increases and the risk of insufficient water therefore increases in line with the demands of a higher customer base. These considerations have led IPART to accept Hunter Water's calculation that the value of this drought security benefit

⁷⁰ Commission of Energy Regulation, *Common Arrangement for Gas – Draft Conclusions on Tariff Harmonisation in Ireland and Northern Ireland*, October 2008, CER/08/07.

⁷¹ ACCC, *Final Decision Central Ranges Pipeline*, 7 December 2005. Media release <http://www.accc.gov.au/content/index.phtml/itemId/87520/fromItemId/621415>

⁷² IPART, *Final Report – NSW Electricity Distribution Pricing 2004/05 to 2008/09*, pp 82-84.

⁷³ As noted above, SKM estimated that the construction of the dam will reduce the probability that the Hunter Water region will enter into restrictions in the period to 2025 from 1 in 21 years to 1 in 1,250 years, and in the period 2025 to 2050, from 1 in 8 years to 1 in 170 years.

for current customers is equivalent to 40 per cent of the costs of the dam, based on the cost of providing the same level of drought security through alternative works.

In response to the draft determination, a number of stakeholders questioned the source of the 40 per cent figure and its \$155 million value applied in IPART's approach. As noted above, these calculations were supplied by Hunter Water. The \$155 million valuation of the drought security element of the dam is Hunter Water's estimate of the costs of providing that level of drought security via an alternative project (in this case desalination). In its September and October 2008 submissions, Hunter Water proposed that the value of the drought security initiative avoided through the construction of the Tillegra Dam was equal to approximately 40 per cent of the cost of the dam. However, IPART notes that this \$155 million in drought security measures is not a complete substitute for Tillegra Dam as it does not serve the long term purpose of supplying the Hunter region's future growth.

Second, IPART's approach aims to match the profile for the recovery of regulatory depreciation and return on assets in relation to Tillegra Dam with the utilisation of the dam's capacity, noting that the value of drought security will increase as water becomes scarcer as the population grows or climatic conditions change. In relation to utilisation of the dam's capacity, IPART accepts Hunter Water's and SKM's findings that this capacity is expected to be fully allocated by 2058.

Third, the approach ensures that in net present value terms, Hunter Water is no worse off than it would be if all the efficient costs were recovered in the 2009 determination period. The approach involves adding a Deferred Tillegra Dam Revenue Asset to Hunter Water's regulatory asset base (RAB). The value of this asset has been calculated by cumulating the annual deferred Tillegra Dam revenue and the associated annual holding costs, which have been based on the WACC of 6.5 per cent for this determination.

This approach is represented in Figure 4.1. Figure 4.1 illustrates the likely outcome based on IPART's assumptions of Hunter Water's future programs, forecast connection growth and other factors. As shown, matching the profile for recovery of the dam revenue requirement with utilisation changes the overall profile for recovery of costs associated with this single asset. However, by aligning the profile for recovery of Hunter Water's costs for Tillegra Dam with the respective benefit the dam provides to the current and future population, IPART's approach alleviates the cost burden on the smaller base of current users and thereby addresses inter-generational equity concerns. In addition, because Hunter Water will fully recover the costs of Tillegra Dam over time, the long-term financial viability of Hunter Water is not affected. At the same time the proposed approach does not raise unacceptable customer impacts.

It is important to note that the outcome illustrated in Figure 4.1 may change if underlying assumptions change or if future Tribunals decide to adopt a different approach. IPART does not have the power to bind future Tribunals.

The outcome of IPART's approach is similar to Hunter Water's original proposal in that 60 per cent of the costs of the dam will be recovered from population growth. However while under Hunter Water's original proposal 60 per cent would be recovered upfront through developer charges, under IPART's approach this 60 per cent will be recovered over time through periodic charges.

This approach can be contrasted to Hunter Water's revised proposal of January 2009.⁷⁴ That approach sought to recover 100 per cent of the costs from the current population – regardless of the benefit that they received.

Figure 4.1 IPART's approach to recovery of Tillegra Dam revenue requirement: annual revenue requirement per assumed water connections (\$2008/09)

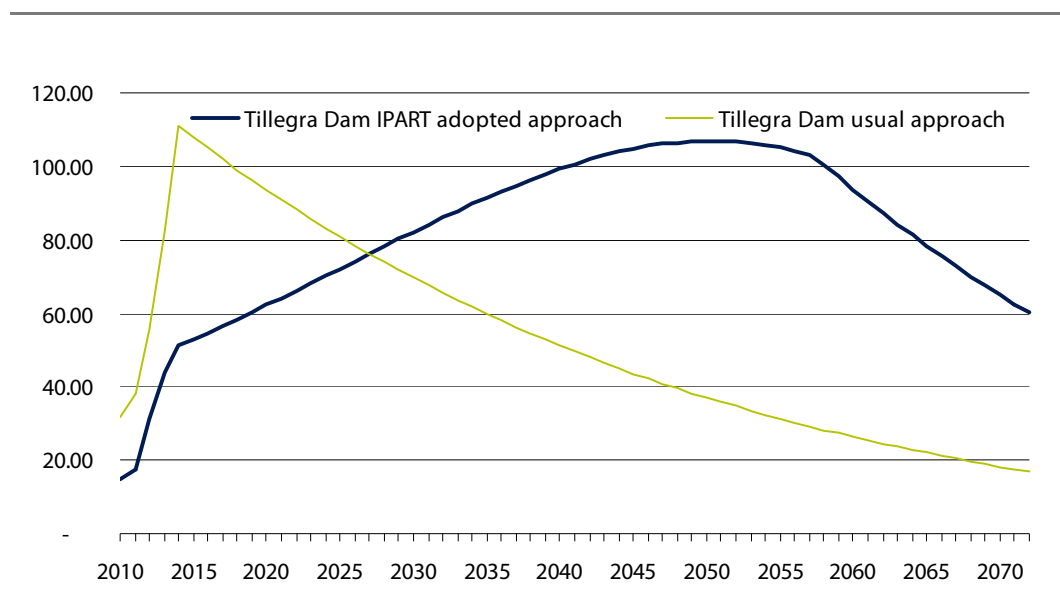


Figure 4.1 shows the indicative effect on bills from deferring the cost recovery (return on and of capital) of Tillegra Dam. Under the approach adopted by IPART, bills will be lower in the earlier years than proposed by Hunter Water but will be higher in later years. However, the increase in later years will be lower than otherwise because of the increase in the number of customer connections.

The revenue deferred by IPART will attract holding costs equivalent to Hunter Water's cost of capital to ensure that Hunter Water is no worse off by the deferral of revenue to be recovered. The growth in the revenue requirement per connection will exceed the growth in the number of connections by approximately 1.7 per cent per annum on average over the period from 2014/15 to 2056/57 (ie, the period in which the revenue requirement is forecast to increase in value). This is shown in Table 4.1.

⁷⁴ Hunter Water revised its submission following the decision of the NSW Government to set water and sewerage service developer charges at zero.

Table 4.1 Indicative comparison of per annum growth rates for deferred Tillegra revenue requirement and customer connections

	2015	2020	2025	2030	2035	2040	2045	2050	2055	2057
Revenue requirement growth (pa)	5.01%	5.26%	4.88%	4.45%	3.97%	3.42%	2.79%	2.07%	1.23%	0.86%
Connections growth (pa)	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%	1.95%
Average growth in revenue requirement exceeds average growth in connections by:										1.7%

Source: IPART analysis.

The indicative implications of the analysis above, based on the assumptions underlying Figure 4.1, are that by 2056/57, a customer's bill will be around \$74 higher (\$2008/09) than otherwise. Conversely, the same customer's bill will be \$55 lower (\$2008/09) in 2014/15. In this way, IPART's deferral of Hunter Water's recovery of Tillegra Dam revenue aligns the recovery of costs with the respective benefits that the dam provides to the current and future populations.

IPART's analysis of the longer term impact and viability of this approach indicates that Hunter Water's cash flows are likely to be maintained at a sufficiently strong level. IPART's modelling indicates that Hunter Water is likely to maintain a credit rating of BBB+ or better over the next ten years.⁷⁵ IPART is satisfied that, if the current IPART determined prices and treatment of Tillegra Dam were continued, they would not lead to a deterioration in Hunter Water's financial position.

IPART is also confident that this approach will not increase prices for customers unreasonably. IPART's modelling shows that while the typical residential bill will increase over the ten-year period, it remains favourably comparable to Sydney Water's typical residential bill which reaches \$1,013⁷⁶ by 2011/12; according to IPART's modelling Hunter Water's typical bill is not expected to reach this amount until approximately 2014/15, depending on Hunter Water's future costs and connection growth. Over approximately forty years, a projected annual increase in the typical residential bill of around 1.7 per cent on average should be affordable and thus provide a reasonable basis for meeting the requirement to recover the costs of Tillegra Dam.

In summary, IPART's alternative approach seeks to:

- ▼ include all efficient capital costs of Tillegra Dam into the RAB
- ▼ recover a commercial rate of return and depreciation each year on the investment in Tillegra Dam

⁷⁵ Subject to what IPART considers to be reasonable assumptions around levels of operating and capital expenditure and other modelling inputs.

⁷⁶ This amount includes a cost pass through to Sydney Water's costs from the Sydney Catchment Authority's 2009 Determination.

- ▼ identify the proportion of the costs of the dam associated with the need to improve drought security for the current population, and reflect these costs in current prices
- ▼ align the recovery of costs over time with the respective benefit the dam provides to the current and future populations
- ▼ recognise holding costs associated with deferral of revenue recovery so that, in net present value terms, Hunter Water is no worse off.

4.6 Accounting and taxation implications of IPART's approach

In order to ensure IPART's treatment of Tillegra Dam costs will not result in any adverse accounting or taxation outcomes for Hunter Water Corporation, IPART engaged Deloitte⁷⁷ to provide advice. Deloitte's complete advice can be found on the IPART website.

After considering IPART's treatment of Tillegra Dam costs, and relevant accounting and taxation pronouncements, Deloitte did not identify any adverse accounting or taxation issues arising for Hunter Water Corporation.

4.6.1 Accounting advice

The accounting advice provided by Deloitte is as follows:

- ▼ As IPART's approach defers a portion of the recovery of the Tillegra Dam costs, it also defers to future periods the revenue that Hunter Water Corporation will recognise.
- ▼ As the revenue to be recovered in respect of Tillegra Dam should only be recognised once it is received, the Deferred Tillegra Dam Revenue Asset cannot be recognised as an asset for financial statement purposes despite it forming part of the RAB at the end of each period.
- ▼ In line with relevant accounting standards, the costs of construction of Tillegra Dam should be capitalised as incurred, and once available for use these assets should be depreciated on a systematic basis over the estimated economic useful life of the dam. Depreciation for accounting purposes is independent of IPART's proposed approach for Tillegra Dam including differences between the profile of the systematic approach adopted by Hunter Water Corporation and the depreciation allowance incorporated by IPART.

⁷⁷ Deloitte's advice on the accounting and taxation treatment of Tillegra Dam is only for IPART's information and use and may not be relied on by anyone other than IPART. Deloitte is not responsible to anyone apart from IPART for its advice.

- ▼ The capitalised Tillegra Dam costs should then be subject to an impairment review by comparing the present value of the future discounted cash flows to the carrying value of the asset. Deloitte state that if IPART's calculation of the deferral of the recovery of the Tillegra Dam costs ensures that Hunter Water is no worse off in net present value terms, there would be no unfavourable impact on the results of any impairment review. Deloitte notes that should IPART modify its approach in a future determination further advice should be sought.
- ▼ A separate regulatory fixed asset register for the Tillegra Dam Costs should be maintained. The carrying value of the Tillegra Dam Costs within this register will differ to the carrying value of those costs in the fixed asset register maintained for financial reporting purposes and also the tax fixed asset register. Establishment of a regulatory fixed asset register has the benefit of maintaining an accurate record of the impact of the IPART decision on the recovery of the Tillegra Dam Costs. This regulatory fixed asset register should incorporate:
 - the opening value of the RAB (being 40 per cent of Tillegra Dam Costs initially)
 - an additional 1.95 per cent compounding of capital expenditure per annum
 - the cumulative difference between the capital expenditure included in determining the Annual Notional Revenue and the Annual Target Revenue which is added to the Deferred Tillegra Dam Revenue Asset
 - the annual and cumulative regulatory depreciation.

4.6.2 Taxation advice

Deloitte found that the taxation implications for Hunter Water Corporation are unchanged as a result of IPART's treatment of Tillegra Dam costs. The taxation implications identified below by Deloitte would apply to Hunter Water Corporation for income tax purposes and none of these tax conclusions would differ if all of the Tillegra Dam costs were to be recovered in the 2009 determination period.

- ▼ Hunter Water should be the 'holder' of the depreciating asset(s).
- ▼ The construction costs of the Tillegra Dam should be deducted over the effective life of the dam once it is constructed and ready for use⁷⁸.
- ▼ Any impairment of the Tillegra Dam's carrying amount will not be deductible.
- ▼ Any difference between the carrying amount for financial reporting purposes and the tax written down value of the assets should give rise to a deferred tax balance.
- ▼ A separate Tax Fixed Asset Register should be maintained to record the deductions taken for tax purposes and the carrying value of the asset for tax purposes.

⁷⁸ The Deloitte report states, "the effective life commences from the start time and may be self assessed or the Commissioner's determination may be used. In accordance with Taxation Ruling TR 2008/4, the Commissioner has determined that the effective life of a dam is 100 years for water suppliers" (p 11).

4.7 Adjustment mechanism if Tillegra Dam is delayed

IPART received a considerable number of submissions in response to its draft determination and report expressing concern that Tillegra Dam had not yet received environmental approval for construction. In response to this particular uncertainty IPART has decided to include a mechanism in its final determination through which customers will not have to pay for the full cost of the outlays on the Tillegra Dam expenditure forecast for this determination period if construction is significantly delayed. This uncertainty is highlighted in the recent NSW Budget papers. While the overall estimate of the cost of Tillegra Dam and the project timeframe stated in the Budget papers remains unchanged from the forecasts provided by Hunter Water to IPART, the allocation of the capital expenditure for Tillegra for 2009/10 has been reduced from \$24.8 million to \$10.1 million.⁷⁹

In response to this uncertainty IPART has developed a mechanism, included in this determination, which will automatically reduce prices in the last year of the determination if expenditure on Tillegra Dam is materially less than forecast.

This mechanism operates when Hunter Water Corporation's cumulative actual spend on Tillegra Dam is materially less than the cumulative forecast expenditure at December 2011. Should the cumulative underspend be less than the material threshold (50 per cent), the mechanism will automatically reduce the water service charge in the last year of the determination by an amount proportional to the underspend. IPART considers that the fixed water charge is the appropriate price to be adjusted, so as not to interfere with the usage price signal which is based on LRMC, and the charge is paid by all customers.

⁷⁹ NSW Budget papers, *Infrastructure Statement 2009-10*, p 4-84.

4.7.1 Mechanics of the adjustment mechanism

This adjustment mechanism is presented in Box 4.1.

Box 4.1 Adjustment mechanism

Adjustment to water service charges to reflect the variation between forecast and actual cumulative capital expenditure on Tillegra Dam by Hunter Water Corporation for the period 1 July 2009 to 31 December 2011.^a

Table 4.2 below defines the operation of the adjustment mechanism where:

- ▼ X = actual cumulative capital expenditure on Tillegra Dam by the Corporation for the period 1 July 2009 to 31 December 2011.
- ▼ ΔT = the relevant adjustment to the water service charges for the actual cumulative capital expenditure on Tillegra Dam by the Corporation for the period 1 July 2009 to 31 December 2011 defined by X.

Table 4.2 Water service charge adjustment to reflect the variation between forecast and actual cumulative capital expenditure on Tillegra Dam (\$2008/09)

Actual cumulative capital expenditure underspend	ΔT	Resulting service charge
(a) $X > \$49.85$ million	0.00	40.30
(b) $\$39.88$ million $< X \leq \$49.85$ million	12.02	28.28
(c) $\$29.91$ million $< X \leq \$39.88$ million	14.20	26.10
(d) $\$19.94$ million $< X \leq \$29.91$ million	16.39	23.91
(e) $\$9.97$ million $< X \leq \$19.94$ million	18.57	21.73
(f) $\$0$ million $< X \leq \$9.97$ million	20.76	19.54

Note: The values in Table 4.2 are expressed in \$2008/09 terms, as are all numbers presented in this report. In the Determination all numbers are presented in \$2009/10 terms.

Source: IPART modelling.

Table 4.3 outlines the efficient capital expenditure profile for Tillegra Dam as determined by this determination.

Table 4.3 Forecast capital expenditure profile for Tillegra Dam (\$ million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Tillegra capex	24.8	24.8	100.2	95.1

a The forecast capital expenditure on Tillegra Dam by the Corporation for the period from 1 July 2009 to 30 December 2011 is \$99.7 million (in \$2008/09). Note that an adjustment to the water service charge will only occur where actual expenditure is equal to or less than 50 per cent of this forecast expenditure.

The Tillegra Dam adjustment is calculated as follows:

- ▼ Actual expenditure on Tillegra Dam in 2009/10, 2010/11 and the first half of 2011/12 is recorded.
- ▼ The total of this expenditure for the period is compared with the total expenditure which IPART has accepted as being efficient for the purposes of this determination ('forecast capital expenditure').
- ▼ If total expenditure is less than 50 per cent of forecast expenditure the adjustment mechanism comes into operation.
- ▼ The adjustment equals 40 per cent of the return on and of capital components on the amount of expenditure that has not been made (ie, the difference between forecast expenditure and total expenditure). This figure of 40 per cent represents the proportion of expenditure on Tillegra Dam that is to be immediately recovered from customers. All figures are to be converted to expected 2012/13 values (taking account of the time value of money) in making this calculation.
- ▼ The adjustment amount is divided by the expected number of meter equivalent connections in 2012/13 to get an amount per property.
- ▼ For convenience, the results of the calculation are grouped into a number of bands. The adjustment amount is calculated at the mid-point of the range and held constant over each range.
- ▼ The adjustment amount is subtracted from the water service charge.

Box 4.2 provides a worked example of the adjustment mechanism.

Box 4.2 Worked example of adjustment mechanism (\$2008/09)

Hypothetically, Hunter Water's cumulative capital expenditure on Tillegra Dam to 31 December 2011 is as follows:

- ▼ forecast expenditure: \$99.7 million
- ▼ actual expenditure: \$10.0 million
- ▼ resulting expenditure underspend: \$89.7 million.

Since the expenditure underspend amount of \$89.7 million is greater than the material threshold of \$49.85 million (ie, 50 per cent of \$99.7 million), the adjustment mechanism is applied.

In this example, the adjustment '(e)' of Box 4.1 applies because the actual expenditure lies between \$9.97 million and \$19.94 million.

The resulting reduction of \$18.57 is applied to reduce Hunter Water's 2012/13 water service charge to its adjusted value of \$21.73.

4.7.2 Materiality Test

IPART considers that any underspend in capital expenditure must be material as a proportion of the forecast capital expenditure, and translate to a material impact on prices to make the administrative complexity of the mechanism worthwhile. IPART's decision taking account of the magnitude of the underspend on the project required to generate a significant reduction in the fixed water charge is that a 50 per cent cumulative underspend is the appropriate threshold.

Decision

- 4 IPART's decision is that for pricing purposes, it will treat Hunter Water's efficient costs for Tillegra Dam in the following way:
 - In determining the annual notional revenue requirements for the 2009 determination period, all Hunter Water's efficient forecast capital expenditure on Tillegra Dam will be rolled into the RAB.
 - In determining Hunter Water's target revenue for the 2009 determination period, 40 per cent of the forecast capital expenditure on Tillegra Dam for 2009/10 will be included in calculating the regulatory depreciation and return on assets components. This percentage represents Hunter Water's estimate of the proportion of the dam's security value for current customers, and is a proxy for the proportion of the forecast capital expenditure needed to provide drought security to those customers.
 - For the subsequent years of the 2009 determination period, an increasing proportion of the capital costs of Tillegra Dam will be included in the target revenue, to reflect the increasing utilisation of the dam's security value. The initial 40 per cent of costs will increase by 1.95 per cent per annum to reach 42.4 per cent in 2012/13.
 - Each year, the difference between the capital expenditure included in determining the annual notional revenue requirement for Tillegra Dam and the annual target revenue for the Tillegra Dam will be added to the Deferred Tillegra Dam Revenue Asset.
 - At the start of the 2013 determination period, the method for calculating the opening value of the RAB will include rolling forward Hunter Water's prudent capital expenditure on the dam over the 2009 determination period and adding the Deferred Tillegra Dam Revenue Asset.
 - The same approach will be used in determining the target revenue for the 2013 determination period, starting by including 43.2 per cent of the forecast expenditure on Tillegra Dam in 2013/14. This process will continue until the Deferred Tillegra Dam Revenue Asset has been fully amortised and all revenue has been recovered through periodic charges.

- 5 IPART's decision is to incorporate a mechanism whereby should the construction of Tillegra Dam be delayed and Hunter Water Corporation consequently spend less than 50 per cent of forecast Tillegra Dam capital expenditure, the water service charge will be reduced in the final year of the determination.

5 Overview of Hunter Water's revenue requirement

As Chapter 3 discussed, IPART used the building block approach to determine Hunter Water's notional revenue requirement over the 2009 determination period. To apply the building block approach, IPART made decisions on:

- ▼ The revenue required for operating expenditure over the determination period. This amount represents IPART's estimate of Hunter Water's forecast efficient operating, maintenance and administration costs, plus an allowance for working capital.
- ▼ The revenue required for capital investment over the determination period, including:
 - An allowance for a return on Hunter Water's water, sewerage and stormwater drainage assets. This represents IPART's assessment of the opportunity cost of the capital invested in Hunter Water by its owner, and is intended to enable the utility to continue to make efficient capital investments in the future.
 - An allowance for a return of assets (regulatory depreciation). This recognises that Hunter Water's assets will wear out over time, and is intended to ensure that the utility can maintain its asset base.

The sum of these amounts represents IPART's view of the total efficient costs required by Hunter Water over the determination period, or its notional revenue requirement.

Next, as Chapter 3 also discussed, IPART considered the price levels required to generate the notional revenue requirement and the implications of these price levels for customers, Hunter Water's financial viability and economic efficiency. For this determination, it also specifically considered how the revenue associated with Tillegra Dam should be recovered to ensure inter-generational equity. It decided to defer \$31 million⁸⁰ of this revenue to be recovered in future prices and to then apply an NPV neutral smoothed approach. The resulting revenue is known as the target revenue.

Finally, IPART estimated the revenue Hunter Water will earn over the determination period from other fees and charges (eg, trade waste charges and ancillary charges), and subtracted this revenue from the target revenue. It then set prices to generate this amount, using a smoothed NPV neutral approach.

⁸⁰ IPART has deferred \$31 million of revenue associated with the recovery of Tillegra Dam costs. This value excludes holding costs. The value including holding costs is \$34.1 million.

As set out in Chapter 3, due to unfortunate delays in the provision of information by Hunter Water and other matters, this review has been subject to a number of delays and new prices will not take effect from 1 July 2009. Rather, the new prices will commence on the date of gazettal. Until gazettal, the 2005 Determination continues. IPART's calculation of 2009/10 prices has not been adjusted upwards to take account of delays in this review (and revenue 'lost' due to this delay). Hence Hunter Water is not expected to fully recover its 2009/10 target revenue.

The sections below set out Hunter Water's proposed notional revenue requirement, and IPART's decisions on Hunter Water's notional revenue requirement, the deferred Tillegra Dam revenue and target revenue, and the revenue from other fees and charges to be subtracted from the target revenue before setting prices. The last section sets out IPART's calculation of the closing balance of the cumulative deferred Tillegra Dam revenue requirement at the end of the 2009 determination period.

5.1 Hunter Water's proposed revenue requirement

In its submission, Hunter Water identified a need to increase the annual revenue from its water, sewerage and stormwater businesses over the 2009 determination period by around 60 per cent, relative to the revenue IPART allowed for in 2008/09 in making the 2005 Determination (\$184.0 million (\$2008/09)).

Hunter Water proposed a revenue requirement of \$234.8 million in 2009/10, increasing to \$296.7 million in 2012/13 (\$2008/09). In calculating this revenue, it targeted a rate of return on assets of 7.5 per cent in each year of the determination period.

Hunter Water stated that its proposed revenue requirement does not include costs associated with recycled water operations (in line with IPART's recycled water pricing guidelines⁸¹). However, it has adjusted its forecast costs to include the 'avoided' costs associated with the proposed Kooragang Island Recycled Water Scheme.⁸²

In addition, Hunter Water advised that depending on the final costs of constructing the Kooragang Island scheme, it expects that the revenue generated from recycled water sales and the recovery of avoided costs through periodic prices will be sufficient to ensure the viability of the scheme.⁸³ On that basis, Hunter Water does not expect to provide a subsidy to the scheme, and has not included forecast costs associated with such a subsidy in its proposed revenue requirement.

⁸¹ These costs are recovered separately through recycled water prices set by Hunter Water.

⁸² Hunter Water's estimate of these avoided costs is based on benefits associated with the deferment of the stage three upgrade of the Grahamstown water treatment plant, deferment of the need to upgrade the trunk delivery main from the plant and operating costs savings at Grahamstown water treatment plant. Hunter Water's estimates were reviewed by IPART and the results of this analysis are reported in Chapters 6 and 7.

⁸³ Email from Hunter Water to IPART, 28 October 2008.

Hunter Water's proposed revenue requirement is shown in Table 5.1 below.

Table 5.1 Hunter Water's proposed revenue requirement (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Total Business				
Operating expenditure	96.3	97.2	97.0	98.3
Allowance for regulatory depreciation	21.6	24.3	27.0	29.3
Allowance for return on assets	116.3	134.0	152.9	167.4
Allowance for working capital	0.7	0.6	1.0	1.7
Notional revenue requirement	234.8	256.0	278.0	296.7
Water				
Operating expenditure	46.0	46.6	46.0	46.2
Allowance for regulatory depreciation	10.3	11.7	13.5	14.9
Allowance for return on assets	55.4	64.8	77.2	86.9
Allowance for working capital	0.5	0.0	0.3	0.7
Notional revenue requirement	112.2	123.2	136.9	148.8
Sewerage				
Operating expenditure	48.9	49.0	49.5	50.5
Allowance for regulatory depreciation	10.8	12.1	13.1	13.9
Allowance for return on assets	58.5	66.9	73.5	78.2
Allowance for working capital	0.2	0.6	0.7	1.0
Notional revenue requirement	118.4	128.6	136.8	143.5
Stormwater drainage				
Operating expenditure	1.5	1.5	1.6	1.6
Allowance for regulatory depreciation	0.4	0.5	0.5	0.5
Allowance for return on assets	2.3	2.3	2.3	2.4
Allowance for working capital	0.0	0.0	0.0	0.0
Notional revenue requirement	4.2	4.3	4.4	4.4

Note: Column totals may not sum due to rounding. Table values have been converted from nominal dollars (as quoted in Hunter Water's submission) to \$2008/09.

Source: Hunter Water submission, January 2009.

5.2 IPART's decisions on the notional revenue requirement and target revenue to be recovered through prices in the 2009 determination period

IPART's application of the building block approach resulted in a notional revenue requirement of \$951.1 million over the determination period, which is \$114.5 million less than Hunter Water proposed. Around one fifth of this difference is due to differences in IPART's calculation of Hunter Water's forecast efficient operating expenditure. The remainder is due to differences in the allowances for a return on assets and regulatory depreciation, stemming from IPART's decisions on the appropriate rate of return and the value of Hunter Water's regulatory asset base.

In calculating the notional revenue requirement, IPART included forecast expenditure of \$0 on providing a subsidy for the Kooragang Island Recycled Water Scheme, and forecast capital expenditure of \$245 million on Tillegra Dam over the determination period. In light of Hunter Water's advice that it has not paid, and does not expect to pay a subsidy to the Kooragang Island scheme, IPART made a decision that Hunter Water's efficient costs of complying with the Government's direction to pay a subsidy of up to \$10 million to the scheme were zero.

In relation to Tillegra Dam, IPART considered Hunter Water's proposed forecast capital expenditure on this project, and Atkins/ Cardno's findings and recommendations on the efficiency of this expenditure. It made a decision to accept Atkins/Cardno's recommendations that the timing and total amount of this expenditure should be adjusted to reflect efficient expenditure. As a result of this decision, the notional revenue requirement reflects \$245 million in forecast capital expenditure on Tillegra Dam over the determination period, compared with \$303 million as proposed by Hunter Water.

In determining the target revenue to be recovered through prices in the 2009 determination period, IPART made a decision that the recovery of some of the notional revenue requirement associated with Tillegra Dam should be deferred. This deferred revenue, including holding costs, equals \$34.1 million over the determination period. IPART intends that Hunter Water will recover this deferred revenue from future prices.

As discussed in Chapter 3, IPART made the decision to set prices based on an NPV neutral approach so that, if this determination had taken effect on 1 July 2009, Hunter Water would fully recover its target revenue in net present value terms.⁸⁴

As a result of these decisions, the target revenue to be recovered through prices is around \$920 million⁸⁵ (\$2008/09) for the whole determination period, and \$247.2 million for 2012/13.

Decision

- 6 Given Hunter Water has not paid, and does not expect to pay, a subsidy to the Kooragang Island Recycled Water Scheme, IPART's decision is that the efficient costs of complying with the requirement to pay the subsidy is zero and that no adjustment for this subsidy is necessary.

IPART's decisions on the notional revenue requirement and the target revenue to be recovered through prices in the 2009 determination period are shown in Table 5.2.

⁸⁴ Hunter Water would have fully recovered its target revenue if prices had commenced on 1 July 2009. However, the determination will commence from the date of gazettal rather than 1 July. IPART's calculation of 2009/10 prices has not been adjusted upwards to take account of delays in this review (and revenue 'lost' until new prices take effect). Hence, Hunter Water is not expected to fully recover its 2009/10 target revenue.

⁸⁵ This value excludes the \$34.1 million of deferred revenue associated with Tillegra Dam (including holding costs).

Table 5.2 Decisions on the notional revenue requirement and target revenue to be recovered over 2009 determination period (\$million 2008/09)

(\$M 08/09)	2009/10	2010/11	2011/12	2012/13
Notional revenue requirement				
Operating expenditure	93.0	92.7	92.8	93.4
Allowance for working capital	0.2	0.6	0.4	0.5
Allowance for regulatory depreciation ^a	21.8	23.0	24.7	27.0
Allowance for return on assets	104.1	113.8	125.1	138.0
Total	219.1	230.1	243.0	258.9
Deferred Tillegra Dam revenue	4.6	5.7	8.3	12.4
Target revenue to be recovered over the period	217.1	224.1	232.5	247.2
Total target revenue	221.7	229.7	240.9	259.6
Operating expenditure	93.0	92.7	92.8	93.4
Allowance for working capital	0.2	0.6	0.3	0.4
Allowance for regulatory depreciation ^a	21.8	23.0	24.7	27.0
Allowance for return on assets	106.7	113.4	123.0	138.8
Return on assets (real pre-tax)	6.70%	6.50%	6.40%	6.50%

^a The allowance for regulatory depreciation has been adjusted consistent with Table 7.2.

Note: Column totals may not sum due to rounding. Due to delays in the commencement of the 2009 determination, Hunter Water is not expected to fully recover its 2009/10 target revenue.

5.3 IPART's decision on revenue from other fees and charges

To calculate the revenue to be recovered through water, sewerage and stormwater drainage services, IPART subtracted (from the target revenue to be recovered through prices in the 2009 period shown in Table 5.2 above) the revenue Hunter Water is forecast to earn from 'other fees and charges', such as trade waste charges and charges for ancillary and miscellaneous services. IPART also adjusted the income from 'other fees and charges' for any changes in pricing assumptions or general price increases.

IPART's decision on the revenue from other fees and charges to be subtracted from Hunter Water's target revenue for the purpose of setting prices is shown in Table 5.3.

Table 5.3 IPART's decision on revenue from other fees and charges to be subtracted from target revenue (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Revenue from ancillary charges	4.4	4.4	4.4	4.4
Revenue from trade waste charges	2.4	2.4	2.4	2.4
Total	6.7	6.7	6.7	6.7

Note: Column totals may not sum due to rounding. Due to delays in the commencement of the 2009 determination, Hunter Water is not expected to fully recover its 2009/10 target revenue.

Chapters 6 and 7 explain how IPART made its decisions on the revenue Hunter Water requires for operating expenditure, and for capital investment (including the allowances for a return on assets and regulatory depreciation). Please note that the allowance for working capital is not discussed further in this report, as this relatively small allowance does not have a significant impact on prices.

5.4 IPART's calculation of the closing balance of the cumulative Deferred Tillegra Dam Revenue Asset in 2012/13

To give effect to IPART's decision to defer some of the revenue associated with Tillegra Dam to be recovered from future beneficiaries in future prices on a neutral net present value basis, IPART added a Deferred Tillegra Dam Revenue Asset to Hunter Water's RAB at the close of the 2009 determination period. The value of this asset was calculated by cumulating the annual deferred Tillegra Dam revenue and the associated holding costs from each year in the 2009 determination period. These calculations were based on a WACC of 6.5 per cent. Table 5.4 sets out IPART's calculation.

Table 5.4 Calculation of cumulative Deferred Tillegra Dam Revenue Asset to be added to RAB in 2012/13 (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Opening balance of Deferred Tillegra Dam Revenue	0.0	4.6	10.5	19.7
Annual Deferred Tillegra Dam Revenue	4.6	5.7	8.3	12.4
Holding costs	0.0	0.3	0.9	2.0
Closing balance	4.6	10.5	19.7	34.1

Note: Column totals may not sum due to rounding. The holding costs take account of the timing of expenditure and revenue.

Source: IPART modelling.

As discussed in Chapter 4, IPART notes that the balance of the Deferred Tillegra Dam Revenue Asset grows steeply within the 2009 determination period and, under its approach, will continue to grow until the utilisation of the dam increases.

6 Revenue required for operating expenditure

To determine how much revenue Hunter Water will require for operating expenditure over the 2009 determination period, IPART assessed the efficient level of operating and maintenance costs it would incur in providing water, sewerage and stormwater drainage services. It also assessed Hunter Water's estimate of the forecast operating costs that will be avoided as a result of the proposed Kooragang Island Recycled Water Scheme.⁸⁶ Consistent with IPART's recycled water pricing guidelines, Hunter Water proposed to recover these avoided costs through water and sewerage prices.

As part of its assessment, IPART engaged a consortium of WS Atkins International Limited and Cardno Limited (Atkins/Cardno), independent engineering consultants, to review Hunter Water's past and forecast operating expenditure, Hunter Water's estimate of the costs 'avoided' by recycling and to recommend the efficient level for the forecast expenditure.

IPART also sought comment from other stakeholders on:

- ▼ the efficiency of Hunter Water's operating costs over the current determination period and the efficiency of its projected operating costs
- ▼ whether there was scope for Hunter Water to achieve further efficiency gains over the determination period⁸⁷
- ▼ its draft decisions as set out in the draft report and determination.⁸⁸

The section below summarises IPART's decision on the revenue required for operating expenditure related to Hunter Water's regulated water, sewerage and stormwater drainage services. The section also includes IPART's decision to reject Hunter Water's proposal to incorporate a mechanism to pass through in prices the costs associated with the implementation of the Australian Government's Carbon

⁸⁶ IPART, *Pricing arrangements for recycled water and sewer mining*, Determinations No 8 and 9, September 2006. In line with these guidelines Hunter Water sets the prices for its voluntary and mandatory recycled water schemes. The guidelines aim to ensure that the recycled water costs are recovered from recycled water customers, while making provision for the sharing of costs with other customers where the recycled water scheme leads to community benefits in the form of avoided or deferred costs elsewhere in the system.

⁸⁷ IPART, *Review of prices for water, sewerage, stormwater and recycled water services for Hunter Water Corporation from 1 July 2009 - Issues Paper*, July 2008.

⁸⁸ IPART, *Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation from date of gazettal- Draft Determination and Report*, April 2008.

Pollution Reduction Scheme. The following sections discuss IPART's considerations in reaching these decisions in more detail.

6.1 Summary of IPART's decision

Decision

- 7 IPART's decision is that the efficient level of operating expenditure Hunter Water requires to provide its water, sewerage and stormwater drainage services over the period 2009/10 to 2012/13 is as shown in Table 6.1.

Table 6.1 Decision on revenue required for operating expenditure (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13	Total
Hunter Water's proposed total ^a	96.0	95.7	95.4	96.9	384.0
Atkins/Cardno's assessed total	89.3	89.8	90.3	91.1	360.5
IPART decision					
- Corporate ^b	24.3	24.1	23.5	23.2	95.1
- Water	31.9	31.4	31.3	31.8	126.4
- Sewerage	35.6	35.7	36.4	37.2	144.8
- Stormwater drainage	1.3	1.4	1.5	1.3	5.5
Total operating expenditure	93.0	92.7	92.8	93.4	371.9

^a Includes annual operating expenditure of \$246,000 for operating costs avoided as a result of implementing recycling schemes.

^b Corporate expenditure excludes portion of costs allocated to recycled water services.

Note: Column totals may not sum due to rounding.

Source: Hunter Water submission, January 2009; Hunter Water Annual Information Return, 2008/09; and Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

In making its decision, IPART accepted Atkins/Cardno's recommendation that Hunter Water's forecast operating expenditure be reduced to take account of recommended adjustments to the 'base year' 2008/09 expenditure. Specifically, these adjustments were to reduce forecasts for operating cost increases since the 2005 Determination for which Hunter Water was unable to provide satisfactory justifications. IPART also accepted Atkins/Cardno's recommendations that Hunter Water's forecast efficient operating expenditure should be reduced to take account of the scope for efficiency gains and the need for rephasing some of the expenditure.

However, IPART has adjusted these recommendations based on its own analysis and to take account of information provided by Hunter Water following the completion of Atkins/Cardno's analysis.

Specifically, IPART increased the base year forecast to take account of:

- ▼ Hunter Water's forecast outturn as at January 2009 – Atkins/Cardno's recommendation is based on Hunter Water's forecasts current at October 2008
- ▼ correction of an error in the consultants' analysis whereby ring-fenced recycled water costs were double counted
- ▼ an independent audit of Hunter Water's annual financial statements conducted by the Audit Office which included its application of accounting standards regarding the capitalisation of labour.

In addition, IPART adjusted Atkins/Cardno's recommended forecast efficient operating expenditure in light of:

- ▼ the filling of one of the new employee positions in January 2009 that Atkins/Cardno proposed be rephased
- ▼ the efficiency targets recommended by Atkins/ Cardno to be applied to Hunter Water's controllable costs only
- ▼ Hunter Water's delivery of water efficiency activities – IPART accepted Atkins/Cardno's recommended reduction to demand management expenditure but adjusted the reduction over the price path to achieve a more even spread (to enhance Hunter Water's program delivery).

In deciding to make these adjustments to the recommendation, IPART carefully considered information provided by Hunter Water. This included improvements in service performance achieved over the 2005 determination period and benchmarking results that suggest that there remains significant scope for further improvements to be achieved over the 2009 determination period.

6.2 Hunter Water's submissions

Hunter Water's submission outlined its past operating expenditure over the 2005 determination period and its forecast operating expenditure for the 2009 determination, and explained the drivers of this expenditure.

In response to the draft determination, Hunter Water has made a detailed submission contending a number of the adjustments recommended by Atkins/Cardno. The submission also provided information on improvements in service performance achieved by Hunter Water over the 2005 determination period as a further justification for increases in operating costs.

Hunter Water argued against the recommendations of the consultants, as follows:

- ▼ Adjustments to the base year to ring fence recycled water expenditure, which resulted in a \$1.2 million reduction in forecast expenditure. Hunter Water argued that the ring-fenced expenditure had been double counted.

- ▼ Adjustments to the base year to capitalise the costs of 20 full-time equivalent staff (FTEs), which resulted in a \$6.4 million reduction in operating expenditure. Hunter Water argued that these positions have already been capitalised to the extent possible under Australian Accounting Standards. In support of that argument, Hunter Water provided information from an independent audit of its annual financial statements by the Audit Office which found that accounting standards (including those related to the capitalisation of labour) had been applied correctly.⁸⁹
- ▼ Reductions to the base year of \$6.8 million for increases in expenditure above the 2005 determination level that the consultant's found Hunter Water could not adequately explain. Hunter Water argued that detailed explanations had been provided for all expenditures.
- ▼ Efficiency adjustments to forecast expenditure, which resulted in a \$2.4 million reduction. Hunter Water argued that when calculating potential efficiency gains, only controllable costs should be incorporated. Hunter Water stated that only 43 per cent of their operating expenditure is controllable over the course of the 2009 determination period. Hunter Water noted that in the 2008 Sydney Water Determination, IPART only applied the efficiency targets to Sydney Water's controllable expenditure.
- ▼ Reductions to forecast expenditure in expanded water conservation programs. The consultants found expansion of the current program was not efficient given the extent to which Tillegra Dam's construction increased water supply. Hunter Water argued that without this expenditure it would not be able to fully deliver its H250 Strategy.

Hunter Water also provided the information on improvements in service performance achieved over the 2005 determination period (see Figure 6.3 below).

6.2.1 Past operating expenditure

Hunter Water's submission indicated that its operating expenditure exceeded the amount it had projected for the 2005 determination period and the amount allowed for by IPART in the 2005 Determination. Hunter Water identified that the most significant drivers of its increased operating expenditure were:

- ▼ Measures necessary to respond to current labour market dynamics creating higher labour mobility, an aging workforce and skills shortages (particularly in professional and engineering areas).
- ▼ Real increases in a range of inputs costs including electricity, fuel, chemicals and major contracts driven by maintenance requirements, inflation and safety and security initiatives.
- ▼ Increases in plant and vehicle costs, noting that some of this increases reflected the different accounting of costs under new fleet outsourcing arrangements.

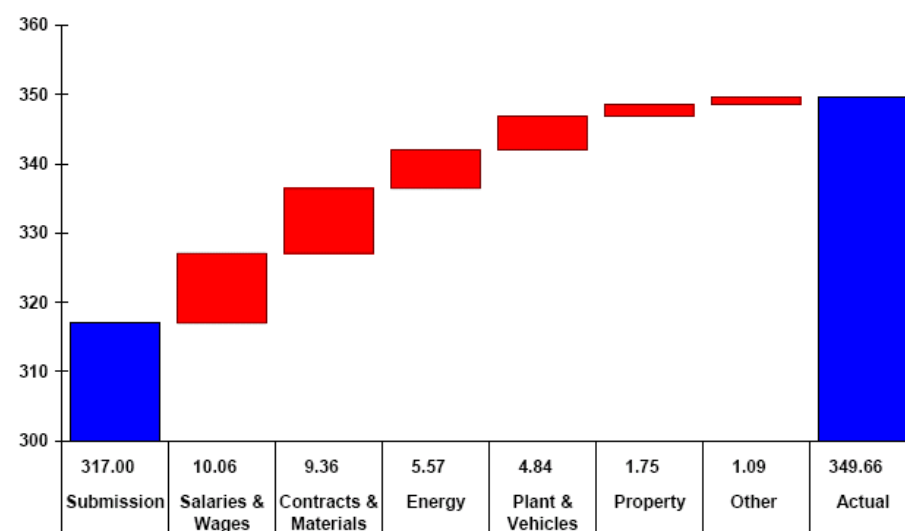
⁸⁹ Hunter Water, *Response to IPART's Draft Determination and Draft Report*, May 2009, p 7.

- ▼ Business growth from its geographical expansion of operations to areas such as Dungog and Singleton Shire.
- ▼ The effects of climate change and drought necessitating a range of water efficiency measures and requiring water supply to the Central Coast. However, IPART notes that the Hunter region has largely been unaffected by the most recent drought and restrictions have not been introduced.
- ▼ The upfront costs of continuous improvement strategies to identify efficiency offsets and increasing customer expectations regarding service and environmental standards.⁹⁰

Hunter Water attributed this overspend to a 7 per cent increase in the number of properties it services, and the costs of meeting challenges that had not previously been identified.⁹¹ However, IPART concludes that in the period 2005/06 to 2008/09, there was likely inefficiency where the rate of increase in operating expenditure was greater than the growth in properties.

Figure 6.1 Hunter Water's rationale for increased operating costs 2005/06 to 2008/09

Figure 5.4 Operating cost component increases 05/06 - 08/09 (\$m 08/09)



Source: HWC

Source: Hunter Water Corporation submission to IPART Issues Paper, 9 January 2009, Figure 5.4.

Table 6.2 sets out the operating expenditure Hunter Water proposed during the 2005 price review, the operating expenditure IPART allowed for in making the 2005 Determination and the actual operating expenditure over the 2005 determination

⁹⁰ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 32.

⁹¹ Ibid, sections 5.2 and 5.3.

period. This table indicates that expenditure on corporate services accounted for most of the overspend (compared to what was allowed for in 2005).

Table 6.2 Hunter Water's proposed, allowed and actual operating expenditure 2005/06 to 2008/09 (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09
Hunter Water proposed in 2005				
Corporate	18.8	18.8	19.3	19.6
Water	30.0	29.8	30.2	30.8
Sewerage	31.7	30.8	30.7	30.8
Stormwater drainage	1.1	1.1	1.1	1.1
Total	81.6	80.4	81.3	82.2
IPART 2005 Determination				
Corporate	18.6	18.1	18.4	18.1
Water	29.4	29.0	29.0	29.3
Sewerage	30.3	29.6	29.1	29.0
Stormwater drainage	1.1	1.1	1.1	1.1
Total	79.4	77.8	77.6	77.5
Hunter Water actual/forecast				
Corporate	31.2	30.8	30.5	31.1
Water	24.4	28.4	25.5	28.8
Sewerage	26.7	27.8	31.4	32.0
Stormwater drainage	0.8	0.6	0.9	0.9
Total	83.0	87.7	88.4	92.8

Source: IPART 2005 Hunter Water Determination (inflated to \$2008/09) and Hunter Water Annual Information Return (IPART inflated to \$2008/09).

6.2.2 Forecast operating expenditure

Hunter Water's forecast operating expenditure over the 2009 determination period is shown in Table 6.3.

Table 6.3 Hunter Water's forecast operating expenditure for 2009/10 to 2012/13 (\$ million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Corporate	30.6	30.0	28.3	28.1
Water	30.8	30.3	30.6	31.5
Sewerage	33.5	34.1	35.1	36.1
Stormwater drainage	1.2	1.3	1.5	1.3
Total ^a	96.0	95.7	95.4	96.9

a Includes annual operating expenditure of \$246,000 for operating costs avoided as a result of implementing recycling schemes.

Note: Column totals may not sum due to rounding.

Source: Hunter Water submission, January 2009 and Hunter Water Annual Information Return, 2008/09.

This forecast expenditure represents a 4.4 per cent increase in operating costs over the 2009 period, compared to its actual expenditure in 2008/09 of \$92.8 million. Hunter Water's submission indicated that contract costs and labour costs account for the most significant increases in its forecast costs, followed by materials, property and energy.⁹²

The largest contribution to additional contract costs is for water efficiency initiatives, such as leakage management, installation of water main pressure reduction equipment and installation of water efficient household fixtures, set out in Hunter Water's integrated water resource plan.⁹³ Contract costs also increase because Hunter Water plans to outsource sewer maintenance activities which were previously performed in-house (\$2.8 million), and to implement customer-related initiatives.⁹⁴

Forecast labour cost increases are primarily driven by real increases in salary and wage rates, combined with a small increase in FTE employees, despite the outsourcing of some functions.

Forecast material cost increases are driven by the cost of chemicals for more frequent outbreaks of blue-green algae, the improvement of sewerage effluent discharge and the higher chemical requirements of newer sewerage treatment processes.

In its submission, Hunter Water argued that in percentage terms, the forecast real increase in costs in the 2009 period is less than the forecast growth in the number of properties it services, and this implies an efficiency gain. In addition, to offset the forecast cost increases, Hunter Water proposed to achieve efficiencies of \$6.1 million over the four year period – for example, through a combination of business improvement initiatives, optimisation of electricity costs, and savings in data and voice communications. Hunter Water argued that there is limited potential for further efficiencies as it controls less than half the operating spend and this reduces the scope for changes in costs in the medium term.⁹⁵

Hunter Water also identified a number of areas where it has not been able to accurately forecast operating costs over the next four years. These include costs associated with:

- ▼ The Federal Government's Carbon Pollution Reduction Scheme. Hunter Water did not include any allowance for the costs associated with this scheme and proposed that these costs be passed through to customers.⁹⁶
- ▼ Variations in energy requirements due to weather and climate conditions.

⁹² Ibid, p 44.

⁹³ Hunter Water Corporation, *H250 Plan – Securing Our Water Future*, December 2008.

⁹⁴ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, pp 45-46.

⁹⁵ Ibid, pp 49-55.

⁹⁶ IPART's decision on this proposal is included in Section 6.5.

- ▼ Future Department of Environment and Climate Change (DECC) and Department of Water and Energy (DWE) licence fees.

6.2.3 Comparison of past and forecast operating expenditure

Using the information submitted by Hunter Water, Table 6.4 shows the corporation's actual operating expenditure over the 2005 determination period and its forecast operating expenditure for the 2009 period. The table also shows the percentage variation in actual expenditure from that allowed for in the 2005 Determination.

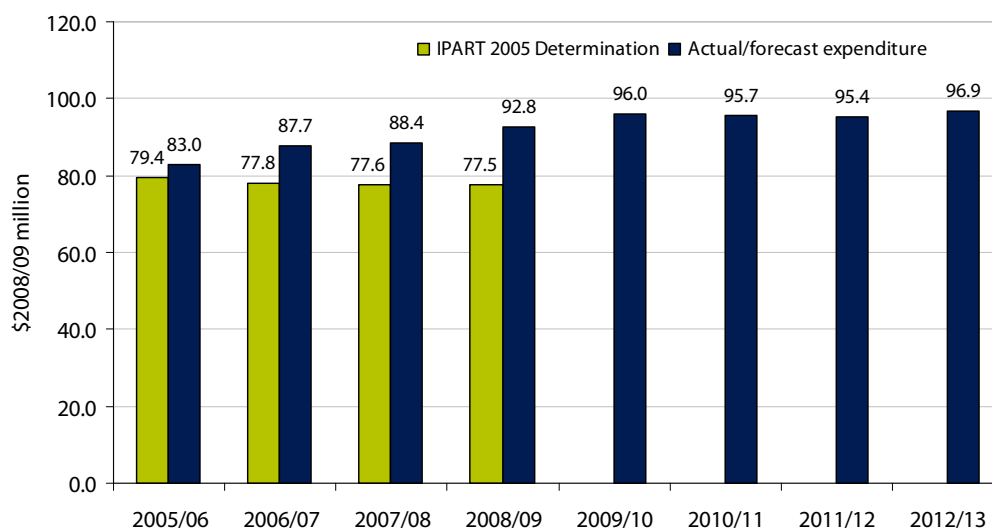
Table 6.4 Hunter Water's actual and forecast operating expenditure, 2005/06 to 2012/13 (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Water	24.4	28.4	25.5	28.8	30.8	30.3	30.6	31.5
Sewerage	26.7	27.8	31.4	32.0	33.5	34.1	35.1	36.1
Stormwater drainage	0.8	0.6	0.9	0.9	1.2	1.3	1.5	1.3
Corporate	31.2	30.8	30.5	31.1	30.6	30.0	28.3	28.1
Total	83.0	87.7	88.4	92.8	96.0	95.7	95.4	96.9
% variation on 2005 Det.	4.6%	12.6%	13.9%	19.8%				

Note: Column totals may not sum due to rounding.

Source: IPART 2005 Hunter Water Determination (inflated to \$2008/09); Hunter Water Annual Information Return, 2008/09 (IPART inflated to \$2008/09) for 2006/07-2008/09; and Hunter Water submission, January 2009.

Hunter Water's total actual operating expenditure over the 2005 period was \$39.5 million higher than IPART allowed for in making the 2005 Determination. Its annual average actual expenditure was \$88.0 million compared to \$78.1 million allowed for in the 2005 Determination. Further increases in annual operating expenditure are forecast for the 2009 period, with an average annual forecast expenditure of \$96.0 million. This is illustrated in Figure 6.2.

Figure 6.2 Hunter Water's actual, determined and forecast operating expenditure, 2005/06 to 2012/13 (\$million 2008/09)

Data source: IPART 2005 Hunter Water Determination and Hunter Water Annual Information Return, 2008/09.

6.3 Atkins/Cardno's review of past and forecast operating expenditure

As noted above, IPART asked Atkins/Cardno to review Hunter Water's past and forecast operating expenditure and recommend the efficient forecast operating expenditure required to provide Hunter Water's water, sewerage and stormwater drainage services from 2009/10 to 2012/13. It also asked Atkins/Cardno to advise it on the level of costs likely to be avoided as a result of water recycling schemes.

6.3.1 Atkins/Cardno's findings on past operating expenditure

Atkins/Cardno noted that its review of the efficiency of Hunter Water's operating expenditure in the 2005 determination period was impeded by changes to accounting rules and treatment, which made it difficult to assess Hunter Water's underlying performance. It observed that while Hunter Water's water service operating costs had not materially changed over this period, its sewerage service operating costs had increased over the period. It also found that its corporate operating costs had increased significantly in 2006, followed by a more even profile thereafter.

In relation to the water business, Atkins/Cardno found that Hunter Water's actual operating costs over the 2005 period are likely to be \$9.4 million less than allowed for in the 2005 Determination. Atkins/Cardno attributed this result to the net impact of a reduction in storage and abstraction costs of \$5.2 million, changes in customer demand (caused by favourable seasonal factors), and significant increases in treatment costs (\$3.36 million) and reticulation costs (\$1.49 million). It concluded

that Hunter Water managed to efficiently contain water operating costs over the current price path period.

In the sewerage business, Atkins/Cardno found that Hunter Water's actual operating expenditure is likely to closely match the expenditure allowed for in the 2005 Determination. It noted that sewerage collection and transportation expenditure remained fairly constant, while treatment costs increased by around 31 per cent. In total, Hunter Water underspent the expenditure allowed for by just \$0.2 million. Atkins/Cardno concluded that Hunter Water had achieved efficient levels of operating expenditure for sewerage over the 2005 determination period.

In the stormwater business, Atkins/Cardno found that Hunter Water's actual operating expenditure is likely to be \$1.3 million less than allowed for in the 2005 Determination. It found that this underspend was due to the deferral of maintenance activities that now need to be addressed in the coming (2009) determination period. Atkins/Cardno concluded that Hunter Water's stormwater operating expenditure was less than an efficient level over the 2005 determination period.

In the corporate services area, Atkins/Cardno found that Hunter Water's operating expenditure is likely to be \$50.5 million more than allowed for in the 2005 Determination. It found that a significant proportion of this amount was due to changes in accounting cost procedures over the determination period. It noted that changes to Hunter Water's fleet arrangements had also contributed. Atkins/Cardno concluded that Hunter Water has a culture and track record of cost efficiency, although this was not always clearly identified within its corporate operating cost variations where data is obscured between water and sewerage service allocations. It stated that the corporate service operating expenditure appeared appropriate based on a review of the available data and interviews with key managers. However, a lack of clarity prevented it from reaching full and proper conclusions on the effectiveness and efficiency of this expenditure.

Atkins/Cardno also undertook a detailed review of the efficiency of Hunter Water's actual/projected operating expenditure in 2008/09. Then, based on its findings, it recommended the adjustments to this expenditure required in order to use this year as the base year for assessing forecast efficient operating expenditure (ie, the year from which future years are forecast). For this purpose, it recommended that Hunter Water's actual/projected operating expenditure in 2008/09 be adjusted by a total of \$5.0 million to:

- ▼ Reduce labour costs by an amount that Atkins/Cardno found ought to have been capitalised.
- ▼ Ring fence corporate costs allocated to Hunter Water's recycled water operations, consistent with IPART recycled water pricing guidelines.
- ▼ Reduce the overall amount to reflect Atkins/Cardno's finding that Hunter Water was likely to underspend by \$1.3 million in 2008/09.

- ▼ Reduce the overall amount to take account of operating cost increases since the 2005 Determination for which Hunter Water was unable to provide satisfactory justification to Atkins/Cardno. These unjustified increases total \$3.4 million; however, given the uncertainty surrounding these costs, Atkins/Cardno recommended a reduction of \$1.7 million (which equates to half of the unjustified increase).

The impact of these recommended reductions to the base year expenditure on Atkins/Cardno's recommended forecast efficient operating expenditure are shown in Table 6.5.

6.3.2 Atkins/Cardno's findings on forecast efficient operating expenditure

Based on its review of Hunter Water's past and forecast operating expenditure, Atkins/Cardno made recommendations on the corporation's forecast efficient operating expenditure for the 2009 determination period. In reviewing Hunter Water's proposed operating expenditure, Atkins/Cardno considered whether the expenditure needed to be excluded because it related to other services (specifically recycled water), whether the timing of expenditure was reasonable, and whether the expenditure forecasts factored in appropriate efficiency targets.

Atkins/Cardno recommended forecast operating expenditure and Hunter Water's proposed expenditure is shown in Table 6.5 below. Atkins/Cardno's recommended expenditure is around 6 per cent less than Hunter Water's forecast expenditure. This recommendation is based on Atkins/Cardno's adjustment to 'base year', some rephasing of proposed labour costs increases and other expenditures, and the adoption of higher efficiency savings targets than Hunter Water proposed.

Table 6.5 Atkins/Cardno's recommended and Hunter Water's proposed forecast operating expenditure for 2009/10 to 2012/13 (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Hunter Water proposed	96.0	95.7	95.4	96.9
Atkins/Cardno recommended	89.3	89.8	90.3	91.1
Difference (%) ^a	-7.0%	-6.1%	-5.3%	-6.0%

^a Percentage difference between Atkins/Cardno's recommended operating expenditure and Hunter Water's proposed expenditure.

Source: Hunter Water submission, January 2009 and Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

In the forecast operating expenditure for the water business, Atkins/Cardno concluded that Hunter Water has the ability to achieve efficiency gains over the 2009 determination period, and that some of the proposed expenditure should be rephased.⁹⁷

⁹⁷ As part of this rephasing, Atkins/Cardno rephased the operating expenditure associated with Tillegga Dam because, in its view, the dam is unlikely to be operational by 2012/13.

For the sewerage business, Atkins/Cardno noted that the single largest contributor to the increase in sewerage operating costs was for hire and contracts services related to additional treatment works that Hunter Water will be taking over. Atkins/Cardno supported the general increasing trend in sewerage expenditure over the 2009 determination period. However, it concluded that some of the proposed expenditure should be rephased and that Hunter Water can achieve efficiencies on its sewerage operating expenditure.

For the stormwater business, Hunter Water proposed a 36 per cent increase in its operating expenditure for the 2009 period. Atkins/Cardno noted Hunter Water proposed to undertake a number of activities that are considered to be major periodic maintenance (such as dredging in the Throsby Creek stormwater catchment area). It found that a deferral of maintenance activities in the 2005 determination period resulted in underspending in the stormwater business, and therefore concluded that the forecast operating expenditure was appropriate.

In relation to corporate operating expenditure, Atkins/Cardno observed that Hunter Water proposed to undertake challenging business improvement initiatives and achieve efficiency gains over the 2009 determination period. Nevertheless, it concluded that further corporate operating expenditure efficiencies can be achieved over this period.

After factoring in its analysis of operating expenditure efficiency in the 2005 determination period, Atkins/Cardno recommended that Hunter Water's proposed operating expenditure for the 2009 Determination be reduced by \$23.5 million or 6.1 per cent over the price path period (Table 6.6).

Table 6.6 Atkins/Cardno' recommended adjustments to Hunter Water's proposed operating expenditure for 2009/10 to 2012/13 (\$million 2008/09)

Operating expenditure	2009/10	2010/11	2011/12	2012/13
Hunter Water proposed	96.0	95.7	95.4	96.9
less Atkins/Cardno recommended adjustments required to:				
reflect efficiency assessment of current price path	-3.7	-3.7	-3.7	-3.7
reflect recommended rephasing	-3.0	-1.9	-0.6	-0.8
reflect recommended efficiency targets	0.0	-0.3	-0.8	-1.3
Total reduction from adjustments	-6.7	-5.9	-5.1	-5.8
Total Atkins/Cardno recommended	89.3	89.8	90.3	91.1

Note: Columns may not add due to rounding differences.

Source: Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

Atkins/Cardno identified examples of opportunities available to Hunter Water to improve its operating expenditure efficiency. These included:

- ▼ Placing a high priority on identifying and optimising the balance between reactive and planned maintenance, and using enhanced macro modelling of renewal requirements based on the total asset portfolio.
- ▼ Fast tracking the implementation of already identified improvement opportunities in work order despatch, in-vehicle GPS and portable computer facilities and associated processes for improvement in maintenance productivity.
- ▼ Reviewing and enhancing cost models to improve alignment of activities between systems and alignment of activities to service functions. Hunter Water should continue with an approach to activity-based costing that facilitates alignment of costs including labour with the main service categories.⁹⁸

6.3.3 Atkins/ Cardno' findings on operating costs avoided as a result of recycling schemes

Hunter Water estimated the forecast avoided operating costs due to the establishment of the Kooragang Island Recycled Water Scheme by valuing the benefits associated with the deferment of the stage three upgrade of the Grahamstown water treatment plant, the deferment of the need to upgrade the trunk delivery main from this plant, and the plant operating cost saving. Atkins/Cardno found that Hunter Water's estimate of the avoided operating costs of \$246,000 per year over the 2009 determination period is reasonable.

6.4 Stakeholders' comments

In response to the Issues Paper and the draft determination, a number of submissions were received on the need to enhance Hunter Water's customer hardship programs. These submissions are discussed in Chapter 11.

In response to the draft determination, Sydney Water identified an inconsistency between the calculation of efficiency targets adopted in the 2008 Sydney Water Determination and those applied in the draft Hunter Water determination. Sydney Water argued that targets should be applied to controllable costs only.⁹⁹

⁹⁸ Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, pp 56-57.

⁹⁹ Sydney Water, *Sydney Water response to Review of prices for Hunter Water Corporation – Draft Determination and Report*, May 2009, p 4.

6.5 IPART's analysis

For the determination, IPART critically reviewed Hunter Water's submission, Atkins/Cardno's recommendations, and supplementary information provided by Hunter Water. It also undertook its own analysis of Hunter Water's actual and forecast operating expenditures in relation to changes in customer connections over the period and changes to Hunter Water's role over that period.

6.5.1 Analysis of expenditure per connection served over time

Hunter Water's past operating expenditure is significantly above the amount allowed in the 2005 Determination. Hunter Water's operating expenditure for 2008/09 forms the base year for forecasts of future expenditure.

Hunter Water's estimate of the impact on its operating costs from changes to its activities is outlined below.

Table 6.7 Additional activities and changes to Hunter Water's costs structure over the 2005 period (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Gosford/Wyong link	0.12	0.20	0.03	0.04	0.05	0.05	0.05	0.00
Fleet outsourcing	0.00	0.13	1.27	1.42	1.42	1.42	1.42	1.42
Dungog	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00
Tillegra Dam	0.00	0.02	0.01	0.01	0.01	0.01	0.01	0.26
Recycled water	0.00	0.21	0.02	0.00	0.09	0.08	1.37	1.46
Total	0.12	0.56	1.33	2.47	2.57	2.56	3.85	4.14
Total less recycled water	0.12	0.35	1.31	2.47	2.48	2.48	2.48	2.68

Note: IPART's recycled water pricing guidelines require all recycled water costs to be ring fenced.

Source: Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, Table 3.6.

Table 6.8 Increases in operating costs per property over the 2005 period (\$ 2008/09)

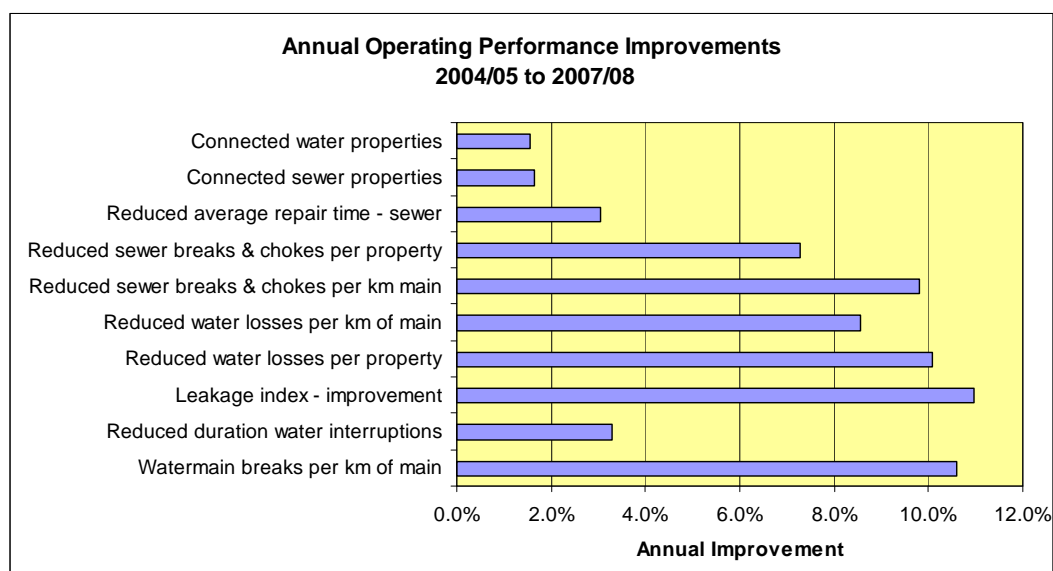
	2005/06	2006/07	2007/08	2008/09
Hunter Water's actual and forecast operating expenditure (\$ million)	83.0	87.7	88.4	92.8
Hunter Water's actual and forecast operating expenditure less new activities (\$ million)	82.9	87.3	87.1	90.3
Number of customer connections	220,690	224,442	228,312	232,120
Total cost/connected property (\$)	375.77	389.01	381.36	389.18
2005/06-2008/09 % increase				3.57%
average % pa				1.18%

Source: Hunter Water Annual Information Return, 2008/09 and IPART Analysis.

In its submissions in response to the issues paper, Hunter Water argued that much of its overspend over the 2005 period can be attributed to an increase of 7 per cent in the number of properties being serviced.¹⁰⁰ However, as shown in Table 6.8, even after the costs of new activities is taken into account, the rate of increase in operating expenditure exceeds the growth in properties connected to Hunter Water's system by 3.6 per cent.

In the draft determination, IPART noted that Hunter Water had not provided evidence to demonstrate that this increase in costs per property was justified by improvement in service levels. In response, Hunter Water has now provided information on performance improvements achieved over the 2005 determination period (Figure 6.3 below). This information is based on national performance benchmarking studies produced by the National Water Commission.

Figure 6.3 Hunter Water improvements in annual performance 2004/05-2007/08



Data source: Hunter Water submission, May 2009.

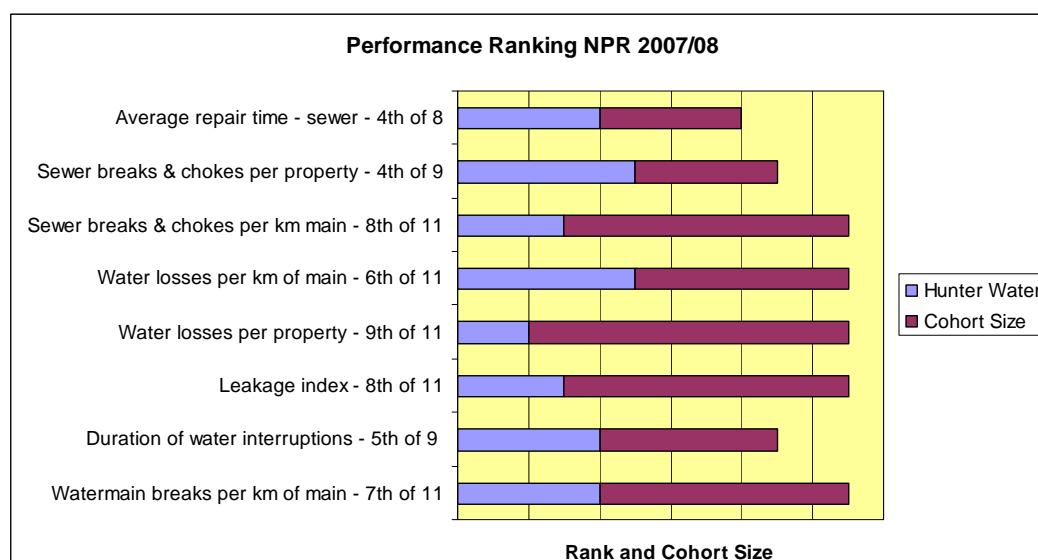
IPART has reviewed the performance improvements reported by Hunter Water. It notes that these improvements may provide a partial explanation of the 3.6 per cent increase in operating costs per connected property experienced over the 2005 determination period.

In making its decisions on forecast operating expenditure, IPART has further considered the National Water Commission national performance benchmarking of urban water utilities. That benchmarking reveals that, while Hunter Water's performance has improved over the course of the 2005 determination period, various other water utilities provide better system performance. This is illustrated in

¹⁰⁰ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, sections 5.2 and 5.3.

Figure 6.4. It is arguable that further improvements in performance may be efficient. Hunter Water's performance is within one standard deviation of the average performance reported by other water utilities.

Figure 6.4 Hunter Water performance relative to other water utilities 2007/08

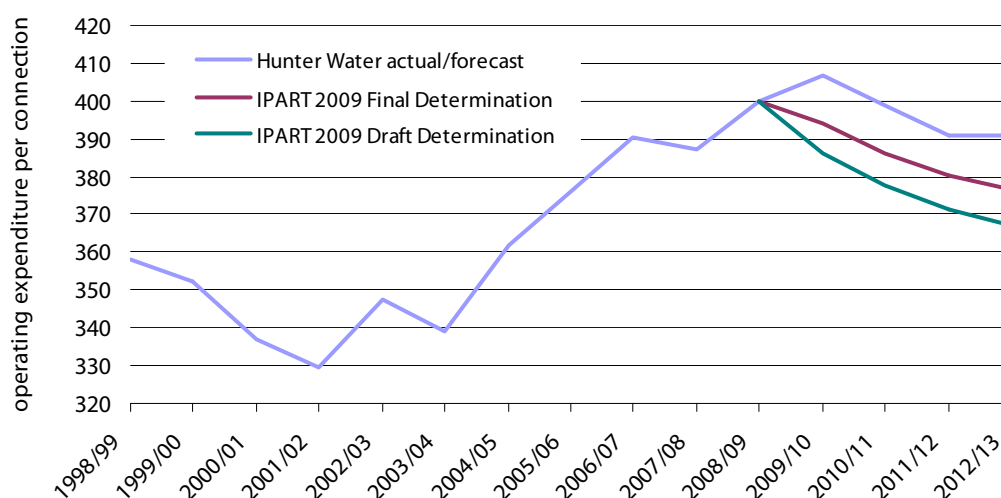


Data source: Hunter Water submission, May 2009, National Water Commission National Performance Reports.

Note: Cohort size refers to the number of utilities of more than 1000,000 connections that report this measure.

Taking into account the improvements in service performance achieved and the potential efficiency of further improvements, in making its final decisions IPART extended its analysis of Hunter Water's operating costs per connection to the end of the 2009 determination period. This analysis is illustrated in Figure 6.5.

Figure 6.5 Hunter Water operating costs per connection (\$08/09)



Data source: IPART analysis, National Water Commission National Performance Reports.

The analysis indicates that by the end of the 2009 determination period, if IPART adopted its draft determination forecasts, by 2011/12 the cost per connection would fall to below that of 2005/06. IPART notes rapid reductions of that order have the potential to result in erosion of the recent improvements in the Corporation's performance. As such, a balance needs to be struck.

In making its final decisions IPART has carefully considered this issue, Atkins/Cardno's recommendations and the submissions of stakeholders, including Hunter Water.

- ▼ IPART has identified an error in Atkins/Cardno's adjustments to the base year. As a result of that error, ring-fenced corporate expenditure allocated to recycled water was double counted (downwards). IPART has corrected for this error.
- ▼ IPART has accepted information provided by Hunter Water regarding its annual independent audit conducted by the Audit Office which finds that all labour costs have been capitalised to the extent possible under Australian Accounting Standards. As such, reductions to operating expenditure for the 20 FTEs that the consultant found should have been capitalised, has been reversed. IPART notes that over the 2005 determination period Hunter Water's labour costs (less employee provisions) have increased by 14 per cent.¹⁰¹ To some extent, this increase can be explained by new activities undertaken by Hunter Water (see Table 6.7) and by improvements in performance (see Figure 6.3).
- ▼ IPART has decided to only apply efficiency adjustments to forecast expenditure to controllable costs.¹⁰² This is consistent with the approach IPART adopted in the 2008 Sydney Water Determination.¹⁰³

¹⁰¹ Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, p 56.

¹⁰² Hunter Water stated that only 43 per cent of their operating expenditure is controllable over the course of the 2009 determination period. Ibid, p 51.

¹⁰³ IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services- from 1 July 2008, Water- Determination and Final Report*, June 2008, p 45.

In addition, IPART confirms its draft decision regarding Atkins/Cardno's other recommendations, the expected 2008/09 outturn¹⁰⁴ and the smoothing over time of recommended adjustment to Hunter Water's expanded water conservation program.¹⁰⁵

In summary, IPART's decision is to reduce Hunter Water's forecast operating expenditure by 3.2 per cent over the 2009 determination period. Table 6.9 and Table 6.10 show IPART's decision on Hunter Water's forecast efficient operating expenditure over the 2009 determination period.

Table 6.9 IPART's adjustment to Atkins/Cardno's recommendations on Hunter Water's forecast efficient operating expenditure over the 2009 determination period (\$ 2008/09 million)

	2009/10	2010/11	2011/12	2012/13
Atkins/ Cardno recommended	89.3	89.8	90.3	91.1
<i>plus</i> IPART Draft Det. adjustments:				
demand management	0.4	0.1	-0.1	-0.4
adjusted outturn	1.3	0.7	0.1	0.0
additional FTEs	0.1	0.1	0.1	0.1
total Draft Det. adjustments	1.8	0.9	0.2	-0.2
<i>plus</i> IPART Final Det. adjustments:				
efficiency strictly applied to controllable costs only	0.0	0.1	0.3	0.5
adjustment for recycled water corp. allocation	0.3	0.3	0.3	0.3
adjustment for capitalised labour	1.6	1.6	1.6	1.6
total Final Det. adjustments	1.9	2.0	2.2	2.4
total IPART adjustments	3.7	2.9	2.4	2.2
IPART Final Determination	93.0	92.7	92.7	93.4

Note: Column totals may not sum due to rounding.

¹⁰⁴ Prior to the draft determination, Hunter Water provided supplementary information to IPART on its forecast expenditures and other matters. That information indicates that one of the new employee positions that Atkins/ Cardno recommend be rephased has already been filled and provides updated estimates of Hunter Water's outturn for 2008/09. In its final report, Atkins/ Cardno estimated that the outturn would be \$1.3 million under budget. Hunter Water has provided evidence in January 2009 that suggested that it was then likely to be \$0.2 million over budget for 2008/09.

¹⁰⁵ IPART also critically reviewed Atkins/ Cardno's recommendation to reduce demand management expenditure by \$2.5 million over the 2009 determination period. Atkins/ Cardno found little economic justification to increase demand management expenditure to enhance water efficiency activities with Tillegra Dam in the planning stage. While noting Hunter Water's concern regarding the delivery of its H250 Strategy, IPART supports Atkins/ Cardno's recommendation but made adjustments to spread the reduction more evenly over the price path to enhance Hunter Water's program delivery.

Table 6.10 IPART's decision on Hunter Water's forecast efficient operating expenditure over the 2009 determination period (\$ 2008/09 million)

	2009/10	2010/11	2011/12	2012/13
Hunter Water requested	96.0	95.7	95.4	96.9
<i>less</i> Atkins adjustment	-6.7	-5.9	-5.1	-5.8
<i>plus</i> IPART change to Atkins adjustment	1.8	0.9	0.2	-0.2
IPART Draft Determination	91.1	90.7	90.5	91.0
<i>plus</i> IPART change since Draft Det.	1.9	2.0	2.2	2.4
IPART Final Determination	93.0	92.7	92.7	93.4

Note: Column totals may not sum due to rounding.

In its submission Hunter Water noted that the Australian Government's proposed Carbon Pollution Reduction Scheme (CPRS) is yet to be fully defined. Hunter Water also provided evidence to suggest that, depending on the final design of CPRS, it would be expected to purchase and acquit carbon pollution permits.

Hunter Water argued that, in the face of this uncertainty, IPART should include a mechanism to pass through any costs imposed by the implementation of CPRS.

Following the release by the Australian Government of a White Paper on CPRS,¹⁰⁶ IPART has undertaken its own initial analysis of the implications of the scheme for the entities regulated by IPART. In the case of water utilities, this analysis suggests that the most significant implication of the scheme will be increases in the costs of energy purchases. In the case of Hunter Water, IPART notes that Hunter Water has entered into long-term contracts for the purchase of its energy until late 2012.¹⁰⁷ These contracts will mitigate the risks of escalations in Hunter Water's costs for the majority of the 2009 determination period.

Decision

- 8 IPART's decision is to not incorporate a mechanism to pass through Hunter Water's costs associated with Carbon Pollution Reduction Scheme in prices.

¹⁰⁶ Department of Climate Change, *White Paper, Carbon Pollution Reduction Scheme: Australia's Low Pollution Future*, December 2008.

¹⁰⁷ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 47.

7 Revenue required for capital investment

As Chapter 5 discussed, the revenue required for capital investment comprises two cost blocks: an allowance for a return on assets and an allowance for regulatory depreciation. Together, these allowances make up around 61 per cent of Hunter Water's notional revenue requirement for the 2009 determination period and so have a significant impact on prices. IPART determined a value for each of these allowances by taking four steps:

- ▼ establishing the opening value of Hunter Water's regulatory asset base (RAB) at the start of the 2009 determination period (1 July 2009)
- ▼ calculating the annual value of the RAB over the 2009 determination period by rolling the opening value forward to the end of this period (30 June 2013)
- ▼ deciding on an appropriate rate of return on assets for Hunter Water, and multiplying the annual value of the RAB by this rate (to give the allowance for a return on assets)
- ▼ deciding on the appropriate depreciation method and asset lives for Hunter Water's existing and new assets; then calculating the allowance for regulatory depreciation by dividing the RAB by the weighted average asset lives.

The section below summarises IPART's decisions on the allowances for a return on assets and regulatory depreciation. The subsequent sections explain how IPART reached these decisions by discussing each of the above steps.

7.1 Summary of decisions on the allowances for a return on assets and regulatory depreciation

Decisions

- 9 IPART's decisions are that the allowance for a return on assets is as shown in Table 7.1, and the allowance for regulatory depreciation is as shown in Table 7.2.

Table 7.1 IPART's decision on the allowance for a return on assets (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13	Total
Hunter Water proposed (based on rate of return of 7.5%)	116.3	134.0	152.9	167.4	570.7
IPART decision (based on WACC of 6.5%)	104.1	113.8	125.1	138.0	481.0
Difference	12.2	20.2	27.8	29.4	89.7
Difference (%)	11%	15%	18%	18%	16%

Note: Column totals may not sum due to rounding.

Table 7.2 IPART's decision on the allowance for regulatory depreciation (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13	Total
Hunter Water proposed	21.6	24.3	27.0	29.3	102.1
IPART decision	22.1	23.8	25.8	28.1	99.8
IPART adjustment	-0.3	-0.8	-1.1	-1.1	-3.3
IPART total allowance for depreciation	21.8	23.0	24.7	27.0	96.5
Difference	-0.2	1.3	2.3	2.3	5.6
Difference (%)	1%	-5%	-9%	-8%	-5%

^a The allowance for regulatory depreciation has been adjusted downward for a modelling inconsistency associated with the treatment of recycled water in IPART's pricing model identified late in the price review process.

Note: Column totals may not sum due to rounding.

As the tables show, IPART's decisions on these allowances are lower than Hunter Water proposed. The main reasons are that:

- ▼ IPART applied a lower rate of return in calculating the allowance for a return on assets
- ▼ IPART's decisions on the opening value of the RAB and the annual value of the RAB were lower than Hunter Water assumed in calculating its proposed allowances
- ▼ IPART has adjusted regulatory depreciation downward by \$3.3 million over the price determination period to offset a modelling inconsistency identified late in the price review process.

7.2 Establishing the opening value of the RAB at the start of the 2009 determination period

To establish the opening value of Hunter Water's RAB (ie, as at 1 July 2009), IPART rolled forward the 1 July 2005 RAB to 30 June 2009, using the same approach as it used for the 2005 Determination. This involved reviewing Hunter Water's actual capital expenditure in 2005/06, 2006/07 and 2007/08 and estimated capital expenditure in 2008/09,¹⁰⁸ taking into account:

- ▼ the information Hunter Water provided in its submission on this expenditure
- ▼ Atkins/Cardno's review and recommendations on the prudence of this expenditure
- ▼ any comments in stakeholders' submissions on this expenditure.

IPART added the portion of this past capital expenditure it deemed to be prudent to the 2005 RAB and then made other necessary adjustments.

IPART's considerations and decisions in relation to the past capital expenditure to be added to the RAB and the other necessary adjustments to the RAB are discussed in the sections below.

7.2.1 Hunter Water's submission on past capital expenditure

Hunter Water's submission highlighted that its capital expenditure over the 2005 determination period was 47 per cent more than IPART allowed for in the 2005 Determination (Table 7.3). This is largely because Hunter Water invested in additional projects as a result of government policies announced within that determination period. These projects include Tillegra Dam, the Kooragang Recycled Water Scheme, new pumps at Balickera, and expansion of the capacity of the pipeline for bulk water transfers with the Central Coast.

¹⁰⁸ IPART used Hunter Water's estimated expenditure for 2008/09 because at the time of the review, the actual expenditure for this year was not known. IPART assessed this estimate as part of its review and adjusted it where appropriate. As is usual practice for IPART, it will adjust the RAB as part of the next determination, to reflect any differences between the estimate used in making the final determination and actual expenditure.

Table 7.3 Hunter Water's actual capital expenditure 2005/06 to 2008/09 compared to capital expenditure allowed for in 2005 Determination (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09	Total
Expenditure allowed for in 2005 Determination	86.8	95.5	94.3	87.6	364.1
Actual expenditure ^a	117.2	149.0	101.0	167.1	534.3
Difference	30.4	53.5	6.7	79.5	170.2
Difference %	35%	56%	7%	91%	47%

^a Excludes capital expenditure related for recycled water.

Source: IPART 2005 Hunter Water Determination (inflated to \$2008/09) and Hunter Water Annual Information Return, 2008/09 (IPART inflated to \$2008/09).

Of Hunter Water's total capital expenditure of \$534.3 million over the 2005 determination period, \$236.9 million was related to water supply services; \$240.0 million to sewerage services; \$1.8 million to stormwater drainage services; and \$55.6 million to corporate projects.

In relation to water supply services, IPART's 2005 Determination allowed for \$95.3 million in capital expenditure, and Hunter Water's actual capital expenditure was \$236.9 million.¹⁰⁹ Hunter Water's forecast water-related capital program accounted for \$102.5 million of this expenditure, while additional water-related projects associated with government policies announced after the determination was made accounted for \$134.4 million.¹¹⁰

Key water-related capital projects during the 2005 determination period included:

- ▼ completing Stage 2 of the Grahamstown Dam spillway and embankment, which increased the dam's storage capacity by 50 per cent
- ▼ completing the Gosford/Wyong bulk transfer water main with increased capacity, which provided increased drought security to both regions
- ▼ upgrading pumping capacity at Balickera pumping station near Seaham Weir, which increased the capacity of the station to transfer water from the Weir to Grahamstown Dam from 1,350 to 1,640 megalitres a day
- ▼ upgrading a range of water mains, pumping stations and booster stations to enhance service and quality to customers.

In relation to sewerage services, the 2005 Determination allowed for capital expenditure of \$241.7 million, while Hunter Water's actual capital expenditure was \$240 million. This was due to an underspend of forecast sewerage-related capital programs for 2006/07 and 2007/08.¹¹¹

¹⁰⁹ Excludes allocation of corporate costs.

¹¹⁰ Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

¹¹¹ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, section 6.2.

Key sewerage capital projects for the period included:

- ▼ completing the Warners Bay/Valentine sewerage transport system upgrade, which is expected to reduce overflows and customer complaints
- ▼ constructing the Lochinvar and Millfield and Ellalong sewerage schemes as part of the Priority Sewerage Program
- ▼ upgrading the Belmont sewerage treatment works and the Edgeworth sewerage treatment works to increase their capacity to allow for growth in these catchments
- ▼ upgrading the Morpeth sewerage transportation system to service existing customers and the new Thornton North and Berry Park residential developments
- ▼ upgrading sewerage pumping stations to cater for growth and environmental requirements.¹¹²

In relation to stormwater drainage, the 2005 Determination allowed for \$2.4 million in capital expenditure. Hunter Water's projected actual expenditure is \$1.8 million.

In relation to corporate projects, the 2005 Determination allowed for \$25.0 million. Hunter Water's projected actual expenditure is \$55.6 million – more than twice the amount IPART allowed for. This overspend is largely due to the construction of a new head office and the customer information system replacement project.

Box 7.1 provides some information on one of Hunter Water's major capital projects over the 2005 determination period, the Gosford/Wyong bulk transfer water main.

Box 7.1 Hunter Water's major capital projects over 2005/06 to 2008/09

Gosford/Wyong bulk transfer water main

This main is an important drought security measure for the Hunter and Central Coast regions. It involves almost 20 km of 600mm pipeline through developed suburbs, 140 metres of micro-tunnelling, and multiple connections to the existing water delivery system.

An initial link main to transfer up to 6 ML/day was built in 2004. A new link main, associated pumping station and subsequent augmentation was added in 2007, allowing transfer of up to 33ML/day. The northern part of the scheme, from Rathmines to Morisset, was jointly funded by Hunter Water and the Joint Gosford Wyong Water authority (JWA). JWA managed and funded the southern section of the scheme.

7.2.2 Atkins/Cardno's review of past capital expenditure

IPART engaged Atkins/Cardno to review Hunter Water's past capital expenditure and recommend whether this expenditure was prudent.

¹¹² Ibid, section 6.2.

As part of its review, Atkins/Cardno examined a sample of individual capital projects in detail,¹¹³ including projects delivered over the 2005 period. This enabled it to understand the scope of the projects, the project delivery process, the planned and actual project delivery, the reasons for variance in forecast and outturn costs and the project contribution to outcomes. It also examined Hunter Water's asset management frameworks, processes and plans in relation to industry best practice and its overall capital expenditure programs for water, sewerage, stormwater drainage and corporate.

In relation to the sample of individual projects, Atkins/Cardno found:

- ▼ There was clear justification to support the need for all the projects reviewed, and Hunter Water had made good progress towards ensuring comprehensive business cases are developed for each project to ensure alignment with objectives and priorities.
- ▼ Nine of the 29 projects examined were well-managed (eg, they were delivered to time and budget, and used the most efficient procurement approach).
- ▼ Seven projects were delivered behind schedule. One of these projects, the customer information system replacement project, was delivered two years behind schedule.
- ▼ Four projects were delivered substantially above budget. One of the projects, the Belmont sewerage treatment works, was delivered 60 per cent over budget.
- ▼ For four projects, the project cost estimates (as used in businesses cases) were of concern.
- ▼ For seven projects, the project management or procurement approaches adopted could have been improved.

The review of individual projects provided evidence for Atkins/Cardno's recommendations regarding the opportunities for greater efficiencies in capital planning and procurement, and for catch-up efficiencies through improved cost-estimating, procurement and program management.

In relation to the overall water-related capital expenditure program, Atkins/Cardno concluded that all the expenditure in 2005/06 to 2007/08 was prudent, including initial expenditure on the Tillegra Dam. However, the estimated expenditure for 2008/09 was significantly higher than for earlier years and a number of the projects were still at the tender stage. Atkins/Cardno concluded that Hunter Water is unlikely to be able to spend all the estimated expenditure for 2008/09, and recommended that (for the purpose of establishing the opening value of the RAB), this expenditure be reduced by \$6 million.

¹¹³ Atkins/Cardno examined in detail 29 of Hunter Water's capital projects. This is equivalent to 10 per cent of the capital programs and equates to more than 10 per cent of the total value of Hunter Water's capital program.

Atkins/Cardno also noted that Hunter Water began work on two large capital projects during the 2005 determination period – Tillegra Dam and the Gosford Wyong schemes main link – which were not included in its forecast capital program for that determination. These projects accounted for most of the difference between Hunter Water’s actual expenditure on water and the expenditure incorporated in the 2005 Determination. In addition, Atkins/Cardno noted that there has been some slippage in water growth projects, such as the Tomaree System Upgrade.

In relation to sewerage capital expenditure, Atkins/Cardno noted that all significant items of expenditure were forecast at the time of the 2005 Determination. However, the profile of expenditure differed from that forecast. In particular, Hunter Water spent less than forecast in 2006/07 and 2007/08, and has projected that it will spend significantly more than forecast in 2008/09 to ‘catch up’. Atkins/Cardno found that actual capital expenditure on sewerage services for 2005/06 to 2007/08 was prudent. However, it considered that actual expenditure for 2008/09 will be less than Hunter Water has projected. Therefore it recommended that this expenditure be reduced by \$9 million.¹¹⁴

In relation to stormwater drainage capital expenditure, Atkins/Cardno noted that stormwater was a minor element of Hunter Water’s forecast capital program for the 2005 determination period. It also noted that the level of expenditure was less than forecast, but the profile of expenditure had been in line with that included in the 2005 Determination. Atkins/Cardno was concerned that the lower than forecast level of expenditure could pose risks for the maintenance of assets. However, it concluded that all stormwater capital expenditure for the 2005 period was prudent.

In relation to corporate projects, Atkins/Cardno found that only \$51.7 million of the \$55.5 million Hunter Water spent over the 2005 period was prudent. In particular, it found that \$3.8 million of the expenditure associated with the Head Office project was not prudent. Atkins/Cardno noted Hunter Water’s reasons for this cost overrun were changes in the site conditions, and in scope of the project to meet higher water and energy efficiency requirements. However, it pointed out that in reviewing Hunter Water’s proposed expenditure on this project for the 2005 Determination, an allowance for increased costs due to more stringent energy efficiency requirements had already been made.

7.2.3 Stakeholder submissions

In response to the draft determination, Sydney Water expressed concern that IPART had widened the prudence test in disallowing some of the overspend associated with construction of Hunter Water’s head office. IPART’s decision on this is outlined below.

¹¹⁴ The \$9 million reduction reflects Atkins/Cardno’s analysis of expenditure to date and the level of contracted services for the remaining duration of 2008/09.

7.2.4 IPART's decision on past capital expenditure to be included in the opening value of the RAB

After reviewing Hunter Water's submission and Atkins/Cardno's report, IPART has accepted Atkins/Cardno's recommendation that most of the Hunter Water's past capital expenditure – including the significant projects that were not forecast at the time of the 2005 Determination – was prudent.

IPART has considered Sydney Water's concern that IPART may be widening the prudence test by disallowing \$3.8 million of expenditure associated with Hunter Water's new head office – resulting in a windfall loss to Hunter Water. With regard to the specifics of this project and Hunter Water's expenditures over the 2005 determination period, IPART notes that:

- ▼ While the costs of a significant number of Hunter Water's capital projects exceeded forecasts, Hunter Water provided appropriate explanations to IPART consultants. For example, four of the 29 capital projects examined in detail by Atkins/Cardno were delivered substantially above budget. One of the projects, the Belmont sewerage treatment works, was delivered some 60 per cent over budget. In all instances except for the Head Office project, these expenditures including budget overruns were deemed prudent expenditure.
- ▼ In the case of the Head Office, Atkins/Cardno stated "we were concerned that the outturn cost of the head office accommodation project ran \$16.0m above the forecasts at the 2005 Determination given that the project was already progressed at that time and additional allowances had already been made for scope creep."¹¹⁵ However, of the \$16 million budget overrun, Atkins/Cardno recommended that only \$3.8 million be deemed not prudent.
- ▼ Atkins/Cardno stated that the key reasons provided by Hunter Water for the increase in costs were scope changes to meet higher energy and water efficiency requirements. Yet, in the review of operating expenditure undertaken for the 2005 Determination, allowances had already been made for these more stringent efficiency requirements.¹¹⁶ Therefore, the consultants did not accept that explanation.

From a theoretical perspective, the prudence test is one of two main tests which may be applied when determining whether an asset should be allowed into the regulated asset base (RAB).¹¹⁷ In the issues paper, IPART flagged that for this review it would adopt the prudence test. The prudence test is a foresight test which assesses whether

¹¹⁵ Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, section 15.5

¹¹⁶ Ibid, section 15.3

¹¹⁷ Baumol, W. J., and Sidak, J. G. (2002) "The Pig in the Python: is Lumpy Capacity Investment Used and Useful?" *Energy Law Journal*, vol 23, p 391; Jamison, M.A., *Rate of Return Regulation*, October 2005, pp 11-12; Concha, R. and McKenzie, I., 'OFGEM Proposes New Treatment of Capex Overspend', *NERA Energy Regulation Insights*, Issue No. 21, August 2004, p 2; and PPIAF, World Bank and PURC, *Glossary for the Body of Knowledge on the Regulation of Utility Infrastructure and Services*, 30 June 2005 (Revised 27 August 2007), p 64.

the investment was prudent when it was made. The test seeks to reduce the risks of the utility by crediting:

...decisions that were superior at the time they were made, but which turned out badly through no fault of the decision maker.¹¹⁸

In applying the test, account must also be taken of the incentives for regulated businesses to 'gold plate' infrastructure. As such, incentive regulation needs to assess both the prudence of *how the decision* was made to invest and also the prudence of *how the investment was executed*, having regard to information available at the time.¹¹⁹

In that regard, IPART notes that the decision to invest in a new head office was assessed in the course of the 2005 review and found to be efficient. However, as noted by Atkins/ Cardno the efficient costs at that time included provisions for stringent efficiency standards and Hunter Water has been unable to offer alternative explanations for exceeding the budget.

For the 2009 Determination, IPART also agrees with Atkins/Cardno's views that based on current information, Hunter Water is unlikely to expend capital costs as projected for 2008/09, and that not all the expenditure associated with the head office in 2005/06 was prudent.

As a result, in establishing the opening value of the RAB, IPART incorporated \$515.5 million of past capital expenditure. This is \$18.8 million less than Hunter Water's actual and projected expenditure for the 2005 determination period.

Decision

- 10 IPART's decision is to include the past capital expenditure shown in Table 7.4 in the opening value of Hunter Water's RAB.

¹¹⁸ Baumol, W. J., and Sidak, J. G. op.cit. p 391.

¹¹⁹ The World Bank suggests that application of the prudence test: "...utilizes the information only available at the time of investment or outlay decisions, including expectations about the future. However, the test does assess what managers should have known and should have considered when they made the decision in question." PPIAF, World Bank and PURC, *Glossary for the Body of Knowledge on the Regulation of Utility Infrastructure and Services*, 30 June 2005 (Revised 27 August 2007) p 64. Concha and McKenzie concur suggesting the test should, "...appraise how the company takes the decision to invest and how the company executes the project, in the light of available information and conditions at the time." Concha, R. and McKenzie, I., 'OFGEM Proposes New Treatment of Capex Overspend', *NERA Energy Regulation Insights*, Issue No. 21, August 2004, p 3.

Table 7.4 Decision on past capital expenditure to be included in the RAB (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09
Hunter Water proposed				
Water	26.1	87.0	49.7	74.1
Sewerage	63.0	48.5	45.0	83.5
Stormwater drainage	0.1	0.3	0.8	0.6
Corporate	28.0	13.2	5.5	8.9
Hunter Water total	117.2	149.0	101.0	167.1
Atkins/Cardno recommended				
Water	26.1	87.0	49.7	68.1
Sewerage	63.0	48.5	45.0	74.5
Stormwater drainage	0.1	0.3	0.8	0.6
Corporate	24.2	13.2	5.5	8.9
Atkins/Cardno total	113.4	149.0	101.0	152.1
IPART decision				
Water	26.1	87.0	49.7	68.1
Sewerage	63.0	48.5	45.0	74.5
Stormwater drainage	0.1	0.3	0.8	0.6
Corporate	24.2	13.2	5.5	8.9
IPART total	113.4	149.0	101.0	152.1

Note: Column totals may not sum due to rounding. Minor inconsistencies are associated with differences in the allocation of corporate capital expenditures between Hunter Water and Atkins/Cardno.

Source: Hunter Water submission, January 2009; and Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

7.2.5 Other adjustments to the opening value of the RAB

As noted above, after adding the past capital expenditure it deemed to be prudent to the RAB, IPART calculated the value of any necessary adjustments to the opening value of the RAB. These adjustments are to:

- ▼ deduct any capital contributions made by developers or government over the 2005 determination period (to ensure Hunter Water only earns a return on the assets it funds)
- ▼ deduct regulatory depreciation (as allowed for in the 2005 Determination)
- ▼ deduct the value of any assets Hunter Water disposed of over the 2005 determination period
- ▼ account for the effects of inflation over the 2005 determination period.

Adjustments to account for capital contributions

‘Capital contributions’ refer to the revenue Hunter Water receives from developers in accordance with IPART’s *Determination No 9, 2000, Developer Charges from 1 October 2000*, and from other sources such as NSW and Federal Government grants.

On 17 December 2008, the NSW Government announced its decision to set all Hunter Water developer charges related to water and sewerage services at zero, with the exception of charges related to recycled water schemes and out-of-sequence developments.¹²⁰ Following that decision, Hunter Water provided an updated submission that showed the level of developer contributions it had collected over 2005/06 to 2007/08, and adjusted the level it expected to collect in 2008/09.

IPART assessed this information and made a decision to deduct from the opening value of the RAB, amounts to account for capital contributions that are in line with Hunter Water’s reported information.

Decision

- 11 IPART’s decision is to deduct the amounts shown in Table 7.5 and Table 7.6 from the opening value of the RAB to account for past capital contributions.

Table 7.5 Decision on level of past capital contributions from developers to be deducted from the RAB (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09
Water	3.1	1.2	1.3	-0.8
Sewerage	9.1	6.3	6.2	-0.7
Stormwater drainage	0.0	0.0	0.0	0.0
Total	12.1	7.4	7.5	-1.5

Note: Column totals may not sum due to rounding.

Table 7.6 Decision on level of past capital contributions from other sources to be deducted from the RAB (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09
Water grants	1.3	13.4	5.1	0.0
Sewerage grants	8.9	9.7	12.9	9.0
Stormwater drainage grants	0.0	0.0	0.0	0.0
Total	10.2	23.1	18.0	9.0

Note: Column totals may not sum due to rounding.

¹²⁰ A copy of the Government’s decision on developer charges is included in Appendix C.

Adjustments to account for the disposal of assets, regulatory depreciation and inflation

The RAB needed to be adjusted to deduct the value of any assets Hunter Water disposed of over the 2005 determination period. However, Hunter Water did not report any asset disposals over this period.

The RAB was also adjusted each year to account for regulatory depreciation.¹²¹ In line with previous practice, IPART made a decision to deduct the same allowance for regulatory depreciation it allowed for in the 2005 Determination.

Decision

- 12 IPART's decision is to deduct the amounts shown in Table 7.7 to account for regulatory depreciation.

Table 7.7 Past regulatory depreciation to be deducted from RAB (\$ million 2008/09)

	2005/06	2006/07	2007/08	2008/09
Water	8.8	9.0	9.2	9.4
Sewerage	8.3	8.8	9.3	9.7
Stormwater drainage	0.5	0.5	0.5	0.5
Corporate	0.0	0.0	0.0	0.0
Total	17.5	18.2	19.0	19.7

Note: Column totals may not sum due to rounding.

7.3 Calculating the annual value of the RAB over the 2009 determination period

To calculate the annual value of the RAB over the 2009 determination period, IPART rolled forward the opening RAB to the end of this period (30 June 2013). To do this, IPART reviewed Hunter Water's forecast capital expenditure for each year of the period by considering:

- ▼ Hunter Water's submission on its forecast capital expenditure
- ▼ Atkins/Cardno's review of the efficiency and prudence of this forecast expenditure
- ▼ stakeholder comments on Hunter Water's forecast capital expenditure.

For each year, IPART added the forecast expenditure that it deemed to be efficient and prudent to the closing value of the RAB for the previous year. In addition, as discussed in Chapters 4 and 5, IPART calculated the annual balance for the Deferred Tillegra Dam Revenue. It added this asset to the RAB at the end of the 2009 determination period (but did not amortise the asset during the period). Finally, it made any other necessary adjustments to the annual value of the RAB.

¹²¹ An allowance is made for this within the revenue required for capital investment. This is discussed further in section 7.5.

Except for the addition of the Deferred Tillegra Dam Revenue, IPART's methodology for calculating the annual value the RAB is the same as it used in making the 2005 Determination.

IPART's considerations and decisions in relation to calculating the annual value of the RAB are discussed in the sections below.

7.3.1 Hunter Water's submission on forecast capital expenditure

Hunter Water proposed a \$977.9 million capital expenditure program over the 2009 determination period. Most of this expenditure is for water-related projects (31 per cent for Tillegra Dam, and another 23 per cent for other water projects) and sewerage projects (40 per cent). The remainder is for stormwater drainage projects (less than 1 per cent) and corporate projects (6 per cent).

In its submission, Hunter Water noted that its forecast capital expenditure program is the largest in the corporation's history. It indicated that the key drivers of this program are:

- ▼ growth – to service population growth and new development
- ▼ regulatory and statutory requirements – to eliminate areas where high risk of non-compliance exists
- ▼ business decisions – justified on the grounds of expected reductions in operating expenditure
- ▼ government programs – to meet specific government programs which may override other commercial objectives
- ▼ government directives – where Hunter Water receives a specific directive from government.

At the public hearing, Hunter Water also put the view that it had “probably pushed the pendulum too far [*in terms of cost reductions*] and that we are seeing some unwinding [*in performance and asset condition*].” Specifically in the area of sewer performance, Hunter Water stated that it was “sailing close to the wind” and that “there was a perfect storm” with 17 of its treatment plants reaching capacity and requiring upgrading.¹²²

¹²² Statements of Mr Kevin Young Managing Director, transcript of IPART public hearing, 12 December 2008.

Hunter Water submitted that the key objectives of its capital expenditure program are to:

- ▼ secure the water supply for the future of the Hunter region
- ▼ upgrade sewerage treatment plants to cater for growth and more stringent sewer system license requirements
- ▼ extend networks to cater for growth
- ▼ maintain levels of service to existing customers.

In relation to water capital expenditure, Hunter Water proposed a program of approximately \$528.1 million¹²³ (\$2008/09) over the next four years. Of this, 30 per cent is related to water distribution, 64 per cent to water resources (including the Tillegra Dam), and 6 per cent to water treatment. The major water-related projects are:

- ▼ constructing Tillegra Dam – \$303.1 million
- ▼ upgrading the Tomaree/Tilligerry water supply and water treatment plant – \$27.1 million
- ▼ replacing the Chichester trunk gravity main from Tarro to Shortland – \$17.9 million
- ▼ replacement of the Beresfield to Stoney Pinch water main – \$9.7 million
- ▼ replacement of a trunk main across Ash Island – \$8.6 million
- ▼ upgrading Grahamstown water treatment plant, including the Tomago water main and pre-treatment – \$9.7 million.

In relation to sewerage capital expenditure, Hunter Water proposed a program of approximately \$389 million¹²⁴ (\$2008/09) over the next four years for sewerage treatment, sewerage transport and the Priority Sewerage Program and Clarence Town Sewer scheme. The main projects are:

- ▼ upgrading sewerage treatment plants to cater for growth and continued compliance with regulatory requirements. This includes expenditure of \$176 million on major projects for inland and coastal sewerage treatment plants
- ▼ upgrading the sewerage transport system to reduce wet weather customer and environmental impacts and cater for population growth. Specifically, upgrades to:
 - the Newcastle system (Stage 1) – \$30.3 million
 - the Morpeth system (Stage 2) – \$14.5 million
 - the Aberglasslyn system (Stages 1-3) – \$11.4 million
 - the Windale/Gateshead system (Stages 1-2) – \$9.9 million

¹²³ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 64 - excludes corporate capital expenditure allocation.

¹²⁴ Ibid, p 64.

- ▼ implementing the Priority Sewerage Program/Country Towns Water and Sewer Program to provide sewerage services to the unsewered villages of Millfield and Ellalong. Clarence Town is also to receive sewerage services – \$16 million
- ▼ renewing/replacing sewerage transport and treatment assets – \$38 million.

For stormwater drainage, Hunter Water proposed capital expenditure of approximately \$3.2 million (\$2008/09) over the next four years. This expenditure is for the assessment, rehabilitation and maintenance of stormwater channels within the Hunter region.¹²⁵

For corporate projects, Hunter Water proposed capital expenditure of approximately \$57.5 million over the next four years. Of this, \$20.7 million is to be spent on major Information and Communication Technology (ICT) projects, \$17.9 million on high voltage electrical upgrade projects, and \$5.1 million on metering and meter replacement projects.

Box 7.2 discusses some of these proposed capital projects in more detail.

Box 7.2 Major capital projects proposed for 2009/10 to 2012/13

Tomaree/Tilligerry water supply and water treatment plant upgrade

This project involves the augmentation of the Tomaree and Tilligerry water supply system to meet increasing demand from the area. The project includes a new 15 ML/d treatment works at Lemon Tree Passage to treat water from the Tomago Sandbeds for supply to Tilligerry and the construction of a pipeline to transfer some of this supply to Tomaree. In addition, there will be a new 12 ML/d treatment works at Anna Bay to treat water from the Sandbeds and supply water directly to Tomaree.

Newcastle sewerage system upgrade

The aim of this group of projects is to reduce the impact of wet weather overflows of sewage on the environment in the Newcastle (Burwood Beach) catchment. To achieve this Hunter Water is planning works in a number of stages. Stage 1 of this project involves the installation of a 'backbone' to the wet weather system including a network of wet weather pumps and rising mains to relieve the gravity network. Stage 2 works of this project are aimed at resolving localised wet weather overflow problems in the catchment.

Table 7.8 and Figure 7.1 below compare Hunter Water's actual capital expenditure over the 2005 determination period with its forecast capital expenditure for the 2009 period. Both show that Hunter Water has forecast high levels of capital expenditure for the whole 2009 determination period, and particularly in the first three years. In its presentation at the public hearing, Hunter Water argued that comparable water industry agencies were forecasting commensurately high expenditure and that its

¹²⁵ Hunter Water manages major stormwater assets only in the local government areas of Cessnock, Lake Macquarie and Newcastle.

forecast capital program was an appropriate response to the unprecedented challenges of drought security and climate change.

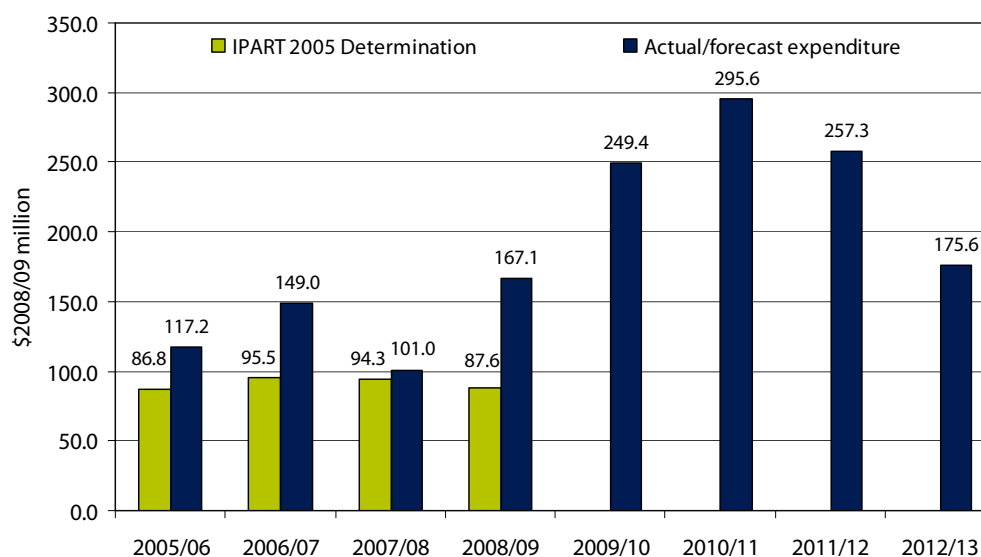
Table 7.8 Actual and forecast capital expenditure 2005/06 to 2012/13 (\$million 2008/09)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2005 det. period	2009 det. period
Water	26.1	87.0	49.7	74.1	96.8	174.3	152.6	104.4	236.9	528.1
Sewerage	63.0	48.5	45.0	83.5	137.2	106.2	89.1	56.6	240.0	389.1
Stormwater drainage	0.1	0.3	0.8	0.6	1.1	0.5	1.1	0.5	1.8	3.2
Corporate	28.0	13.2	5.5	8.9	14.3	14.6	14.5	14.1	55.6	57.5
Total	117.2	149.0	101.0	167.1	249.4	295.6	257.3	175.6	534.3	977.9
% variation on 2005 Det.	135.1%	156.0%	107.0%	190.8%						

Note: Column totals may not sum due to rounding.

Data source: Hunter Water Annual Information Return, 2008/09 and IPART modelling.

Figure 7.1 Actual and forecast capital expenditure compared to capital expenditure allowed for under 2005 Determination (\$million 2008/09)



Data source: Hunter Water Annual Information Return, 2008/09 and IPART modelling.

7.3.2 Atkins/Cardno's review of forecast capital expenditure

To review the efficiency and prudence of Hunter Water's forecast capital expenditure program, Atkins/Cardno investigated 29 of Hunter Water's capital projects.¹²⁶ This represents more than 10 per cent of the total forecast program. It also reviewed the forecast expenditure on the Tillegra Dam project, and the forecast costs to be avoided as a result of water recycling schemes. In addition, it reviewed Hunter Water's asset management and capital expenditure and delivery processes, and assessed their efficiency by considering the concepts of continuing and catch-up efficiency.¹²⁷

Atkins/Cardno's findings and recommendations are summarised below.

Overall findings on forecast capital expenditure program

Atkins/Cardno concluded that most, but not all, of Hunter Water's forecast capital program was efficient and prudent. It found that there was some scope for Hunter Water to realise capital efficiencies. In particular, it found that Hunter Water should be able to achieve a continuing efficiency gain of 0.5 per cent per annum (based on efficiency gains occurring in 'frontier' companies), plus 'catch-up' efficiency gains (relative to comparative best practice frontier companies) in the areas of cost-estimating, procurement and program management. It recommended reducing the capital program by between 1 and 4.5 per cent per year to reflect the potential impact of catch-up efficiency gains in these three areas.

In addition, Atkins/Cardno had concerns about the timing of the forecast capital program. Specifically, it was concerned about the high level of forecast expenditure in the first years of the program, and considered that a more efficient capital program would be achieved through more even expenditure over the four-year period. As a result, it recommended adjustments to the timing of approximately 10 per cent of Hunter Water's capital program to reflect the achievability of the program, having regard to the efficiency of managing the significant increases in expenditure and uncertainties regarding the timing of growth-related projects.

Findings on the water, sewerage and stormwater drainage services capital programs

In relation to the forecast water capital program, Atkins/Cardno found that all three of the trunk main projects proposed by Hunter Water should be implemented within the 2009 determination period. These include the Tomago Shortlands to Ash Island scheme, the Tarro to Stonypitch and Beresford pump station scheme, and the Tarro to Shortlands trunk main replacement. However, it considered that a more even capital expenditure program would be more efficient.

¹²⁶ The outcomes of this review are included as Appendix A3 of Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

¹²⁷ 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.

Atkins/Cardno also observed that the water capital program includes a very significant increase in expenditure to maintain standards and increase business efficiency. While it supported this expenditure, it considered that there would be some slippage because of the magnitude of the effort. This program also includes more growth-related projects than the 2005 capital program. Atkins/Cardno noted that the rate of growth is likely to be affected by the economic climate, but that this was uncertain. It recommended some reduction and rephasing of the water capital program which is driven by growth.

In relation to the forecast sewerage capital program, Atkins/Cardno noted that this program is dominated by projects driven by maintaining standards and growth. Upgrades to specific sewerage transport schemes account for most of the projects aimed at maintaining standards, and Atkins/Cardno found that these projects had been subject to rigorous analysis and should be undertaken. Major upgrades to sewerage treatment works account for around half the growth-related projects. Atkins/Cardno was concerned about the front-loading of the sewerage capital program. Overall, it recommended re-profiling and reducing the proposed sewerage capital program.

In relation to the stormwater drainage program, Atkins/Cardno noted some shortcomings in the documentation supporting the forecast expenditure. However, it found that the investment was required and made small adjustments to reflect efficiency gains.

Findings on forecast expenditure on Tillegra Dam

In light of its section 16A direction, IPART asked Atkins/Cardno to specifically review the efficiency of the forecast capital expenditure on Tillegra Dam. Atkins/Cardno noted that its review was limited because the project was still at the conceptual design stage. It also noted that the implementation and final scope of the project was dependent on it receiving environmental approval. Further, it pointed out that the necessary land purchases were not completed at the time of its review, that the project requires a graveyard to be relocated, and that public opposition to the project continues.

Atkins/Cardno concluded that Hunter Water's timetable for the project was optimistic and represents the earliest likely time for construction. It recommended that the capital expenditure profile be rephased as outlined in Table 7.9 below.¹²⁸

In relation to the estimated costs of the Tillegra Dam, Atkins/Cardno noted that while Hunter Water's estimates have been prepared by the Department of Commerce, given the nature of the work and the geotechnical issues, the project costs are inevitably uncertain. Atkins/Cardno expressed concern about the level of expenditure on roads for the project (\$95.7 million or 23 per cent of total expenditure)

¹²⁸ As noted in Chapter 6, Atkins/Cardno also recommended the operating costs be deferred because, in its view, the dam is unlikely to be operational by 2012/13.

and questioned whether this is efficient. However, it did not adjust these costs. Atkins/Cardno did apply 'catch-up' efficiency and 'continuing' efficiency targets to the project, but these were lower than the targets applied to other water capital projects.

Table 7.9 Atkins/Cardno's recommended timing adjustments and efficiency targets for forecast Tillegra Dam capital expenditure (\$million 2008/09)

Tillegra Dam	2009/10	2010/11	2011/12	2012/13	Total
Hunter Water proposal	25.1	101.2	109.6	67.1	303.1
Adjustment to timing	0	-75.9	-6.3	31.9	-50.3
Efficiency targets	1%	2%	3%	4%	
Recommended expenditure	24.8	24.8	100.2	95.1	244.9

Note: Column totals may not sum due to rounding.

Source: Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

Findings on capital costs avoided as a result of recycling schemes

Hunter Water's submission identified that capital costs could be deferred as a result of the Kooragang Island Recycled Water Scheme being constructed. The scheme means that Hunter Water could delay its planned upgrade of the Grahamstown treatment works and associated trunk distribution enhancements by two years.¹²⁹ In its submission, Hunter Water included adjustments to its proposed capital costs to include these avoided costs.¹³⁰ This is consistent with IPART's recycled water pricing guidelines.

Atkins/Cardno reviewed Hunter Water's estimated of avoided costs and agreed with Hunter Water's assessment of the avoided costs of this scheme.¹³¹

In relation to Hunter Water's other water recycling schemes (Gilleston Heights, Thornton North, and Coorabong North) Atkins/Cardno found that the potential avoided and deferred operating and capital costs were not material.¹³²

Asset management, capital expenditure and delivery processes

Atkins/Cardno found that Hunter Water has developed and is applying best practice asset management processes to derive medium term investment programs. That said, Atkins/Cardno concluded that there was some scope for Hunter Water to further enhance its asset management, capital planning and delivery processes to reflect contemporary asset management methods and systems. These findings

¹²⁹ Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, p 171.

¹³⁰ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 83.

¹³¹ Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, p 171.

¹³² Ibid, p 172.

supported Atkins/Cardno's view of the scope for realising capital efficiencies in the capital program.

Overall recommendations

As Table 7.10 shows, Atkins/Cardno recommended a total reduction to Hunter Water's forecast capital expenditure program of \$139.0 million (or 14.2 per cent). This reduction comprises \$108.7 million (or 11.1 per cent) for rephasing and corrections to inconsistencies in Hunter Water's reporting, and \$30.3 million (3.5 per cent) for identified efficiency targets.

Table 7.10 Atkins/Cardno recommended capital expenditure for 2009 determination period (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13	Total
Hunter Water forecast capital expenditure					
Water (excluding Tillegra Dam)	71.7	73.1	43.0	37.3	225.1
Tillegra Dam	25.1	101.2	109.6	67.1	303.1
Sewer	137.2	106.2	89.1	56.6	389.1
Stormwater drainage	1.1	0.5	1.1	0.5	3.2
Corporate	14.3	14.6	14.5	14.1	57.5
Total	249.4	295.6	257.3	175.6	977.9
Atkins/Cardno forecast capital expenditure after rephasing adjustments					
Water (excluding Tillegra Dam)	46.4	51.4	51.4	46.4	195.6
Tillegra Dam	25.1	25.3	103.3	99.0	252.7
Sewer	108.5	88.9	83.1	83.1	363.6
Stormwater drainage	0.8	0.8	0.8	0.8	3.3
Corporate	14.1	14.1	13.2	12.7	54.2
Total	194.9	180.5	251.9	242.1	869.3
Atkins/Cardno recommended capital expenditure after rephasing and efficiency adjustments					
Water (excluding Tillegra Dam)	45.7	49.8	49.1	43.8	188.4
Tillegra Dam	24.8	24.8	100.2	95.1	244.9
Sewer	106.8	86.0	79.2	78.2	350.3
Stormwater drainage	0.8	0.8	0.8	0.8	3.2
Corporate	13.9	13.7	12.7	12.1	52.4
Total	192.1	175.0	242.1	229.9	839.1
Atkins/Cardno recommended rephasing reduction				108.7	-11.1%
Atkins/Cardno recommended efficiency reduction				30.3	-3.1%
Atkins/Cardno recommended total reduction				139.0	-14.2%

Note: Column totals may not sum due to rounding.

Data source: Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009.

7.3.3 Stakeholder comments

Following the release of the issues paper and the draft determination, IPART received a large number of submissions questioning the need to build Tillegra Dam. The majority of submissions objected to the dam on economic grounds submitting that they do not want to pay for an unnecessary dam and be subject to the associated price impacts. These submissions are discussed in Chapter 4.

The NSW Department of Environment and Climate Change's submission in response to the issues paper queried whether the costs of modifying structures located downstream of the dam site, and which are required to enable environmental flows to reach the Hunter estuary, are included in Hunter Water's costing of Tillegra Dam.¹³³ Hunter Water responded to this submission with a supplementary submission in which it indicated that such environmental mitigation measures are included in the total project costs for Tillegra Dam.¹³⁴

Following the release of the draft determination, the Total Environment Centre (TEC) sought clarification about whether Hunter Water's capital program included projects to reduce overflows at Dora Creek and the Swansea area.¹³⁵ TEC also questioned why investments to avoid or reduce the disposal of biosolids to the ocean from the Burwood Beach treatment plant had not been included by Hunter Water in its capital program for the 2009 determination period.¹³⁶

In response to the draft determination, both Sydney Water and the Public Interest Advocacy Centre (PIAC) raised concerns about the extent to which Atkins/Cardno's recommendations were informed by the NSW Department of Planning forecasts. PIAC's submission stated that in 2008, the NSW Department of Planning released revised population projections. These projections have the effect of reducing the expected population of the Newcastle region at 2031 by some 15 per cent (when compared to the forecasts underpinning the 2006 *Lower Hunter Regional Strategy*).¹³⁷ However, Sydney Water considers that there is no case to recommend deferral of Hunter Water's growth related investments if Hunter Water's growth forecasts are consistent with the NSW Department of Planning's forecasts.¹³⁸

7.3.4 IPART's decision on forecast capital expenditure to be incorporated when rolling forward the RAB

IPART accepts the findings of Atkins/Cardno's review and has decided to adjust Hunter Water's forecast capital expenditure in line with Atkins/Cardno's recommendations, including the recommended rephrasing of the program and efficiency savings.

¹³³ Department of Energy and Climate Change submission to IPART Issues Paper, 27 October 2008.

¹³⁴ Hunter Water Corporation supplementary submission to IPART, 27 November 2008.

¹³⁵ Communication between the IPART Secretariat and Total Environment Centre, meeting on 27 May 2009.

¹³⁶ Ibid.

¹³⁷ PIAC submission to IPART, May 2008, p 5.

¹³⁸ Sydney Water also considered that there should be consistency between IPART's conclusions on future capital expenditures and forecast metered sales. *Sydney Water, Response to prices for Hunter Water Corporation – Draft Determination and Report*, May 2009, p 5.

With regard to TEC's questions, IPART sought further information and advice from Hunter Water and the Department of Environment and Climate Change. Based on that advice, IPART responded to TEC in writing that Hunter Water's forward capital program does include initiatives to reduce sewerage overflows in the Dora Creek and Swansea areas and for the completion of Stage 2 of the upgrade of the Burwood Beach treatment plants. The Stage 2 upgrade does not address the disposal of secondary-treated biosolids to the environment. IPART understands that, as at May 2009, Hunter Water is in the process of undertaking a Health Risk Assessment which investigates the risks associated with current practices for the discharge of effluent and treated biosolids to the ocean. Further, the requirements of the Department of Environment and Climate Change and other regulators for Stage 3 have not yet been finalised and will be informed by the results of the Health Risk Assessment.¹³⁹

With regard to the 2008 revision of population forecasts, IPART notes that the Lower Hunter Regional Strategy (2006) was recently reviewed by the NSW Department of Planning. The *2009 Regional Strategy Update Report* states:

Although it is difficult to form conclusions after only two years of data calculated over the life of the 25 year life of the regional strategy it shows that the population projection of 160,000 additional people is nearly on target.¹⁴⁰

With regard to Sydney Water's concerns, IPART notes that when assessing the efficiency of all future investment, including growth related investment, IPART must consider the drivers of investment (or the need for that investment) and also consider the efficiency with which the investments will be delivered (including its achievability).¹⁴¹ In that regard, IPART notes the reservations expressed by Atkins/Cardno that the capital program was unlikely to be achieved and the consultants' recommendation that for reasons of efficiency, some investments should be deferred to the next period (ie, rephased by four or less years). IPART's response to Sydney Water's concerns regarding sales forecasting and the NSW Department of Planning projections is outlined in Chapter 8.

Even with these reductions, Hunter Water's forecast capital program remains substantially larger than its historical capital expenditure. In each year of the program, forecast capital expenditure will exceed the maximum realised annual capital expenditure of the previous period. In that context, IPART notes the Atkins/Cardno finding that Hunter Water has implemented or is implementing a number of significant initiatives to better manage its capital program delivery. These initiatives include a 'gateway' process for project promotion and prioritisation, contractor panels for procurement of network projects and an alliance for procurement of sewerage treatment work construction.

¹³⁹ Communication between the IPART Secretariat and Total Environment Centre, letter dated 10 June 2009.

¹⁴⁰ NSW Department of Planning, *New South Wales Regional Strategy Update Report*, 2009, p 2.

¹⁴¹ Sydney Water, *Response to prices for Hunter Water Corporation – Draft Determination and Report*, May 2009.

Atkins/Cardno noted that its assessment of the efficient costs of Tillegra Dam was undertaken at the conceptual design stage, prior to environmental approval and other decisions. As such, there is some uncertainty and Atkins/Cardno recommends that IPART undertakes a mid-term review of the costs.¹⁴² However, IPART has not accepted this recommendation. Rather, IPART's decision is to rely on the established practice of reviewing past expenditure as input to the calculation of the rolled forward RAB at the next determination.

Decision

- 13 IPART's decision is to incorporate the forecast capital expenditure shown in Table 7.11 when rolling forward Hunter Water's RAB to the end of the 2009 determination period.

Table 7.11 IPART's decision on forecast capital expenditure to be incorporated with rolling forward the RAB (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13	Total
Hunter Water proposed					
Water	96.8	174.3	152.6	104.4	528.1
Sewerage	137.2	106.2	89.1	56.6	389.1
Stormwater drainage	1.1	0.5	1.1	0.5	3.2
Corporate	14.3	14.6	14.5	14.1	57.5
Hunter Water total	249.4	295.6	257.3	175.6	977.9
Atkins/Cardno recommended					
Water	70.5	74.6	149.3	138.8	433.3
Sewerage	106.8	86.0	79.2	78.2	350.3
Stormwater drainage	0.8	0.8	0.8	0.8	3.2
Corporate	13.9	13.7	12.7	12.1	52.4
Atkins/Cardno total	192.1	175.0	242.1	229.9	839.1
IPART's decision					
Water	70.5	74.6	149.3	138.8	433.3
Sewerage	106.8	86.0	79.2	78.2	350.3
Stormwater drainage	0.8	0.8	0.8	0.8	3.2
Corporate	13.9	13.7	12.7	12.1	52.4
IPART Total	192.1	175.0	242.1	229.9	839.1

Note: Column totals may not sum due to rounding.

Source: Hunter Water submission, January 2009; Hunter Water Annual Information Return, 2008/09; Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009 and IPART modelling.

¹⁴² Atkins/Cardno, *Review of Hunter Water Operating and Capital Expenditure – Final Report*, April 2009, pp 142-143.

7.3.5 Other adjustments required when calculating the annual value of the RAB

As it did when establishing the opening value of the RAB, IPART also calculated the value of any necessary adjustments to the annual value of the RAB over the 2009 determination period. These adjustments are to account for forecast capital contributions from developers or government, forecast asset disposals, forecast regulatory depreciation and forecast inflation over the 2009 determination period.

Adjustments to account for capital contributions

As noted above, the NSW Government has decided that from 17 December 2008, all Hunter Water's developer charges related to water and sewerage services are set at zero, with the exception of recycled water schemes and out-of-sequence developments.¹⁴³ As a result, Hunter Water submitted that it expects to receive no capital contributions from developers related to water and sewerage services from 2009/10 onwards. In relation to capital contributions from other sources, Hunter Water submitted that it expects to receive a contribution from the NSW Country Towns Water Supply and Sewer Program to assist in the sewerage of Clarence Town.

IPART's decision on the adjustments to the RAB to account for capital contributions is in line with the information Hunter Water provided in its submission.

Decision

- 14 IPART's decision is to deduct the amounts shown in Table 7.12 and Table 7.13 from the value of the RAB to account for capital contributions.

Table 7.12 Decision on level of capital contributions from developers to be deducted when rolling forward the RAB (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Water	0.0	0.0	0.0	0.0
Sewerage	0.0	0.0	0.0	0.0
Stormwater drainage	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0

Note: Column totals may not sum due to rounding.

¹⁴³ A copy of the Government's decision on developer charges is included in Appendix C.

Table 7.13 Decision on level of capital contributions from other sources to be deducted when rolling forward the RAB (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Water grants	0.0	0.0	0.0	0.0
Sewerage grants	5.2	5.2	5.2	5.2
Stormwater drainage grants	0.0	0.0	0.0	0.0
Total	5.2	5.2	5.2	5.2

Note: Column totals may not sum due to rounding.

Adjustments to account for the disposal of assets, regulatory depreciation and inflation

IPART did not make any adjustment to account for asset disposals, as Hunter Water submitted that it did not expect to dispose of any assets over the 2009 determination period.

To account for regulatory depreciation, IPART deducted an amount equivalent to its decision on the allowance for regulatory depreciation.

Decision

- 15 IPART's decision is to deduct the amounts shown in Table 7.14 to account for regulatory depreciation.

Table 7.14 Decision on level of regulatory depreciation to be deducted when rolling forward the RAB (\$ million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Water	11.5	12.2	13.3	14.8
Sewerage	10.8	11.7	12.5	13.2
Stormwater drainage	0.4	0.5	0.5	0.5
Corporate	0.1	0.2	0.3	0.5
Total	22.8	24.6	26.6	28.9

Note: Column totals may not sum due to rounding.

Please note that IPART made a decision to continue to use the CPI to adjust for inflation, rather than a cost index approach as Hunter Water proposed. This decision and IPART's considerations are discussed in Appendix I.

7.3.6 Resulting annual value for RAB over the 2009 determination period

As a result of incorporating the forecast capital expenditure and making the adjustments discussed above, IPART calculated the annual value of Hunter Water's RAB as shown in Table 7.15 below.

Table 7.15 Decision on annual value of the RAB over the 2009 determination period (\$million 2008/09)

	2009/10	2010/11	2011/12	2012/13
Water	865.2	927.6	1,063.6	1,187.7
Sewerage	812.8	881.9	943.4	1,003.1
Stormwater drainage	31.5	31.9	32.2	32.5
Corporate	12.5	25.5	39.2	51.3
Subtotal	1,722.1	1,866.8	2,078.4	2,274.5
Deferred Tillegra Dam Revenue				34.1
Total	1,722.1	1,866.8	2,078.4	2,308.6

Note: Column totals may not sum due to rounding.

7.4 Deciding on an appropriate rate of return

Once it calculated the annual value of Hunter Water's RAB over the determination period, IPART decided on an appropriate rate of return on this asset base for Hunter Water. It then multiplied the rate of return by the value of the RAB in each year of the determination period to calculate the allowance for a return on assets.

There are several approaches for deciding on an appropriate rate of return. As for previous reviews, IPART used the weighted average cost of capital (WACC) approach. It developed a range for the real pre-tax WACC for a benchmark Australian water utility, and then made a judgement on the most appropriate rate of return for Hunter Water within this range.

7.4.1 Hunter Water's submissions

Hunter Water's original submission proposed a real pre-tax WACC of 7.5 per cent, subject to revision of market-based parameters to reflect prevailing financial market conditions at the time of the final determination. This proposal is based on the WACC determined by IPART for Sydney Water in its 2008 price determination.

Hunter Water's May submission to the draft determination provided detailed comments on IPART's approach to estimating the WACC point estimate and the debt margin.

7.4.2 IPART's analysis and decision

IPART considers that an appropriate WACC for Hunter Water is in the range of 6.0 per cent to 7.8 per cent. It calculated a range for the WACC using the parameters shown in Table 7.16 below. These parameters were based on market conditions averaged for the 20 days to 11 May 2009, where relevant.

As shown in Table 7.16, IPART adopted a WACC of 7.0 in the draft determination. For the final determination, IPART's decision is to adopt a WACC of 6.5 per cent which contains a 30 basis points reduction below the midpoint of 6.8 per cent. This decision aims to achieve consistency with other recent determinations and to strike a balance between the interests of Hunter Water and its customers.

IPART considers that its decision to deviate from the selection of the WACC midpoint estimate represents a 'special case'. This decision recognises the very large resulting price increase of 37.3 per cent (for a typical residential customer consuming 200kL per annum) should a WACC of 6.8 per cent have been applied. IPART's decision to apply a 30 basis point reduction was strongly motivated by stakeholder submissions such as that received from the Minister for Water which urged IPART to limit the increases to those:

...absolutely necessary to ensure the ongoing supply of safe, healthy and reliable water and sewerage for the region.¹⁴⁴

Table 7.16 Draft and final decisions on the rate of return and the parameters IPART used to calculate the WACC

WACC Parameters	Draft decision	Final decision
Nominal risk free rate	4.2% ^a	4.6% ^b
Real risk free rate	2.8% ^a	NA ^c
Inflation adjustment	1.3% ^a	2.5% ^b
Market risk premium	5.5% - 6.5%	5.5% - 6.5%
Debt margin	1.2% - 3.6% ^a	2.7% - 3.5% ^b
Debt to total assets	60%	60%
Dividend imputation factor (gamma)	0.5 - 0.3	0.5 - 0.3
Tax rate	30%	30%
Equity beta	0.8 - 1.0	0.8 - 1.0
Cost of equity (nominal post-tax)	8.6% - 10.7%	9.0% - 11.1%
Cost of debt (nominal pre-tax)	5.4% - 7.7%	7.3% - 8.1%
WACC range (real pre-tax)	5.9% - 8.6%	6.0% to 7.8%
WACC (real pre-tax) midpoint	7.2%	6.8%
WACC (real pre-tax) point estimate	7.0%	6.5%

^a Reflects market data averaged for the 20 days to 14 January 2009.

^b Reflects market data averaged for the 20 days to 11 May 2009.

^c The real risk free rate is unnecessary when using swap market data to derive the inflation adjustment.

Hunter Water has expressed concern with its exposure to interest rate risk due to its significant increase in debt for the forward capital works program. In its submission Hunter Water stated:

It should be noted that in order to achieve this investment grade rating, there is very little scope for unfavourable movements in key assumptions. This is particularly the case for the financial years 2011/12 and 2012/13.

¹⁴⁴ Phillip Costa MP, Minister for Water, Letter to IPART, 21 May 2009.

Of particular concern is Hunter Water's exposure to interest rate risk. Future spending on critical infrastructure will result in a significant increase in debt. This, in turn, will result in a substantial increase in interest costs over future price path periods.¹⁴⁵

IPART's approach of setting the WACC for a benchmark Australian water utility allows Hunter Water to adopt risk and financing strategies that suit the business. IPART considers that a WACC of 6.5 per cent provides Hunter Water with an allowance for the full efficient costs of its operations. The point estimate selected is well within the range of values that could be considered to provide an appropriate return on capital. IPART's analysis of Hunter Water's financial position in Chapter 11 finds that the prices set by IPART will enable Hunter Water to achieve an overall credit rating of at least BBB+ (above investment grade) in each year of the determination period.¹⁴⁶

This determination sets a WACC that provides Hunter Water with an adequate allowance for the cost of capital consistent with current market rates. While rates are likely to change over the determination period, Hunter Water is free to hedge against any movements in rates through a variety of instruments, such as raising debt at the time of the decision or entering into swap agreements. It is IPART's view that Hunter Water has the capacity to remove its exposure to interest rate risk. This is a decision for Hunter Water and its shareholder.

A detailed discussion of IPART's considerations in relation to the appropriate rate of return is provided in Appendix G.

Decision

- 16 IPART's decision is to apply a real pre-tax WACC of 6.5 per cent for the purposes of calculating the allowance for a return on assets.

7.5 Deciding on the depreciation method and asset lives

To calculate the allowance for regulatory depreciation, IPART used the straight-line depreciation method. Under this method, the assets in the RAB are depreciated by an equal value in each year of their economic life, so that their real written-down value represents a straight line over time, from the initial value of the asset to zero at the end of the assets life. IPART considers that this method is superior to alternatives in terms of simplicity, consistency and transparency.

¹⁴⁵ Hunter Water Corporation submission to IPART Draft Report, 22 May 2009, p 25.

¹⁴⁶ IPART notes that it is common for a firm to seek additional equity funding (including dividend reinvestment) when undertaking substantial capital investment. It is imperative that Hunter Water is supported financially by its shareholder as it undertakes extensive capital works (at the direction of its shareholder) to ensure that drinking water supplies are safeguarded. However, the exact level of dividend, and therefore Hunter Water's financial structure, is a matter for negotiation between it and the Government. This is discussed further in Chapter 11.

IPART then decided on the asset lives to be used in calculating depreciation. In line with the 2005 Determination, it assumed that existing assets had a life of 70 years, and new assets had a life of 100 years.

Finally, IPART decided on an appropriate depreciation rate for Hunter Water's two groups of assets:

- ▼ existing assets were depreciated by 1.43 per cent (in line with assumed lives of 70 years)
- ▼ new assets were depreciated at the rate of 1 per cent (in line with an assumed asset life of 100 years).

This resulted in the allowance for regulatory depreciation shown in Table 7.2, at the front of this chapter.

8 Findings on forecast metered water sales and customer numbers

IPART's decisions on Hunter Water's forecast metered water sales and customer numbers are an important part of its price review. These decisions have a major impact on the level of prices for two reasons:

- ▼ First, under the building block approach for calculating Hunter Water's notional revenue requirements, the underlying assumptions about how demand for water and sewer services will grow over the determination period affect how much revenue Hunter Water requires for operating expenditure and capital investment. In general, higher forecast water sales and customer numbers will lead to higher revenue requirements.
- ▼ Second, once IPART has decided on Hunter Water's target revenue, it sets prices for individual services to recover this amount of revenue. Thus, the level of prices depends on how much water Hunter Water is expected to sell, and how many customers it is expected to have. Generally speaking, higher forecast water sales (that can be met within existing capacity constraints) will lead to a lower level for the water usage charge, and higher numbers of customers will lead to lower services charges.

Therefore, it is important that the assumptions about forecast water sales and customer numbers are reasonable. The less accurate they are, the higher the risk that IPART will set prices that lead to Hunter Water significantly over-recovering or under-recovering its target revenue.

To assess the reasonableness of the forecasts Hunter Water submitted for the 2009 determination period, IPART engaged Sinclair Knight Merz (SKM) to review the forecasts. It then considered SKM's findings and undertook its own analysis of Hunter Water's forecasts. Following the release of the draft determination Hunter Water provided revised forecasts. These were also considered in the final determination. The section below summarises IPART's decisions on the forecast metered water sales and customer numbers. The subsequent sections provide background on metered water sales during the 2005 determination period and discuss Hunter Water's submission, stakeholder submissions, SKM's findings and IPART's analysis in more detail.

8.1 Summary of IPART's decisions

Decisions

- 17 IPART's decisions are to adopt Hunter Water's revised forecast metered water sales, forecast sales to the Gosford Wyong Joint Water Supply Authority (JWS), and forecast customer connection numbers, as shown in Table 8.1.

Table 8.1 IPART's decision on forecast metered sales, sales to JWS and customer numbers

	2009/10	2010/11	2011/12	2012/13
Forecast metered sales (ML/pa)	63,313	61,353	59,000	60,202
Forecast sales to JWS (ML/pa)	500	500	500	500
Forecast customer connections				
Residential connections	223,503	227,458	231,487	235,590
Non residential connections	12,500	12,500	12,500	12,500
Total connections	236,003	239,958	243,987	248,090
Growth in customer connections	1.7%	1.7%	1.7%	1.7%

Source: Hunter Water submission, January 2009 and communication between the IPART Secretariat and Hunter Water, email dated 7 May 2009.

8.2 Metered water sales over the 2005 determination period

Hunter Water's metered actual water sales over the 2005 determination period were slightly less than its forecast sales for this period, and IPART's decision on these forecast sales as part of the 2005 Determination (Table 8.2).

Table 8.2 Hunter Water's metered water sales over the 2005 determination period, compared with its forecast sales and IPART's decision on these sales for the 2005 Determination (ML/pa)

	2005/06	2006/07	2007/08	2008/09	Total
Hunter Water's forecast water sales for 2005 review	61,640	62,250	63,220	64,190	251,300
IPART's decision on forecast water sales for 2005 Determination	62,697	62,752	63,128	63,646	252,223
Hunter Water's total actual sales	64,293	61,265	57,294	63,029	245,881
Difference between IPART decision and actual sales (%)	2	-2	-9	-1	-3

Note: Actual metered sales for 2008/09 are estimates.

Source: Hunter Water Annual Information Return, 2008/09.

Given that drought restrictions were not imposed in the Hunter region over this period, IPART asked SKM to investigate the reasons for the lower than forecast metered sales, particularly in 2007/08. SKM found that Hunter Water's metered sales in 2007/08 were the lowest it had recorded in the last 16 years.¹⁴⁷ Its examination of climate data for the period revealed that 2007/08 was a particularly wet and cool period. SKM supported Hunter Water's conclusion that these climatic factors dampened demand for water over the period.¹⁴⁸

As a result of the difference between IPART's decision on forecast metered sales and Hunter Water's actual sales, Hunter Water under-recovered approximately \$6.4 million in net present value terms over the 2005 determination period (compared to its target revenue under the 2005 Determination).

IPART included a mechanism in the 2005 Determination to address the risks associated with variations between forecast and actual consumption. IPART's decision was that:

...where the difference between the forecast water consumption used to set prices for the 2005 Determination and actual water consumption for the 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.¹⁴⁹

At that time, IPART considered that adjustments be made for losses (or gains) of revenue between the forecasts and actual consumption above or below a deadband of 10 per cent over the determination period.¹⁵⁰ While 2007/08 metered sales were 9 per cent below forecasts, over the whole determination period the difference between forecasts and actual consumption was only 3 per cent.

Decision

- 18 IPART's decision is to not adjust the 2009 revenue requirement for variations between forecast and actual consumption from 2005/06 to 2008/09, as that variation was less than the deadband defined in the 2005 Determination.

8.3 Forecast water sales for the 2009 determination period

To decide on the forecast metered sales and sales to the Joint Water Supply Authority for the purpose of setting prices for the 2009 determination period, IPART considered Hunter Water's submission, Hunter Water's submission in response to the draft determination, stakeholder comments, SKM's review and its own analysis.

¹⁴⁷ Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 - Final Report*, 12 December 2008, pp 10-11.

¹⁴⁸ Ibid, p 11.

¹⁴⁹ IPART, *Hunter Water Corporation, Prices of Water Supply, Wastewater and Stormwater Services from 1 November 2005 to 30 June 2009 - Final Report*, September 2005, p 21.

¹⁵⁰ Ibid, p 22.

8.3.1 Hunter Water's submissions on forecast water sales

The water sales forecasts Hunter Water provided in its January 2009 submission are shown in Table 8.3 below.

Table 8.3 Hunter Water's forecast water sales (ML/pa)

	2009/10	2010/11	2011/12	2012/13
Metered water sales (ML/pa)	63,843	63,340	62,479	63,178
Sales to JWS (ML/pa)	500	500	500	500

Source: Hunter Water Annual Information Return, 2008/09.

The revised water sales forecasts Hunter Water provided in response to the draft determination are shown in Table 8.4 below.

Table 8.4 Hunter Water's revised forecast water sales (ML/pa)

	2009/10	2010/11	2011/12	2012/13
Metered water sales (ML/pa)	63,313	61,353	59,000	60,202
Sales to JWS (ML/pa)	500	500	500	500

Source: Hunter Water submission, January 2009 and communication between the IPART Secretariat and Hunter Water, email dated 7 May 2009.

Metered water sales

Both of Hunter Water's forecast metered water sales reflect its view of annual demand for water over the 2009 determination period, given the population projections contained in the NSW Department of Planning's *Lower Hunter Regional Strategy*. These projections indicate there will be an additional 160,000 people and 115,000 new dwellings in the region by 2031.¹⁵¹ Hunter Water considers that, in contrast to the relative stability in water consumption over the last 25 years, this growth will lead to increases in the region's water consumption over the 2009 period.¹⁵²

Following the release of the draft determination, Hunter Water identified errors in the Tier 3 metered water sales forecasts provided to IPART.¹⁵³ These errors were associated with a failure to adjust downwards the estimated potable water demand of recycled water customers on Kooragang Island (once the scheme become operational) and a double counting of the water demand of customers in Dungog Shire, following the extension of the Corporation's area of operations to include the Dungog Shire.¹⁵⁴

¹⁵¹ NSW Department of Planning, *Lower Hunter Regional Strategy*, 2006.

¹⁵² Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, section 4.1.

¹⁵³ Communication between the IPART Secretariat and Hunter Water, email dated 7 May 2009.

¹⁵⁴ Communication between the IPART Secretariat and Hunter Water, email dated 7 May 2009.

Sales to the Joint Water Supply Authority

Hunter Water's forecast sales to the Gosford and Wyong Council's Joint Water Supply Authority reflect its view of the volume of water it will transfer to the Central Coast annually over the 2009 determination period. At the time of the 2005 Determination, work was underway to increase the capacity of the main linking the Hunter and Central Coast regions from 6 ML a day to 27 ML a day. In November 2006, the Government announced that the capacity of the pipeline would be expanded to 35 ML a day. This expansion was completed in March 2008.

The volume of water Hunter Water transfers to the Central Coast over the 2009 period will depend on the storage levels of the Central Coast and Hunter systems. A supply agreement between the parties provides for a right to purchase water as required subject to storage levels. Hunter Water forecast annual transfers from Hunter Water to the Central Coast of 500ML per year for the determination period.

Singleton Council connection

Over 2008/09, Hunter Water had been negotiating with Singleton Council about developing an inter-connection to address the drought needs of the Singleton region. Following an improvement in the storages of Singleton and concerns about the costs of the pipeline, these negotiations have ceased.¹⁵⁵ Therefore, Hunter Water has not included transfers to Singleton in its forecasts.

8.3.2 Stakeholder submissions

IPART's issues paper sought stakeholder views on Hunter Water's forecast water sales. One submission from the Total Environment Centre (TEC) responded to this request. TEC expressed concern that Hunter Water was using flawed assumptions to downgrade its estimated yield of current storages and did not adequately consider the role of improved demand management in sales forecasts.¹⁵⁶ Specifically, TEC noted that Hunter Water had not considered the adoption of permanent water savings rules or requirements for large commercial and industrial customers to develop and implement water savings plans.

In response to the draft determination, TEC reiterated its concerns that Hunter Water's forecasts do not reflect "what can and should be achieved"¹⁵⁷ in water conservation and that consequently its forecasts should be viewed as "unacceptably high".¹⁵⁸ A number of other stakeholders also raised concerns that Hunter Water had not adequately considered water conservation options.¹⁵⁹

¹⁵⁵ Paul Macquire, *Drought Plan off*, 22 December 2008, p 24; and Peter Reynolds, *Plans Scrapped* Singleton Argus, 16 December, p 1.

¹⁵⁶ The Total Environment Centre submission to IPART Issues Paper, 14 November 2008, p 6.

¹⁵⁷ The Total Environment Centre submission to IPART on Draft Determinations, May 2009, p 3.

¹⁵⁸ Ibid, p 4.

¹⁵⁹ For example, Mr Felix Prentice, 21 May 2009, (p 2) and the No Tillegra Dam Group submission, May 2009, p 2.

In its submission, Sydney Water queried whether Hunter Water's sales forecasts and customer numbers should be adjusted downwards in line with adjustments recommended by Atkins/ Cardno to Hunter Water's forecast growth related capital expenditures.¹⁶⁰

8.3.3 SKM's findings on Hunter Water's forecast water sales

SKM reviewed Hunter Water's forecast water sales by examining the methodology used in making its forecast. This methodology is based on a spreadsheet model to project future demand for water in the Hunter region. The model incorporates trends in consumption for residential groupings based on housing construction data, and consumption trends for other various customer groups based on Hunter Water's customer accounts database and direct contact with Hunter Water's 40 largest customers. It takes into consideration factors such as growth in customer connections, demand management programs and the impacts of recycling schemes to determine the total supply requirement.¹⁶¹

Overall, SKM found that methodology is generally robust and has been applied appropriately and correctly. It also found that the main strengths of Hunter Water's model is that it is simple and transparent. However, a weakness is that it relies heavily on the corporation's own quantitative estimates of future customer behaviour rather than statistical analysis.¹⁶² In addition, SKM noted that the methodology does not account for the impact of climate on consumption. It recommended the inclusion of a quantitative allowance for climate impacts to improve the robustness of Hunter Water's projections of demand in the future.¹⁶³

SKM also reviewed the major assumptions Hunter Water used in its making its water sales forecast, including:

- ▼ historical water meter data
- ▼ population growth projections
- ▼ estimates of future water savings through demand management and recycling
- ▼ predicted volumes of bulk water transfers
- ▼ predicted volumes of unmetered demand.¹⁶⁴

¹⁶⁰ Sydney Water, *Sydney Water response to review of Prices for Hunter Water Corporation – Draft Determination and Report*, May 2009, p 5.

¹⁶¹ Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 – Final Report*, 12 December 2008, p 11.

¹⁶² Ibid, p 2.

¹⁶³ Ibid, p 27.

¹⁶⁴ A more complete list of the key assumptions of the Hunter Water model can be found in Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 – Final Report*, 12 December 2008, chapter 5. This report is available from IPART's web site.

Overall, SKM found that these assumptions were generally reasonable. It noted that Hunter Water's forecasts were based on the assumption of a return to average climate conditions.¹⁶⁵ It also expressed several reservations about Hunter Water's estimates of the average demand for water over the 2009 determination period, and its estimates of annual transfers to the Central Coast region. However, notwithstanding these reservations (which are summarised in the sections below), SKM endorsed Hunter Water's forecast metered water sales and sales to the Joint Water Supply Authority and did not recommend any adjustments to these forecasts.

SKM's views on Hunter Water's estimates of metered water demand

SKM found that in calculating its estimates of the metered demand for water over the 2009 period, Hunter Water may have underestimated the reduction in consumption by customers associated with its demand management programs. SKM noted that there are a number of additional programs identified in the H₂50 Plan that Hunter Water may implement over the 2009 period, which have not been included in the forecasting model.¹⁶⁶ If implemented, these programs could save over 1,400 ML per annum.

SKM also suggested that Hunter Water may have underestimated the impact of its proposed water prices for the 2009 period on demand. It noted that Hunter Water calculated that a 64 per cent increase in price will result in a 0.5 per cent reduction in overall water consumption. SKM found that this reduction is relatively small as in its view Hunter Water had applied a low price elasticity factor (-0.1), and had only applied this factor to outdoor residential water consumption.¹⁶⁷ SKM suggested it would have been more appropriate to extend the calculation of the price response across other customer groups.¹⁶⁸

In addition, SKM suggested that Hunter Water had overestimated unmetered water demand in the face of pressure management programs. However, it concluded the underestimation is likely to be small (less than 0.1 per cent per annum).¹⁶⁹

¹⁶⁵ Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 – Final Report*, 12 December 2008, p 38.

¹⁶⁶ Ibid, p 23.

¹⁶⁷ Ibid, p 28.

¹⁶⁸ Ibid, p 28.

¹⁶⁹ Ibid, pp 26-27.

SKM's views on Hunter Water's forecast sales to Joint Water Supply Authority

SKM noted that transfers between the Hunter and Central Coast regions are climate dependent and are made according to the following rules:¹⁷⁰

- ▼ Water is transferred from the Hunter to the Central Coast if the Joint Water Supply Authority storages are lower than Hunter Water storages. Opportunistic transfers south occur if the Joint Water Supply Authority storages are less than 70 per cent and more than 2.5 per cent below the Hunter Water storages. More water is transferred south if the Joint Water Supply Authority storages are less than 60 per cent and more than 7.5 per cent below Hunter Water storages and Mardi Dam is less than 80 per cent.
- ▼ Transfers north occur if Hunter Water storages are below Joint Water Supply Authority storages. Opportunistic transfers north occur if water is spilling at Lower Wyong and Hunter Water storages are below 70 per cent. More water is transferred north if the Hunter region is under restrictions and the Joint Water Supply Authority storages are more than 7.5 per cent higher than Hunter Water storages.
- ▼ There is a 5 per cent no transfer gap when the Hunter Water and Joint Water Supply Authority storages are close to, or equal to, one another to avoid frequent transfers.

As part of the catchment yield analysis SKM undertook for IPART (see section 4.4), SKM estimated that the transfers from the Hunter to the Central Coast region over the next five years are likely to be between 2,000 to 3,000 ML per year.¹⁷¹ This estimate is based on stochastic modelling undertaken by Afton Water Solutions for Gosford City Council and Wyong Shire Council. SKM's estimate is significantly higher than Hunter Water's estimate of 500 ML per year to the councils' Joint Water Supply Authority. It is also higher than Gosford City Council's estimated water purchases from Hunter Water over the next years, but less than Wyong Shire Council's estimated purchases.¹⁷²

However, notwithstanding these findings, SKM endorsed Hunter Water's forecast sales to the Joint Water Supply Authority. It noted that recent sales purchase behaviour by the councils suggest that the Hunter Water's sales forecasts are reasonable. It also noted that the actual rate of transfers will depend on storage levels and weather conditions over the determination period, and that the need for

¹⁷⁰ Ibid, pp 28-29.

¹⁷¹ Ibid, p 29.

¹⁷² Gosford City Council estimates that the JWS will purchase \$500,000 of water from Hunter Water per annum over the period (September 2008 submission, p 31). At 2008/09 prices this is equivalent to purchases of 550 ML/annum. Wyong Shire Council has provided estimates of purchases for the next four years. On average, it estimated purchases of 2,428 ML/annum for the next period. (Wyong Annual Information Return.)

transfers is expected to reduce once the foreshadowed Central Coast's Mardi-Mangrove link main is commissioned.¹⁷³

8.3.4 IPART's analysis of forecast water sales

After considering Hunter Water's submission, Hunter Water's revised forecasts, stakeholder comments, SKM's findings and its own analysis, IPART made a decision to adopt Hunter Water's revised forecast metered water sales and JWS sales for the 2009 determination period. The sections below summarise IPART's considerations and analysis in relation to the average water demand over the 2009 period and forecast sales to the Joint Water Supply Authority.

IPART's analysis of average water demand

IPART notes that while SKM expressed some reservations regarding a number of Hunter Water's assumptions, SKM has endorsed Hunter Water's forecasting methodology and forecast sales.

IPART considered SKM's view that Hunter Water may have underestimated the impact of its demand management program on average water demand, by not including around 1,400 ML per annum of demand reductions associated with expanding this program in line with its H250 Plan. However, consistent with advice from Atkins/Cardno,¹⁷⁴ IPART does not consider there is merit in expanding the demand management program over the 2009 period, given the extent to which Hunter Water's water supply will be augmented and the region's drought security improved through Tillegra Dam.¹⁷⁵

IPART also considered SKM's view that Hunter Water may have underestimated the impact of proposed prices on demand, by applying a price elasticity factor (-0.1) that was low, and applying it to outdoor residential water use only rather than to other customer groups (ie, businesses). However, based on its research, IPART considers a price elasticity factor of -0.1 is not low. Rather, it is towards the upper end of the range (once consumption levels have been suppressed through community awareness, demand management, retrofit program and drought restrictions).¹⁷⁶ In addition, IPART considers that the proposed price increases are not likely to have a significant impact on demand by business customers. In general, water bills are a small component of business costs and hence price increases are unlikely to lead to a significant reduction in business water use.

¹⁷³ SKM note that the link is expected to be commissioned by 2011 (Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 – Final Report*, 12 December 2008, p 15).

¹⁷⁴ Atkins/Cardno was engaged by IPART to provide an independent review of the operating and capital expenditure programs of Gosford City and Wyong Shire Councils.

¹⁷⁵ Sinclair Knight Merz, *Review of Yield Estimates for Hunter region*, December 2008.

¹⁷⁶ IPART, *Water Scarcity does it exist and can price help to solve the problem*, January 2008, p 14.

IPART has reviewed revised sales forecasts provided by Hunter Water since the release of the draft determination. IPART's investigations confirm that Tier 3 sales forecasts provided by Hunter Water for the 2009 determination period did not take account of reductions in potable water demand of recycled water customers on Kooragang Island (expected to occur once the scheme become operational) and included an assumption that Dungog Council would continue to be a bulk water customer (effectively double counting the water demand of customers in Dungog Shire as these customers are now direct customers following the extension of the Corporation's area of operations to include the Dungog Shire).

IPART has considered Sydney Water's suggestion that forecasts sales be adjusted in line with adjustments recommended by Atkins/Cardno to growth related capital expenditure. Sydney Water's view is that sales projections should be based on the NSW Department of Planning forecasts. As set out in Chapter 7, updated (2008) projections published by the Department of Planning suggest a marginal decline in longer term population growth to 2031. However, the Department of Planning's updated projected rate of population growth over the 2009 determination period is marginally higher than the earlier forecast, on which the Hunter Water forecasts were based.¹⁷⁷ This suggests that for the purposes of a four year forecast of metered water sales, downward adjustments of Hunter Water's forecasts are not required to align with the longer-term capital investment adjustments made by Atkins/Cardno.

IPART compared Hunter Water's forecast for residential water consumption with the results of IPART's 2008 *Residential energy and water use in the Hunter, Gosford and Wyong* household survey.¹⁷⁸ That survey found that in 2008, the average annual household water consumption in Hunter Water's area was 182 kL per property, which is consistent with Hunter Water's information shown in Table 8.5.

Table 8.5 Actual and forecast residential water consumption in the Hunter region, 2005/06 to 2012/13 (kL)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Residential consumption (per property pa)	195	185	169	191	190	190	189	188

Source: Sinclair Knight Merz, *Review of Yield Estimates for Hunter region*, December 2008.

¹⁷⁷ The 2008 *NSW State and Regional Population projections 2006-2036* (Table 5.3) project that the average annual population growth for the 2009 determination period will be 1.02 per cent. The earlier 2005 *NSW State and Regional Population projections 2001-2051* (Table 6.1) projected average annual population to be 0.82 per cent for the period 2006-2011 and 0.75 per cent for the period 2011-2016.

¹⁷⁸ IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, p 45.

IPART also noted that the residential consumption levels per property per annum suggest that residential consumption remains below the water conservation target set out in Hunter Water's operating licence.¹⁷⁹

IPART's analysis of Hunter Water's forecast sales to Joint Water Supply Authority

IPART considered SKM's recommendation that although stochastic modelling suggests that Hunter Water's five-year average sales to the Joint Water Supply Authority are likely to be between 2,000 and 3,000 ML a year, Hunter Water's forecast sales of 500 ML a year should be adopted. It notes that SKM made this recommendation based on the Gosford and Wyong councils' recent purchase behaviour; the impacts on the rate of transfers of the Mardi-Mangrove link main; and the dependency of transfers on storage levels and weather conditions.¹⁸⁰ It also notes that the rules for transfers set out in the agreement between the Joint Water Supply Authority and Hunter Water do not establish an obligation on the transferee to purchase water. On balance, given the above, IPART decided to adopt Hunter Water's forecast of sales to the Joint Water Supply Authority.

It is noted that since the release of the draft determination, sales to the JWS have increased to address (or dilute) salinity issues in the Wyong River and Mardi Dam.¹⁸¹ It is assumed that this salinity concern is temporary and therefore unlikely to significantly affect forecasts.

8.4 Forecast number of customer connections over the 2009 determination period

8.4.1 Hunter Water's estimated number of customer connections

Hunter Water indicated that it forecasts population growth of around 1 per cent per annum over the next four years, and growth of approximately 1.7 per cent in customer connections (Table 8.6).

¹⁷⁹ Clause 9.1.1 of the operating licence requires Hunter Water to ensure that the 5 year rolling average for annual residential water consumption calculated for the financial year is less than 215 kilolitres.

¹⁸⁰ Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 – Final Report*, 12 December 2008, p 15.

¹⁸¹ 'Hunter water helping salt problem', *Newcastle Morning Herald*, 20 May 2009, p 7.

Table 8.6 Hunter Water's estimated number of customer connections, 2009/10 to 2012/13¹⁸²

	2009/10	2010/11	2011/12	2012/13
Residential connections	223,503	227,458	231,487	235,590
% change	1.8	1.8	1.8	1.8
Non residential connections	12,500	12,500	12,500	12,500
% change	0	0	0	0
Total connections	236,003	239,958	243,987	248,090
% growth customer connections	1.7	1.7	1.7	1.7

Source: Hunter Water Annual Information Return, 2008/09.

8.4.2 SKM's findings on customer connections

SKM found some differences between Hunter Water's and the Department of Planning's estimates of the current and projected population of the Hunter region. It noted that the actual population as measured by the Australian Bureau of Statistics is closer to the Department of Planning estimates than to Hunter Water's.¹⁸³ However, SKM found that Hunter Water's estimated population growth rate of 1 per cent per annum over the next four years was consistent with Department of Planning projections (of 0.8 per cent).

SKM reviewed the assumptions underpinning Hunter Water's estimates of growth in the number of customer connections. It found that these estimates are based on data provided by the Department of Planning and assumptions of the likely future splits between single density and other dwellings, based on residential development approval information for the last 10 years.¹⁸⁴ Notwithstanding differences in forecast population growth, SKM's overall recommendation was to adopt Hunter Water's forecast number of customer connections.

8.4.3 IPART's analysis of forecast customer connections

IPART noted SKM's findings on the differences between Hunter Water's and the Department of Planning's estimates of population in the Hunter region. However, it considers that these estimates are not significant when it comes to setting prices. IPART sets prices based on the forecast number of customer connections for service charges, and Hunter Water's current customer connection numbers can be accessed

¹⁸² While Hunter Water's meter connection forecasts have not been updated since January 2009, in May 2009, Hunter Water provided revised estimates of its residential and meter equivalents. Meter equivalents are an input to IPART's pricing modelling and do not exactly match connection numbers (eg, where a customer is large it may be modelled as more than one meter equivalent).

¹⁸³ Sinclair Knight Merz, *Review of Water Consumption Forecasts in Hunter Water Corporation's 2008 Submission to IPART on prices to apply from 1 July 2009 – Final Report*, 12 December 2008, p 20-21.

¹⁸⁴ Ibid, p 20.

directly from its databases and are audited. Therefore, it is the forecast growth in customer numbers that is important.

IPART noted SKM's findings that Hunter Water's estimates of population growth are in line with those of the Department of Planning, and that Hunter Water's forecast of growth in customer numbers is based on reasonable assumptions and should be adopted. On this basis, it made a decision to adopt Hunter Water's forecast number of customer connections.

9 Pricing decisions for water services

Using its decisions on Hunter Water's target revenue and the forecast water sales and customer numbers over the 2009 determination period, IPART has made decisions on the maximum prices Hunter Water can charge for its regulated services over this period.

The section below summarises the final pricing decisions for water services – including water usage charges, service charges, and the interchange charge for water sales between Hunter Water and the Gosford City and Wyong Shire Councils (the Central Coast councils). The subsequent sections discuss these decisions in detail, including the methodologies IPART used to calculate them. Chapter 10 discusses IPART's final pricing decisions for sewerage, stormwater drainage, trade waste, miscellaneous and ancillary services.

9.1 Summary of pricing decisions for water services

IPART's decisions for Hunter Water's water charges are as follows (all charges and percentages are expressed in real terms):

- ▼ The standard **water usage charge** is set with reference to the long run marginal cost of water supply in the Hunter region, and increases by 46.5 per cent over the determination period from \$1.27 per kL in 2008/09 to \$1.86 per kL in 2012/13.
- ▼ The **unfiltered water usage charge** also increases by 46.5 per cent, from \$0.97 per kL in 2008/09 to \$1.42 per kL in 2012/13.
- ▼ The standard **water service charge** for a 20mm meter connection decreases by 2.8 per cent over the determination period from \$41.46 in 2008/09 to \$40.30 by 2012/13. Water service charges for properties with larger meters decrease by around the same proportion to reflect the relative capacity of the meters.
- ▼ **Location-based water usage charges** for customers who are located in specific zones and consume more than 50,000 kL per year increase on average by 47.6 per cent. In line with Hunter Water's proposal, the zones for location-based charges have been realigned to match the Development Servicing Plan (DSP) areas and a revised asset apportionment methodology has been used.

- ▼ The **water service charge for Dungog** residents with a 20mm meter connection decreases from \$127.53 in 2008/09 to \$85.42 in 2012/13. Water service charges for properties with larger meters in the Dungog Shire decrease by the same proportion to reflect the relative capacity of the meters.
- ▼ The **interchange charge for water sales between Hunter Water and the Central Coast councils** is set with reference to Hunter Water's average cost of supply, and increases from the current price of \$0.91 per kL in 2008/09 to \$1.22 per kL over the 2009 determination period.

9.2 Standard and unfiltered water usage charges and standard water service charges

As IPART has previously indicated, it considers that the most efficient approach for pricing water is to set a variable usage charge with reference to the long run marginal cost (LRMC) of water supply, and to set a fixed water service charge to recover the portion of the efficient costs of water supply not recovered through the usage charge. This approach:

- ▼ signals to customers the costs imposed (or avoided) if they increase (or reduce) their consumption by a small amount
- ▼ allows the service provider to recover the full, efficient cost of service provision and recover these costs with the least harm to economic efficiency.

The LRMC of supply represents the incremental cost of funding measures to bring supply and demand into balance, and signals the true cost to provide water to customers over the longer term. Therefore, setting variable per kL water usage charges to reflect this cost should encourage the efficient consumption of water resources. The fixed service charge operates as a balancing item, and is used to ensure that the total, efficient costs of water service provision can be recovered.

IPART has set water usage charges with reference to the LRMC for several recent water determinations. For example, for the recent determination for Sydney Water Corporation,¹⁸⁵ it set the water usage charge at the LRMC of the next increment of supply (which was taken to be the upgrade to 500 ML/day of the desalination plant currently under construction). This charge will reach \$1.93/kL (\$2008/09) in 2011/12.

¹⁸⁵ IPART, *Review of prices for Sydney Water Corporations' water, sewerage, stormwater and other services – Final Report*, June 2008, Appendix K.

For the recent final determinations for the Central Coast councils, IPART calculated that the LRMC of the councils' next increment of supply (the construction of the Mardi to Mangrove Link) fell within the range \$1.49/kL (\$2008/09) to \$2.60/kL (\$2008/09). It chose to set the water usage charges for each council at \$1.67/kL in 2008/09, increasing to \$1.89/kL in 2012/13 (\$2008/09).¹⁸⁶

9.2.1 Hunter Water's proposed water charges

Hunter Water January 2009 submission

In its January 2009 submission to the IPART issues paper, Hunter Water did not propose to set usage prices with reference to LRMC. It argued that there are practical issues that limit the applicability of the LRMC concept for setting its periodic prices.

Instead, Hunter Water proposed that real water usage prices be increased in line with the X-factor adjustments¹⁸⁷ that deliver the notional annual revenue requirement throughout the determination period. Table 9.1 sets out Hunter Water's proposed annual X-factors, usage charges and water service charges.

Table 9.1 Hunter Water's proposed X-factors and resulting water prices (\$2008/09)

	2008/09	2009/10	2010/11	2011/12	2012/13	Total increase
X-factor (%)	-	29.29	8.93	10.22	7.72	
Water usage charge(\$/kL)	1.27	1.63	1.77	1.94	2.08	63.8%
Water service charge (20mm connection) (\$)	41.46	57.38	65.13	74.29	82.41	98.8%

Source: Hunter Water submission, 9 January 2008, p 88.

Hunter Water May 2009 submission

On consideration of the LRMC approach adopted and outlined by the IPART draft report, Hunter Water's May 2009 submission gave support to the use of LRMC as a basis for setting water usage prices.¹⁸⁸

¹⁸⁶ IPART, *Review of prices for Gosford City Council and Wyong Shire Council prices for water, sewerage and stormwater drainage services from 1 July 2009 to 30 June 2013 – Final Report*, May 2009, pp 118 – 120.

¹⁸⁷ Hunter Water used annual X-factor adjustments to increase its proposed usage price to deliver its notional revenue requirement.

¹⁸⁸ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, May 2009, p 24.

9.2.2 Stakeholder comment

The Total Environment Centre (TEC) November 2008 submission to IPART's issues paper advocated for the reduction of the fixed service charge and an increase in the variable usage charge, to strengthen the resource conservation signal to customers and increase their ability to control the size of their bills. It put the view that:

Increasing the usage charges while reducing fixed charges would provide stronger incentives to customers to reduce consumption and invest in measures such as rainwater tanks and more efficient appliances... TEC strongly believes that the inclining block tariff model and a reduction in fixed charges should be applied to prices for HWC. The step point should be chosen to target discretionary water use.¹⁸⁹

TEC again restated this view in its May 2009 submission when it called for a reduction to fixed charges and the introduction of an inclining block tariff to provide strong incentives for customers to reduce water use to sustainable levels.¹⁹⁰

9.2.3 IPART's analysis and decisions

IPART remains convinced that a LRMC approach to water pricing is the most appropriate and efficient approach for Hunter Water. IPART noted TEC's view that usage price should increase to provide a stronger conservation signal to customers. However, it considers that setting usage charges to reflect the LRMC of supply is the best way to ensure that water prices send efficient consumption signals to customers, and encourage responsible consumption.

There are alternative methods for estimating LRMC, including the Turvey perturbation approach and the average incremental cost (AIC) approach:

- ▼ The Turvey perturbation approach involves developing a least-cost investment program to equate water supply with demand, then increasing or decreasing demand by a small but permanent amount, and recalculating the least-cost investment program required to bring supply and demand into balance. The difference between the two estimates divided by the change in demand is the marginal cost.
- ▼ The AIC approach calculates LRMC by dividing the present value of the least-cost investment stream to bring water supply and demand into balance by the present value of the incremental demand satisfied by the resulting capacity expansion.

IPART assessed both approaches as part of its recent determination on prices for Sydney Water Corporation. It concluded that the AIC approach is preferable. The Turvey perturbation approach tends to be highly sensitive to the assumptions made about costs, demands, and the size of the permanent decrement in demand. The AIC approach is much simpler, and produces reasonable and reliable estimates that can

¹⁸⁹ The Total Environment Centre submission to IPART Issues Paper, 14 November 2008, p 7.

¹⁹⁰ The Total Environment Centre submission to IPART Draft Report, May 2009, pp 6-7.

be made with modest amounts of data. In addition, the results are not subject to wide fluctuations with small changes in assumptions.

Given the above, IPART decided to use the AIC approach to estimate LRMC for Hunter Water. This decision is consistent with the approach it used to calculate LRMC for the Sydney Water Determinations in 2005¹⁹¹ and 2008¹⁹² and the recent 2009 Determinations for the Central Coast councils.

IPART chose to use Tillegra Dam as the next increment of supply to provide the basis for an estimate of Hunter Water's LRMC.¹⁹³

IPART's calculation of the LRMC

The AIC approach to calculating the LRMC of supply can be expressed as:

$$\text{Average Incremental Cost} = \left(\frac{\text{PV of least cost investment to equate demand \& supply}}{\text{PV of incremental demand satisfied as a result of expansion}} \right)$$

In line with this equation, IPART divided the present value of Hunter Water's forecast efficient capital and operating expenditure related to Tillegra Dam by the present value of the incremental demand satisfied as a result of Tillegra Dam's capacity expansion. This resulted in an LRMC of \$1.90/kL in 2014/15 (\$2008/09), assuming that Tillegra Dam will yield water in 2014/15.

To signal the approaching capacity expansion of Tillegra Dam, IPART applied a 1.0 per cent (real) reduction to this LRMC in the years prior to 2014/15. This resulted in an estimated LRMC ranging from \$1.81 per kL to \$1.86 per kL over the 2009 determination period, as shown in Table 9.2 below.

Table 9.2 IPART's estimate of the LRMC of supply in the Hunter region, for the purpose of setting water usage prices (\$2008/09)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Estimated LRMC (per kL)	1.81	1.82	1.84	1.86	1.88	1.90

Note: IPART's estimate uses a 7.0 per cent WACC.

Source: IPART modelling.

¹⁹¹ IPART, *Review of prices of water supply, wastewater and stormwater services for Sydney Water Corporation*, September 2005, p 105.

¹⁹² IPART, *Review of prices for Sydney Water Corporations' water, sewerage, stormwater and other services – Final Report*, June 2008.

¹⁹³ Hunter Water received a direction from the Government to construct Tillegra Dam. Tillegra Dam will be located in the Dungog Shire, north of Newcastle, and when completed will provide a storage of 450 GL with an annual yield of 52 GL. The addition of Tillegra Dam will increase Hunter Water's annual yield from 68 GL to 120 GL. SKM have estimated that Tillegra Dam provides for growth until 2053-2058, depending on which system criteria are applied to yield modelling.

IPART notes that the application of a 1 per cent reduction departs from a pure theoretical approach to LRMC pricing, however the reduction is considered to be necessary to smoothly transition the usage charge from its current level of \$1.27 in 2008/09.

IPART's approach for setting water charges

In setting water usage charges for the final determination, IPART took account of:

- ▼ its calculation of the estimated LRMC of supply in 2014/15, and the size of the percentage (real) reduction applied to this cost in the preceding years to signal the approaching capacity expansion
- ▼ the current 2008/09 water usage charge of \$1.27/kL
- ▼ the need to maintain some consistency in the service charge over the course of the 2009 determination period.

Given the current water usage charge of \$1.27, IPART decided to transition the charge towards \$1.86/kL over the determination period, and reach this level in the final year of the period. In doing this, it also aimed to avoid volatility in the value of the service charge over the determination period. In general, IPART considers that volatile price movements over a price path have unacceptable impacts on customers.

To set the value of the water service charge, IPART calculated the revenue it expects water usage charges to generate in each year of the determination period. This enabled it to determine Hunter Water's remaining, residual target revenue. It then set the service charge to generate this revenue. Because of the increase in the water usage charge required to signal the approaching supply augmentation, the water service charge decreases in the first year of the determination period (2009/10) so that only the efficient costs of Hunter Water's water business are recovered.

Decision

19 IPART's decision is to set Hunter Water's water charges as shown in Table 9.3.

Table 9.3 IPART's decision on Hunter Water's standard and unfiltered water usage charges and standard water service charge (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Total change
Water usage charge (\$ per KL)	1.27	1.51	1.62	1.74	1.86	46.5%
Unfiltered water usage charge (\$ per kL)	0.97	1.15	1.24	1.33	1.42	46.4%
Service Charge - 20mm connection (\$)	41.46	38.44	38.86	38.99	40.30	-2.8%

Note: For meter sizes above 20mm the following formula applies for the calculation of the Service Charge: Charge = (Meter size)² x 20mm charge/400.

As Table 9.3 shows, the standard water usage charge increases sharply in the first year of the determination period, and more gradually in each of the remaining years. The total increase in this charge over the determination period is 46.5 per cent. However, the water service charge decreases by 2.8 per cent, offsetting some of the impact of the increase in the usage charge on customers.¹⁹⁴

In the past, IPART has set two water usage charges to account for different levels of consumption in the Hunter region. A Tier 1 usage charge applied to water consumption up to 1,000kL per annum. A Tier 2 usage charge applied to water consumed beyond 1,000kL per annum. The values for the Tier 1 and 2 usage charges merged during the course of the 2005 determination period and now have the same value.¹⁹⁵ As a consequence, IPART has set only one usage charge for all levels of potable water consumption.¹⁹⁶

The unfiltered water usage charge increases by the same percentages as the standard water usage charge each year, from \$0.97/kL in 2008/09 to \$1.42/kL in 2012/13. The unfiltered water usage charge is set at approximately 76 per cent of the value of the standard water usage charge to reflect the lower cost of providing unfiltered water to customers direct from the upper Chichester Dam pipeline.¹⁹⁷

9.3 Location-based water usage charges

Hunter Water currently has cost-reflective location-based usage charges for water supplied to large-volume customers located close to its water sources.

¹⁹⁴ IPART has considered a submission received from the Property Owner's Association of NSW in response to the draft determination that raised an issue in relation to the incidence of usage charges in multi-premises. It is noted that whilst the *Residential Tenancies Regulation 2006* prohibits the passing on of water usage charges to tenants where the tenant's usage is not metered, it does not require individual metering.

¹⁹⁵ An explanation of IPART's reasons for this are set out in: IPART, *Hunter Water Corporation, Prices of Water Supply, Wastewater and Stormwater Services from 1 November 2005 to 30 June 2009 - Final Report*, June 2005.

¹⁹⁶ IPART notes that it is a requirement that Hunter Water's recycled water expenditures be ring fenced from the regulated side of its business (consistent with the guidelines relating to *Pricing Arrangements for Recycled Water and Sewer Mining*). Where recycled water customers require potable water top-up, the sale of potable water should be set equal to the water usage charge and recovered from recycled water customers.

¹⁹⁷ Hunter Water only provides unfiltered water to customers through the upper Chichester Dam pipeline. Hunter Water has no other unfiltered water customers.

9.3.1 Hunter Water's proposed location-based water usage charges

Hunter Water proposed to continue to levy location-based usage charges over the 2009 determination period. It submitted that:

Whilst location-based charges do offer reduced usage charges for consumption in excess of 50,000 kilolitres in specific locations, there is a sound basis to continue offering these prices in the context of cost reflectivity and as a competitive pricing structure.¹⁹⁸

Hunter Water reviewed its current location-based pricing zones in 2008 to better align these zones with the DSP areas and implement a revised asset apportionment methodology. Based on the findings of this review, Hunter Water proposed reducing the number of location-based pricing zones from 11 to 7. The location-based charges proposed by Hunter Water are shown in Table 9.4.

Table 9.4 Hunter Water's proposed location-based water usage charges (\$2008/09 per kL)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Change over det. period
Dungog	n/a	1.27	1.37	1.47	1.55	n/a
Kurri Kurri	1.13	1.61	1.75	1.91	2.05	81.8%
Lookout	1.13	1.50	1.63	1.77	1.89	67.7%
Newcastle	1.10	1.47	1.58	1.72	1.84	66.3%
Seaham-Hexham	1.09	1.31	1.41	1.52	1.61	47.1%
South Wallsend ^a	1.10 to 1.16	1.54	1.66	1.82	1.94	76.2%
Tomago-Kooragang ^a	1.00 to 1.05	1.27	1.37	1.47	1.55	54.0%
All other areas (ie, general water usage charge)	1.27	1.63	1.77	1.94	2.08	63.8%

^a To calculate the change over the determination period, IPART used the lower price in the 2008/09 price range.

Source: Hunter Water submission, 9 January 2009, p 91.

9.3.2 Stakeholder comment

TEC opposed the use of location-based usage charges on the grounds that lower prices for large users diminish the resource conservation signal conveyed by usage charges. In its submission it urged IPART to:

...abolish HWC's location based prices that provide a discount to selected large volume industrial customers.¹⁹⁹

¹⁹⁸ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 90.

¹⁹⁹ The Total Environment Centre submission to IPART Issues Paper, 14 November 2008, p 6.

TEC has consistently opposed this approach and sees no merit in maintaining this system. Reducing prices for large users diminishes the resource conservation signal conveyed by usage charges, thus undermining demand management.²⁰⁰

TEC contends that Hunter Water's location-based usage charges reduce incentives for large volume users to adopt effluent reuse²⁰¹ and undercut recycled water as a source of supply for large industrial customers.²⁰²

9.3.3 IPART's analysis and decisions

As discussed above, IPART considers that usage charges provide an appropriate price signal when charges are set to reflect the efficient costs of supply. When usage charges are set in this manner, consumption decisions surrounding the choice of one good over another can be considered efficient.

IPART notes that given that the standard water usage charge is calculated with reference to the LRMC of supply, an alternative to the existing location-based usage charges might be an adjustment to the fixed service charge for these customers. However, this may require adjustments so large that the resulting service charge is negative. On balance, IPART considers that it is preferable to maintain location-based usage charges in the zones proposed by Hunter Water.

In relation to Hunter Water's proposal to consolidate the pricing zones and align them with the DSP areas, IPART notes that the Government's decision to set developer charges at zero has reduced the rationale for aligning the zones with the DSP areas. However, as DSP areas are still relevant for out-of-sequence developments and recycled water, and the modifications to the zones to align them with these areas are relatively minor, IPART's decision is to accept Hunter Water's proposed zones.

Decision

- 20 IPART's decision is to maintain location-based water usage charges for customers who are located in specific low-cost areas and consume in excess of 50,000kL, and to set these charges as shown in Table 9.5.

²⁰⁰ The Total Environment Centre submission to IPART Draft Report, May 2009, p 6.

²⁰¹ Ibid, May 2009, p 6.

²⁰² The Total Environment Centre submission to IPART Issues Paper, 14 November 2008, p 6.

Table 9.5 IPART's decision on Hunter Water's location-based water usage charges (\$2008/09)

	2009/10	2010/11	2011/12	2012/13
Dungog	1.18	1.25	1.32	1.38
Kurri Kurri	1.49	1.60	1.72	1.83
Lookout	1.39	1.49	1.59	1.69
Newcastle	1.36	1.45	1.55	1.64
Seaham-Hexham	1.21	1.29	1.36	1.44
South Wallsend	1.42	1.52	1.63	1.73
Tomago-Kooragang	1.18	1.25	1.32	1.38

Note: Location-based water usage charges apply to industrial customers who are located in specific 'zones' and consume more than 50,000kL per annum.

Source: IPART modelling.

9.4 Water service charge for Dungog Shire customers

Hunter Water assumed responsibility for Dungog Council's water and sewerage businesses on 1 July 2008. In preparation for this, Hunter Water reviewed Dungog Council's water and sewerage businesses in early 2007. It found that it would need to make additional capital investment in these businesses to deliver services consistent with the requirements of its operating licence.

In addition, when it took over responsibility for these businesses, Hunter Water replaced the existing differential usage pricing arrangements for each township in the Dungog shire with the standard water usage price that applied to all Hunter Water residents (under the 2005 Determination). To recover the revenue required to undertake the additional capital investment, Hunter Water set a water service charge for Dungog Shire residents of \$127.53 in 2008/09.²⁰³ This was significantly higher than the service price that applied to other customers in that year (\$41.46).

9.4.1 Hunter Water's proposed charges for Dungog Shire

For the 2009 determination period, Hunter Water proposed that the standard water usage charge continue to apply to Dungog Shire residents, and that:

The annual water service charge be set at \$127.53 (\$08/09) for a 20 mm service and this charge be maintained in real terms over the 2009/10 to 2012/13 price period and then progressively adjusted to match the Hunter Water service charge in the subsequent price period.²⁰⁴

²⁰³ Hunter Water received special authority from the Treasurer to determine prices for Dungog for the one year period between the date of its takeover on 1 July 2008 and the 2009 IPART Determination.

²⁰⁴ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, pp 92-93.

Hunter Water's proposed water service charge was outlined by Hunter Water at public meetings within the Dungog Shire in September 2007. The meetings were held to assist residents to understand the implications of the proposed transfer of Dungog Council's operations to Hunter Water. Dungog Council conducted a survey of its residents following the meetings. The survey found that 54 per cent favoured a transfer of the water and sewerage businesses to Hunter Water.²⁰⁵

9.4.2 Stakeholder submissions

In response to the draft determination, IPART received a number of submissions concerned about the impacts of draft prices on Dungog Shire customers.²⁰⁶

9.4.3 IPART's analysis and decisions

In principle, IPART supports applying the standard water usage charge to Dungog residents, plus a higher water service charge to recover the additional revenue needed to upgrade Dungog's infrastructure.

However, given IPART's final decision on the standard water service charge is approximately \$20 to \$40 less than Hunter Water's proposed standard water service charge over the determination period, IPART has applied the same reduction to Dungog customers. In the interests of equity, IPART considers that the same dollar reduction should be applied to Hunter Water's proposed water service charge for Dungog Shire customers in each year of the determination period. IPART calculated the water service charge for Dungog Shire residents based on this approach, as shown in Table 9.6.

Table 9.6 IPART's calculation of the water service charge for Dungog Shire residents (\$2008/09)

ref	Water service charge	2008/09	2009/10	2010/11	2011/12	2012/13
1	HW proposed for non-Dungog residents	41.46	57.38	65.13	74.29	82.41
2	IPART final decision for non-Dungog residents	-	38.44	38.86	38.99	40.30
3	Difference between HW proposed and IPART final decision (=2-1)	-	-18.94	-26.27	-35.30	-42.11
4	HW proposed for Dungog residents	127.53	127.53	127.53	127.53	127.53
5	IPART final decision for Dungog residents (=4+3)	-	108.59	101.26	92.23	85.42

Source: IPART analysis.

²⁰⁵ Ibid, p 93.

²⁰⁶ See for example submissions from Mr T. Smith, Ms R. Logie and Mrs L. Trustum.

IPART reviewed the customer impact issues raised by Dungog stakeholders. IPART notes statements from the Hunter Water CEO who explained that Dungog Council previously sent water bills containing the usage component only. The fixed charge component was billed in conjunction with council rates, the wastewater service charge and garbage collection charges, and so was not seen to be connected with water charges. Hunter Water's CEO claims that this is why many Dungog customers believe their bills have increased when in fact they have decreased.²⁰⁷

Furthermore, IPART notes that the recently announced pensioner rebate increases the relief otherwise available to eligible Dungog pensioner customers over and above that which would have been available had Dungog Council continued to provide water services.

Decision

- 21 IPART's decision is to set the water service charge for Dungog Shire customers as shown in Table 9.7.

Table 9.7 IPART's decision on the water service charge for Dungog Shire residents (\$2008/09)

	2009/10	2010/11	2011/12	2012/13
IPART decision	108.59	101.26	92.23	85.42

9.5 Interchange charge for water sales between Hunter Water and the Central Coast councils

Hunter Water has an agreement with the Central Coast councils under which either party can supply potable drinking water to the other under a water supply contract.

The water supply agreement between Hunter Water and the councils remains in place until 2026, but the price for water sales set by this agreement expires on 1 July 2009. Both Hunter Water and the councils have stated that they expect that IPART will set the price of transfers from 1 July 2009.²⁰⁸ However, due to the delayed release of this determination, IPART will not set this price from 1 July 2009. The current 2008/09 volumetric price of \$0.91/kL will remain in place until gazettal of this determination, at which point the IPART-determined price will take effect.

²⁰⁷ IPART public hearing for Hunter Water price review, 12 December 2009, transcript available at: http://www.ipart.nsw.gov.au/investigation_content.asp?industry=3§or=7&inquiry=174&doctype=2&dockey=2&docgroup=1, p 7.

²⁰⁸ IPART public hearing for Hunter Water price review, 12 December 2009, transcript available at: http://www.ipart.nsw.gov.au/investigation_content.asp?industry=3§or=7&inquiry=174&doctype=2&dockey=2&docgroup=1. IPART public hearing for Gosford City and Wyong Shire Councils price reviews, 14 November 2009, transcript available at: http://www.ipart.nsw.gov.au/investigation_content.asp?industry=3§or=7&inquiry=175&doctype=2&dockey=2&docgroup=1.

Broadly speaking, the agreement between Hunter Water and the councils requires either party to provide potable water to the other should one party make such a request. The agreement in which water is supplied is subject to minimum storage levels for each party and a need for a greater than 5 per cent difference between the two parties' storage levels.

The principles of this agreement predate the decision to build Tillegra Dam. The agreement provides for revision of these principles should either party augment its water system. A working party of representatives from Hunter Water and the councils has been set up to consider an appropriate model for sharing the costs of Tillegra Dam but no commercial agreement has been reached to date.²⁰⁹ Should the two parties reach an agreement, IPART will review the amended price at the next price determination.

As at 22 December 2008, Hunter Water had provided approximately 6,000 ML of water to the councils since 2005/06.²¹⁰ Over the same period, the councils have supplied around 800 ML to Hunter Water. The current agreed pricing structure for 2008/09 is a volumetric price of \$0.91/kL (calculated at a discount of 28.3 per cent to the IPART-determined 2008/09 tier 1 water usage charge for Hunter Water). IPART did not determine the interchange price for water sales in the 2005 Determination for Hunter Water or the 2006 Determinations for the councils.

As discussed in Chapter 8, for the purpose of setting Hunter Water's water and sewerage prices, IPART has made a decision that Hunter Water's forecast sales to the councils over the 2009 determination period are 500 ML per annum.

9.5.1 IPART's role in setting the interchange charge

In the 2005 price review, IPART found that Hunter Water could supply water to the Central Coast councils at a commercially negotiated price that was lower than the tier 1 water usage charge. IPART also signalled that it would review this commercial charging arrangement at the next price review.²¹¹

Hunter Water and the councils have stated publicly at their respective price review hearings that they expect IPART to set the price for transfers between the two water supply schemes from 1 July 2009. IPART has considered its legal position to set this price in response to the statements from both parties. IPART's opinion is that it can regulate the price of transfers under the IPART Act and, since both parties have requested it do so, it has developed an approach and made a decision on this price.

²⁰⁹ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 78.

²¹⁰ Communication between the IPART Secretariat and the Central Coast councils, email dated 23 December 2009.

²¹¹ IPART, *Hunter Water Corporation, Prices of Water Supply, Wastewater and Stormwater Services from 1 November 2005 to 30 June 2009 - Final Report*, June 2005, pp 120-121.

9.5.2 IPART's approach for setting the interchange charge for water sales between Hunter Water and the Central Coast councils

IPART considered four approaches for setting the price of water sales between Hunter Water and the councils. IPART concluded that an average cost (AC) approach achieves the fairest outcome for pricing water transfers because:

- ▼ it is able to reflect the relatively low cost to supply the councils²¹²
- ▼ when price is set at AC, total revenue equates to total cost (when price is multiplied by consumption).

IPART has also made a decision not to apply a fixed service charge for water sales between Hunter Water and the councils. A fixed service charge is normally used as a balancing item to recover the costs that are not recouped through marginal cost pricing. However, since IPART has selected an AC pricing approach which equates total revenue to total costs, Hunter Water's costs to supply water to the councils will be recouped by setting price equal to AC.

IPART's decision to not apply a fixed service charge is based on the view that both parties rely on similar infrastructure, so one fixed charge would be commensurate with the other. If fixed charges were applied, the amounts would approximately net out through roughly equal payments charged by both parties. Furthermore, both parties contributed capital to develop and expand the trunk main pipeline that connects the two water systems.

The alternative approaches IPART considered for setting the price of water sales between Hunter Water and the councils were:

- ▼ a scarcity pricing approach
- ▼ pricing at Hunter Water's water usage price, and
- ▼ a discount on the price of Hunter Water's water usage price (as proposed by Hunter Water).

These approaches, and IPART's reasons for preferring the AC approach, are discussed further in Appendix J.

9.5.3 IPART's calculation of Hunter Water's average cost of supply to the Central Coast councils

IPART calculated Hunter Water's average cost to supply water to the councils over the 2009 determination period by dividing Hunter Water's total annual cost of water

²¹² The Central Coast is a single customer that makes bulk water purchases so its related administration and reticulation costs are lower per kilolitre of water consumed.

supply by an estimate of its total annual consumption over this period. This can be expressed as follows:

$$\text{Average Cost (AC)} = \left(\frac{\text{Total Annual Cost}}{\text{Total Annual Consumption}} \right)$$

IPART established the *total annual cost* by taking its decision on Hunter Water's notional revenue requirement, and subtracting expenditures that it did not consider relevant to supplying the councils. Specifically, it subtracted expenditure related to reticulation, customer services and demand management from the operating expenditure component, and 95 per cent of expenditure for pump stations and pipelines from the capital investment components (ie, the allowances for a return on assets and regulatory depreciation). In addition, in keeping with its decision to defer the recovery of some of the capital expenditure for Tillegra Dam, IPART subtracted 60 per cent of the Tillegra Dam-related expenditure from the capital investment components.

Table 9.8 shows IPART's calculation of Hunter Water's total annual cost to supply the councils.

Table 9.8 IPART's calculation of Hunter Water's total annual cost to supply water to the councils (\$'000 2008/09)

	2009/10	2010/11	2011/12	2012/13
Operating costs ^a	27,544	26,749	25,718	26,011
Regulatory depreciation ^b	7,829	12,728	19,524	28,014
Return on assets ^b	20,342	25,075	28,597	30,490
Total annual cost	55,715	64,553	73,838	84,515

^a Calculated from IPART's decision on efficient operating expenditure minus expenditure related to reticulation, customer services and demand management.

^b Calculated from IPART's decision on allowances for regulatory depreciation and return on assets minus 95 per cent of Hunter Water's water-related pump station and pipeline capital, and minus 60 per cent of Tillegra Dam-related capital expenditure.

Source: IPART modelling.

IPART established the *total annual consumption* as its decision on Hunter Water's forecast metered water sales, rounded to the nearest million kilolitre.

Hunter Water's AC (without reductions to operating and capital expenditure) is \$2.41/kL. However, IPART has excluded certain identifiable expenditures from the AC calculation because the cost to supply the Central Coast is relatively inexpensive.²¹³ IPART considers such a reduction reasonable in light of the fact that the Central Coast councils are a large customer that imposes little cost on the broader Hunter Water network. This treatment produces similar outcomes to the 'discount

²¹³ Water transfers to the Central Coast involve large quantities transferred via a trunk main pipeline (jointly funded by Hunter Water and the Central Coast councils) directly into the Central Coast's water system.

on tier 1 water usage charge' approach that is currently used by Hunter Water and the Central Coast to set the 2008/09 price for transfers.

Table 9.9 shows IPART's calculation of the Hunter Water's AC to supply the councils.

Table 9.9 IPART's calculation of Hunter Water's average cost to supply water to the councils (\$2008/09)

	2009/10	2010/11	2011/12	2012/13
Total annual cost (\$)	55,715,228	64,552,727	73,838,263	84,515,264
Total consumption (kL)	63,000,000	63,000,000	63,000,000	63,000,000
Average cost (\$/kL)	0.88	1.02	1.17	1.34
Four-year average of average cost (\$/kL)				1.11

Source: IPART modelling.

In making its decision on the interchange charge for transfers between Hunter Water and the Central Coast councils, IPART took the four-year average of the AC (\$1.11, as shown in Table 9.9) and applied a 10 per cent premium. It used the four-year average of the AC for simplicity. It applied a 10 per cent premium to this amount to reflect the fact that the councils are likely to be an irregular and intermittent user of water from the Hunter Water network. This treatment is consistent with the treatment of intermittent users of goods and services in other industries.

This resulted in an interchange charge of \$1.22/kL. IPART will review its methodology for setting this charge at the next determination should the Hunter Water and the Central Coast councils reach an agreement on sharing Tillegra Dam supplies. IPART notes that Hunter Water can charge less than the regulated price should the Treasurer agree.

Decisions

- 22 IPART's decision is to set an interchange price of \$1.22/kL (\$2008/09) for water sales between Hunter Water and the Gosford City Council and Wyong Shire Council.
- 23 IPART will review its methodology for setting the interchange charge at the next determination should the Hunter Water and the councils reach an agreement on sharing Tillegra Dam supplies.

10 Pricing decisions for sewerage, stormwater drainage, trade waste, miscellaneous and ancillary services

Using its final decisions on Hunter Water's target revenue and the forecast water sales and customer numbers over the 2009 determination period, IPART has made final pricing decisions for Hunter Water's:

- ▼ sewerage charges, including sewer usage and service charges, the Environmental Improvement Charge and the Clarence Town Levy
- ▼ stormwater drainage service charges
- ▼ trade waste, miscellaneous and ancillary service charges.

The section below summarises these final pricing decisions. The subsequent sections discuss the decisions in more detail, including IPART's considerations and analysis.

10.1 Summary of final pricing decisions

IPART's decisions for Hunter Water's sewerage, stormwater drainage, trade waste, miscellaneous and ancillary charges are as follows (all charges and percentages are expressed in real terms):

- ▼ For **residential customers**, the **sewer usage charge** is discontinued, and the **sewer service charge** increases by around 54.1 per cent from \$321.17 in 2008/09 to \$494.80 in 2012/13.
- ▼ For **non-residential customers**, the **sewer usage charge** increases by 27.7 per cent from \$0.47/kL in 2008/09 to \$0.60/kL over the determination period. The **sewer service charge** increases by 54.1 per cent over the determination period, from \$642.33 in 2008/09 to \$989.61 in 2012/13. (Note that these increases and prices *do not* incorporate the variable sewer discharge factors that apply to non-residential customers).
- ▼ For both residential and non-residential properties, **stormwater drainage service charges** increase by around 25.2 per cent. For residential properties, the charge increases from \$61.52 in 2008/09 to \$77.02 in 2012/13. For non-residential properties, it increases from \$111.19 to \$139.20 in 2012/13.
- ▼ All **trade waste charges** will be set in line with Hunter Water's proposal and increase by the rate of inflation in each year of the determination period.

- ▼ All but three **ancillary and miscellaneous services** will be set in line with Hunter Water's proposal, and will increase by the rate of inflation in each year of the determination period. For the remaining services, IPART made minor adjustments to Hunter Water's proposed charges.

10.2 Sewer usage and service charges

The current price structure for sewerage services applies a usage charge and service charge for both residential and non-residential customers. Customers connected to the sewer pay a fixed service charge based on the size of their property's water meter, plus a usage charge based on the volume of water.

However, both types of charges are discounted by applying a sewer discharge factor that reflects the amount of sewerage they are likely to discharge, expressed as a percentage of their water consumption.²¹⁴ For all residential customers, this factor is 50 per cent. For non-residential customers who cannot provide evidence of their actual sewer discharge, the sewer discharge factor varies depending on the customer's class or property type, and ranges from 0 to 100 per cent.²¹⁵

10.2.1 Hunter Water's proposal

Hunter Water proposed discontinuing the sewer usage charge for residential customers from 2009/10 onwards. It submitted that there are a number of disadvantages to this usage charge, including:

- ▼ the charge only provides a small amount of customer discretion on the size of the bill, which has been eroded over time by significant reductions in the sewer usage charge
- ▼ little water conservation is achieved due to the low price signal and the high non-discretionary sewerage discharge (eg, toilet flushing) for the majority of customers
- ▼ inconsistent application of the discharge factor to pre and post BASIX dwellings means that properties that discharge rainwater or recycled water to the sewer pay less for sewerage services, even when they discharge the same volumes to the sewer
- ▼ other major urban water utilities across NSW and Australia do not charge residential customers a sewer usage charge

²¹⁴ Sewer discharge factors (SDF) are used to impute customers' volume of sewer discharge from their actual water consumption and therefore infer their relative impost on the sewer systems. This approach aims to apply the user-pays principle to both sewerage usage and service charges so that larger users pay a higher proportion of Hunter Water's sewerage service costs.

²¹⁵ Where non-residential customers provide evidence of their actual discharge, the sewer discharge factor is set to reflect this actual discharge as a percentage of their water consumption.

- ▼ Hunter Water regularly receives complaints from residential customers that object 'on principle' to paying a sewer usage charge.²¹⁶

IPART has also previously raised concerns about the effectiveness of the sewer usage charge. For example, in its 2005 review of Hunter Water prices, it expressed the 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.²¹⁷

Hunter Water's proposed sewer usage and service charges are shown in Table 10.1.

Table 10.1 Hunter Water's proposed sewer usage and service charges (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Total change
Residential usage charge (\$ per kL)	0.47	0.00	0.00	0.00	0.00	-100.0%
Non-residential usage charge (\$ per kL)	0.47	0.60	0.60	0.60	0.60	27.7%
Residential service charge for 20mm meter (\$)	321.17	516.61	553.45	581.09	600.36	86.9%
Minimum multi-residential service charge (\$)	210.11	344.40	368.97	387.40	400.24	90.5%
Non-residential service charge for 20mm meter (\$)	642.33	1033.21	1106.90	1162.19	1200.72	86.9%

Note: Charges for residential customers are presented after the application of the 50 per cent sewer discharge factor. Charges for non-residential customers are present before the application of the sewer discharge factor, as for these customers, this factor varies depending on customer class and property type.

Note: To calculate the value of the service charge for meter sizes above 20mm, the following formula applies:
Service Charge = (Meter size)² x 20mm charge/400.

Source: Hunter Water submission, 9 January 2009, p 102.

In addition, Hunter Water proposed to change the approach to setting the sewer discharge factor (SDF) for non-residential customers. These SDFs are currently grouped into five bands, and non-residential customers are assigned to a band based on their customer class or property type. Each band includes a range that represents the likely sewer discharge for customers in the band (expressed as a percentage of water consumption). The SDF for each band reflects the top value of the range. However, Hunter Water proposed that for the 2009 determination period, the SDF for each band be based on the mid-point of the range, as shown in Table 10.2 below.

Hunter Water did not propose any change to the current 50 per cent SDF for residential customers.

²¹⁶ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 99.

²¹⁷ IPART, *Hunter Water Corporation, Prices of Water Supply, Wastewater and Stormwater Services from 1 November 2005 to 30 June 2009 - Final Report*, June 2005, p 122.

Table 10.2 Hunter Water's proposed sewer discharge factors for non-residential customers

Band	Range	Current SDF (top of range)	Proposed SDF (mid-point of range)	Examples of customer/property types in band
1	0%	0%	0%	No connection to the sewerage system
2	1 – 25%	25%	10%	Garden centres
3	26 – 50%	50%	35%	Clubs with catering and sports fields
4	51 – 75%	75%	60%	Caravan parks
5	76 – 100%	100%	85%	Hotels, hospitals, offices
Specified	Specified	Specified	No change	Customers may provide evidence of actual discharge and be assigned an SDF outside a band (eg, 6%). Less than 1% of customers select this option.

Source: Hunter Water submission, January 2009, p 100.

In relation to sewerage service charges, Hunter Water proposed to increase the charges for both residential and non-residential customers by around 89 per cent over the determination period.

10.2.2 Stakeholder comment

Professor Mike Young has promoted the introduction/retention of sewer usage charges for residential customers. However, they noted in a recent article²¹⁸ that in practice the cost of installing, maintaining and reading household sewage meters is likely to be prohibitively high. Thus, given that short-term responsiveness to changes in price is likely to be very low, sewage metering may not be worthwhile.²¹⁹

Only the Total Environment Centre (TEC) commented on the IPART draft decision to discontinue sewer usage charges for residential customers. It submitted:

We see no reason why sewerage usage charges should not be applied to both residential and non-residential customers. Large fixed charges for sewerage services significantly reduce the control that customers can exercise over the size of their bills. The result is reduced incentive to adopt more efficient appliances and water use strategies, thus eroding the resource conservation signal sent by water usage charges.²²⁰

²¹⁸ Professor Mike Young, University of Adelaide, *Droplet No. 14*, 16 November 2008.

²¹⁹ The suggested alternative is a 'winter averaging' approach where the volumetric charge is based on water consumption over the winter months when it is assumed that minimal water is used outside. However, Mike Young highlights several issues surrounding sewerage usage charges yet to be resolved. For example, in the absence of metering, customers who choose to recycle grey water will not have this reflected in their sewer usage charge.

²²⁰ The Total Environment Centre submission to IPART Draft Report, May 2009, pp 6-7.

The TEC also commented on IPART's view that sewer usage charges operate as de facto water usage charge. TEC considers such a view excessively narrow and believes that while a sewerage usage charge is not without faults, it is clearly preferable to:

...a simple fixed service which reduces the capacity for customers to control their bills and effectively subsidise higher users at the expense of more efficient customers.²²¹

10.2.3 IPART's analysis and decisions

In relation to sewer usage charges, IPART supports Hunter Water's proposal to discontinue the usage charge for residential customers from 2009/10. IPART is cognisant of the views expressed by TEC however it maintains its position that the sewer usage charge operates as a de facto water usage charge, and the water usage charge is already acting as a price signal for the purposes of demand management.

Furthermore, as Hunter Water pointed out, the introduction of BASIX and the increasing incidence of recycled water and rainwater tanks means metered water usage is a less reliable proxy for sewer usage. Therefore, the retention of the sewer usage charge has potentially distortionary implications for residential customers, as the number of BASIX compliant homes increase. IPART is also mindful of the regularity of complaints from Hunter Water customers about the existence of the sewer usage charge.

The application of a fixed sewer service charge only for residential customers recognises the predominately fixed costs associated with the pipes, pumping stations and treatment works infrastructure used to provide sewerage services.²²²

IPART also supports Hunter Water's proposal to maintain the sewer usage charge for non-residential customers, and increase this charge by 27 per cent to \$0.60 per kL over the determination period (before the application of the relevant SDF). It considers that non-residential customers should continue to pay a usage charge to reflect the often larger volumes of sewage that some businesses discharge. It also considers that the proposed 27.7 per cent increase in the non-residential sewer usage charge reflects the higher costs of sewage treatment, driven by DECC requirements.

In addition, IPART supports Hunter Water's proposal to set the SDF for non-residential customers based on the mid-point of the range in the relevant band. This varies from the current case of setting it at the top of the range. IPART notes this

²²¹ Ibid, May 2009, p 7.

²²² The variable cost of processing 200kL of domestic sewerage is only in the order of \$25 to \$30 per annum. Sources:

a) SA Water estimate the avoided cost of a household using the sewerage system to be approximately \$25.00pa (<http://www.sawater.com.au/NR/rdonlyres/985FFD3D-2DDD-42B0-B69E-8FC7419A2976/0/PARTA.pdf>)

b) A study of 77 utilities in Toronto found the average cost of treating 200kL of sewage to be CAN\$25.60(2007)
<http://www.rccao.com/research/files/HarryKitchenfinalreport-july9-2007.pdf>

change will mitigate the impact of the increase in non-residential sewerage usage charges to some degree.

In relation to sewer service charges, IPART has made its decision by considering the revenue required to recover the fixed costs of sewerage service provision. IPART calculated these charges by deducting the forecast revenue to be collected from non-residential sewer usage charges from the total revenue requirement for sewerage services. This resulted in residential sewer service charges increasing from \$321.17 per annum in 2008/09 to \$494.80 per annum in 2012/13 (for a property with a 20mm meter connection and *after applying* the 50 per cent SDF). It resulted in non-residential sewer service charges increasing from \$642.33 in 2008/09 to \$989.61 in 2012/13 (for a property with a 20mm meter connection *before applying* the relevant SDF).

Decisions

- 24 IPART's decision is to discontinue the residential sewer usage charge, but to maintain the non-residential sewer usage charge and increase it to \$0.60/kL as shown in Table 10.3.
- 25 IPART's decision is to accept Hunter Water's proposal to set sewer discount factors for non-residential customers in line with the mid-point of the range for the relevant band.
- 26 IPART's decision is to set sewer service charges as shown in Table 10.3.

Table 10.3 IPART's decisions on sewer charges (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Total Change
Residential usage charge (\$/kL)	0.47	0.00	0.00	0.00	0.00	-100.0%
Non-residential usage charge (\$/kL) ^a	0.47	0.60	0.60	0.60	0.60	27.7%
Residential service charge (for property with 20mm meter) ^a	321.17	445.08	462.21	478.25	494.80	54.1%
Minimum multi-residential service charge ^b	210.09	291.14	302.36	312.85	323.68	54.1%
Non-residential service charge (for property with 20mm meter) ^a	642.33	890.14	924.43	956.50	989.61	54.1%

^a For residential customers, a 50 per cent sewer discharge factor applies to all customers. The residential service charges shown on the table include the application of this factor. For non-residential customers, a variable sewer discharge factor is applied, depending on the customer and property type. The non-residential usage and service charges shown on the table do not include the application of this factor.

^b The minimum multi-residential service charge applies to residential customers living in a strata title building who are connected to the sewerage system and have a common water meter/s.

Note: To calculate the value of the service charge for meter sizes above 20mm, the following formula applies:
Service Charge = (Meter size)² x 20mm charge/400.

10.3 Environmental Improvement Charge

Hunter Water levies an Environmental Improvement Charge (EIC) on all its customers to recover the costs of providing sewerage services to currently unsewered townships in Hunter Water's operational area. These costs are partly funded through State Government Community Service Obligation (CSO) payments.

Hunter Water proposed that the EIC be reduced by 41.7 per cent in the first year of the determination period, and then remain constant (in real terms) over the period. This would mean that the EIC would decrease from \$54.84 in 2008/09 to \$31.98 in each year of the determination period. IPART supports Hunter Water's proposal.

Decision

27 IPART's decision is to set the Environmental Improvement Charge as shown in Table 10.4, in line with Hunter Water's proposal.

Table 10.4 IPART's decision on the Environmental Improvement Charge (\$2008/09)

	2009/10	2010/11	2011/12	2012/13
Environmental Improvement Charge (EIC)	31.98	31.98	31.98	31.98

10.4 Clarence Town Sewerage Levy

Hunter Water became responsible for providing sewerage services to the currently unsewered township of Clarence Town from 1 July 2008 when Dungog Shire Council's water and sewer businesses were transferred to Hunter Water.²²³ Currently, there are around 450 properties with water connections in this township. In its submission, Hunter Water noted:

One of the major drivers for the [Dungog] Council's decision to transfer its water and sewer businesses to Hunter Water was escalating costs of the Council's proposal to provide sewer services to the township of Clarence Town.²²⁴

Hunter Water proposed to recover the additional costs of providing the proposed Clarence Town sewer scheme by charging customers with properties in Clarence Town a special levy (in addition to standard sewerage charges).

Prior to July 2008, Dungog Council collected a preconstruction levy of \$260 per property per year.²²⁵ Hunter Water proposed to continue to collect this levy at a reduced rate of \$200 (\$2008/09) until the sewer scheme is commissioned (which is expected to be in 2010). After this date, Hunter Water proposed to reduce the levy to a rate equivalent to \$100 (\$2007/08) until 30 June 2019. The levy will only apply to Clarence Town properties which have sewer services provided.

²²³ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 11.

²²⁴ Ibid, p 30.

²²⁵ The levy has been collected by Dungog Council since 1998/99 at a rate of \$260 (\$08/09).

Table 10.5 presents Hunter Water's proposed special levy for Clarence Town.

Table 10.5 Hunter Water's proposed Clarence Town Sewerage Levy

	2009/10	2010/11	2011/12	2012/13
Base charge for calculation	200.00 (\$2008/09)	100.00 (\$2007/08)	100.00 (\$2007/08)	100.00 (\$2007/08)
Clarence Town Sewerage Levy (\$2008/09)	200.00	103.40	103.40	103.40

Source: Hunter Water submission, 9 January 2009, p 103, with IPART analysis.

IPART supports the use of cost reflective charges and levies to ensure that prices signal the efficient costs associated with the provision of a good or service. Since the Clarence Town area was transferred to Hunter Water in a condition which requires a substantial investment in infrastructure, IPART considers that it is appropriate that Clarence Town customers should contribute to the cost of upgrading their infrastructure. Therefore, IPART supports Hunter Water's proposal.

Decision

28 IPART's decision is to set the Clarence Town Sewerage Levy for the 2009 determination period as shown in Table 10.6.

Table 10.6 IPART's decision on the Clarence Town Sewerage Levy (\$2008/09)

	2009/10	2010/11	2011/12	2012/13
Clarence Town Levy	200.00	103.40	103.40	103.40

10.5 Stormwater drainage service charges

Stormwater drainage services are largely the responsibility of local councils in Hunter Water's area of operations. Hunter Water owns and operates some stormwater drainage assets in the Newcastle, Lake Macquarie and Cessnock local government areas.²²⁶ In these areas, Hunter Water supplies stormwater drainage services to approximately 67,000 customers.²²⁷

Residential customers connected to Hunter Water's stormwater drainage services currently pay a fixed service charge for stormwater drainage services. Non-residential stormwater drainage service charges have progressively transitioned from property-value-based charges to land-area-based charges over the last determination period. From 2009/10, all non-residential customers will pay a land-area-based charge.

²²⁶ Hunter Water Corporation, *Submission to IPART on prices to apply from 1 July 2009*, January 2009, p 106.

²²⁷ Hunter Water Corporation *Annual Information Return*, 2008/09, January 2009.

10.5.1 Hunter Water's proposal

Hunter Water proposed to increase the charges for customers connected to its stormwater drainage services by around 12 per cent, as shown in Table 10.7.

Table 10.7 Hunter Water's proposed charges for stormwater drainage services (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Total change
Residential	61.52	65.81	67.52	68.17	68.83	11.9%
Non-residential – small (<1,000m ²) / low impact	61.52	65.81	67.52	68.17	68.83	11.9%
Non-residential: – medium (1,001 – 10,000m ²)	111.19	118.93	122.03	123.21	124.39	11.9%
Non-residential: – large (10,001 – 45,000m ²)	707.26	756.48	776.23	783.68	791.20	11.9%
Non-residential: – very large (>45,000m ²)	2,247.11	2,403.51	2,466.24	2,489.92	2,513.82	11.9%

Source: Hunter Water submission, 9 January 2009, p 107.

10.5.2 Stakeholder comment

The TEC supported land-area-based charges for stormwater drainage services that are linked to environmental impacts. It stated that stormwater charges should reflect the amount of stormwater a property contributes to the drainage system. It advocated:

...a two-part tariff with a fixed service charge and a sliding scale of area based charges. This would reflect the fact that all customers benefit to at least some extent from drainage works, whether or not their property is directly affected while still providing strong polluter pays signal.^{228, 229}

10.5.3 IPART's analysis and decisions

After considering Hunter Water's proposal and stakeholder comments, IPART considers that the current land-area-based stormwater drainage charges should be retained, and all these charges should be increased by around 25.2 per cent over the determination period. This percentage increase is higher than Hunter Water proposed, and would mean that the residential and small (<1,000m²) non-residential charges increase from \$61.52 in 2008/09 to \$77.02 in 2012/13.

²²⁸ The Total Environment Centre submission to IPART Issues Paper, 14 November 2008, pp 9-10.

²²⁹ Furthermore, TEC called for the introduction of rebates for customers who install on site stormwater management facilities such as retention basins and stormwater recycling (such as rainwater tanks). TEC believes this will provide incentives for developers and property owners to embrace water sensitive urban design features.

In calculating stormwater drainage charges, IPART incorporated a roll forward method to allocate Hunter Water's RAB to its water, sewerage and stormwater drainage services. The RAB roll forward allocates what costs are to be recovered by each of Hunter Water's services, to obtain values for all prices to reflect the relative balance of past and future expenditures in the charges for each service type (based on the capital expenditure and depreciation incurred over the period).

IPART calculated that 2.0 per cent of Hunter Water's RAB can be attributed to the provision of stormwater drainage services, whereas Hunter Water's proposed prices imply that 1.3 per cent of the RAB can be attributed to these services (as is implied through Hunter Water's proposed prices). As a result, IPART's decision on stormwater drainage charges is higher than Hunter Water proposed, as they have been set to recover the higher level costs IPART attributed to stormwater drainage services. IPART's method for calculating stormwater drainage charges is explained in more detail in Appendix F.

Decision

29 IPART's decision is to set stormwater drainage charges as shown in Table 10.8.

Table 10.8 IPART's decision on stormwater drainage charges (\$2008/09)

	Current (2008/09)	2009/10	2010/11	2011/12	2012/13	Total change
Residential	61.52	72.59	74.04	75.51	77.02	25.2%
Non-residential: small (<1,000m ²) / low impact	61.52	72.59	74.04	75.51	77.02	25.2%
Non-residential: medium (1,001 – 10,000m ²)	111.19	131.20	133.82	136.49	139.20	25.2%
Non-residential: large (10,001 – 45,000m ²)	707.26	834.57	851.20	868.16	885.46	25.2%
Non-residential: very large (>45,000m ²)	2,247.11	2651.59	2704.43	2758.32	2813.28	25.2%

10.6 Trade waste charges

Hunter Water levies a range of trade waste charges, including agreement and inspection fees, a high-strength charge, a heavy metals charge, a phosphorous charge, a sulphate charge, and tankering service charges. These charges are intended to reflect the higher costs and risks associated with trade waste discharges compared to domestic sewage, including the costs of:

- ▼ transporting the trade wastes (through the sewerage reticulation system)
- ▼ treating the trade wastes (through the sewage treatment plant)
- ▼ maintaining the transportation and treatment infrastructure

- ▼ minimising public/environmental nuisance from acceptance of trade wastes (such as preventing overflows and reducing odours)
- ▼ implementing risk and hazard identification incorporating programs to minimise damage to systems and maintain a safe working environment for operations/maintenance personnel
- ▼ implementing trade wastes monitoring programs to ensure that licence agreements are met.

10.6.1 Trade waste pricing principles

IPART defined a set of trade waste pricing principles as part of its 2003 review of trade waste pricing. These principles are as follows:

- ▼ Standards for acceptance of trade waste should be set on the basis of the capacity of current systems to treat wastes.
- ▼ Trade waste charges should at least cover the costs to the water supplier of handling these wastes.
- ▼ Charges should vary to reflect differences in the cost of treating waste to the required standards at particular locations.
- ▼ Water suppliers should set charges and standards in a manner that is transparent and accurate, and the basis for setting charges should reflect costs incurred as far as possible.

IPART assessed Hunter Water's proposal for each of its trade waste charges against these principles. It also considered the information Hunter Water provided in support of its proposed charges, and the likely impact of the proposed charges on customers. In addition, it considered the findings and recommendations of Deloitte/Halcrow, which it engaged to review Hunter Water's trade waste proposals.

10.6.2 Agreement and inspection fees

Hunter Water's 2,200 trade waste customers are issued with five-year agreements covering the discharge of trade waste. These agreements are currently categorised as either minor or major depending on the customer's risk profile, assessed in terms of quality and volume of discharge. Trade waste agreement fees cover administrative costs. For customers on minor agreements the fixed fee also covers treatment costs.

Hunter Water's proposal

Hunter Water proposed to introduce a third customer agreement category known as the 'moderate' agreement category, which would sit between the existing minor and major agreement levels. Hunter Water stated that the objectives of introducing this additional category are to:

- ▼ impartially reduce dispute about the category assignment for customers on the borderline between minor and major categories
- ▼ minimise the impact on customers that change from one category to another
- ▼ commence monitoring the quality of discharges
- ▼ better align the charging methodology with Sydney Water (which has seven risk-based agreement categories).²³⁰

Hunter Water also recalculated all of its agreement and inspection fees from a zero-base, to better reflect current costs. As a consequence, it proposed significant changes to some of these fees. Hunter Water's proposed trade waste agreement and inspection fees are shown in Table 10.9.

Table 10.9 Hunter Water's proposed trade waste agreement and inspection fees (\$2008/09)

	2008/09	2009/10 – 2012/13
Minor agreements		
New minor agreement establishment fee	160.21	113.62
Existing minor agreement holders:		
Annual agreement fee	113.16	108.16
Inspection fee	101.96	104.81
Existing renewal/reissue fee	118.75	94.25
Moderate agreements		
New moderate agreement establishment fee	n/a	594.63
Existing moderate agreement holders:		
Annual agreement fee	n/a	846.40 ^a
Inspection fee	n/a	104.81
Existing renewal/reissue fee	n/a	429.81
Major agreements		
New major agreement establishment fee	885.06	594.63 ^b
Existing major agreement holders:		
Annual agreement fee	349.54	435.02
Inspection fee	101.96	104.81
Existing renewal/reissue fee	655.40	429.81

a Annual agreement fee includes high-strength charges for the average discharge quality of these customers.

b Separate high-strength and constituent charges for heavy metals, phosphorus and sulphate apply and are not included in the annual agreement fee.

Source: Hunter Water submission, January 2009, p 124.

²³⁰ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009.

Hunter Water proposed that its proposed fees apply from the start of the 2009 determination period, and be increased annually in line with the change in inflation only.

Hunter Water's proposed annual agreement fee for customers with moderate agreements is higher than that proposed for customers with major agreements. This is because the moderate annual agreement fee is a flat fee that covers high-strength costs, while the major agreement fee must be paid in addition to high-strength charges calculated on the basis of discharge quality.

Deloitte/Halcrow recommendations

Deloitte/Halcrow supported Hunter Water's proposed trade waste agreement and inspection fees, including the establishment of a moderate agreement category. They indicated in their report that they are satisfied that:

Hunter Water's actions are prudent measures and ensure that the current fees and charges accurately reflect current costs, in line with the cost reflectivity principle.²³¹

Deloitte/Halcrow noted that the establishment of a moderate category should improve the cost-reflectivity of tariffs and ensure more appropriate price signals are provided.

Customer impacts

Hunter Water indicated that under its proposed charges, 114 of its 2,200 trade waste customers would potentially move from minor to moderate agreements (based on their estimated discharge quality) and therefore would face a substantial increase in the annual agreement fee. Hunter Water indicated that it intends to collect and analyse three samples of these customers' discharge at its expense to confirm their discharge quality (and therefore their appropriate agreement), prior to moving the customers. A further 64 customers would move from major to moderate agreements with significant decreases in charges. Hunter Water will continue to monitor discharge quality for these customers.

In addition, Hunter Water indicated that it expects its revenue to increase by approximately \$80,000 as a result of its proposed trade waste agreement and inspection fees. (This represents around 18 per cent of its total expected revenue from these fees of \$440,000.)

Hunter Water also indicated that it intends to develop a transition plan to reduce the impact of its proposed fees on customers that have been reclassified. Under this

²³¹ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 73.

plan, customer reclassification will be limited to one category step at a time (eg, from minor to moderate or moderate to major rather than minor to major).²³²

Decision

- 30 IPART's decision is to set trade waste agreement and inspection fees in line with Hunter Water's proposal as shown in Table 10.9, and that these fees will be indexed annually in line with the CPI.

10.6.3 High-strength charges

Biochemical oxygen demand (BOD) and non-filterable residue (NFR) high-strength charges are designed to recover the additional costs associated with treating the component of a trade waste customer's load that exceeds the equivalent domestic load strength. BOD/NFR load acts as a proxy for a range of pollutants in sewerage that result in added treatment imposts on Hunter Water. Hunter Water has differential BOD/NFR charges for each of its catchment areas. This reflects treatment cost differences and the intention to create incentives for new industrial/commercial trade waste customers to undertake new business in areas where the existing infrastructure has spare capacity.

Hunter Water's proposal

Hunter Water proposed to make one change to the current methodology for calculating BOD/NFR charges. It intends to exclude the return of and on capital components from the calculation. This would mean that its capital costs for treatment assets would be recovered only by the sewerage periodic charges levied on all customers and not through high-strength charges.

Hunter Water submitted that this is reasonable because its treatment facilities are primarily designed to treat domestic quality sewerage. In addition, its trade waste customers tend to be transient compared to residential customers and have variable discharge quality. Hunter Water indicated that in the past, capital costs were included in high-strength charges as an incentive to trade waste customers to invest in their own treatment facilities. Hunter Water now intends to manage demand through its customer agreements.

Trade waste customers would continue to contribute to the return on assets and depreciation for sewerage facilities through sewer periodic charges. Hunter Water noted that as sewer service charges are based on meter size, and trade waste customers tend to have a larger meter, these customers are already paying a greater contribution towards sewer costs. It also noted that variable sewer discharge factors are applied to non-residential sewerage charges, which enables it to charge customers on the basis of the quality of the discharge. The removal of capital costs

²³² Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009.

from the high-strength charges will ensure trade waste customers are not contributing more than an equitable share toward the costs of sewerage treatment facilities, and would align Hunter Water's approach to setting charges with the Sydney Water Corporation's approach.

In calculating its proposed high-strength charges, Hunter Water also took into account movements in treatment costs and load-based licensing fees. Residential development growth in the catchments of some sewerage treatment plants has resulted in less capacity being available for the treatment of trade waste. For treatment plants that are nearing capacity, Hunter Water proposed increasing the high-strength charges significantly to provide an incentive for existing trade waste customers to pre-treat their waste, and to provide appropriate signals to customers considering locating within the catchments for these plants.

In addition, Hunter Water proposed to apply an incentive charge to encourage customers to maintain compliance with the load limits specified in trade waste agreements. Exceeding set load limits can lead to failure of the treatment process, cause Hunter Water to breach its environmental regulations, and potentially lead to environmental damage. The incentive charge would only apply where new load limits have been set or existing load limits have been agreed with the customer after full disclosure of the incentive charge. Hunter Water proposed that this charge be triple the base load rate for loads beyond the load limit for each applicable pollutant.

Further, Hunter Water proposed to establish high-strength charges for two sewerage treatment works located in Dungog Shire and previously operated by Dungog Council.

Table 10.10 shows Hunter Water's proposed high strength charges. These charges are to be increased annually in line with the CPI.

**Table 10.10 Hunter Water's proposed trade waste high-strength charges for
BOD/NFR (\$/kg 2008/09)**

Sewage Treatment Works	2008/09	2009/10 – 2012/13 base charge^a	2009 – 2012/13 incentive charge^b
Belmont	2.34	1.05	3.15
Boulder Bay	2.95	1.47	4.41
Branxton	4.26	3.82	11.46
Burwood Beach	2.03	0.69	2.07
Cessnock	2.72	1.62	4.86
Clarence Town	-	14.18	42.54
Dora Creek	2.59	0.98	2.94
Dungog	-	9.29	27.87
Edgeworth	2.35	0.74	2.22
Farley	2.11	0.94	2.82
Karuah	13.88	28.59	85.77
Kearsley	4.20	13.22	39.66
Kurri Kurri	3.67	2.29	6.87
Morpeth	2.57	1.05	3.15
Paxton	7.62	17.15	51.45
Raymond Terrace	3.06	1.61	4.83
Shortland	3.03	2.13	6.39
Tanilba Bay	3.64	2.93	8.79
Toronto	2.49	1.34	4.02

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

b These charges apply where the load limit specified in a trade waste agreement is exceeded.

Source: Hunter Water submission, January 2009, p 125.

IPART supports Hunter Water's proposed incentive charges to be levied on trade waste customers that exceed agreed BOD/NFR loads. IPART considers that the charges are consistent with the trade waste pricing principles and may assist in encouraging greater compliance with trade waste agreements.

Deloitte/Halcrow's recommendations

Deloitte/Halcrow undertook a detailed review of Hunter Water's proposed BOD/NFR charging methodology. They noted that where infrastructure assets can be directly linked to a specific service, Hunter Water has proposed charges that include a return of/on capital. However, in the majority of cases, assets provide services for both domestic-strength sewerage and high-strength trade waste. As a result, the recovery of the return of/on capital from trade waste customers is disadvantaging these customers who already pay a larger contribution towards sewer costs due to their larger connection size and discharge factor.

Deloitte/Halcrow concluded that:

...while Hunter Water proposes not to include return of/on capital in trade waste charges, trade waste customers will still pay an equitable contribution towards return of/on capital via periodic sewer charges.²³³

Deloitte/Halcrow also supported the intention of Hunter's proposed incentive charge and noted that the charges are consistent with the 2003 trade waste pricing principles, but suggested that it be renamed a 'risk factor charge' as the intention is to represent the additional risk of a customer's discharges on a particular sewerage treatment plant catchment.

Customer impact

Hunter Water's assessment indicated that given the significant decrease in the high-strength charge that results from the removal of the return on and of capital, the total BOD/NFR trade waste income would fall by up to 60 per cent or \$1.4 million when using 2008/09 load projections.²³⁴

IPART's decision

IPART supports Hunter Water's proposed high-strength charges. It considers these charges are consistent with the trade waste pricing principles, and will ensure trade waste customers are not paying more than an equitable share of treatment works capital costs.

This reduction of approximately \$1.4 million in trade waste high-strength charges that will now be recovered in sewer periodic charges represents approximately 1 per cent of total sewer periodic revenue.

Decision

- 31 IPART's decision is to set trade waste high-strength charges in line with Hunter Water's proposal as shown in Table 10.10, and that these charges will be indexed annually in line with the CPI.

²³³ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 78.

²³⁴ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 124.

10.6.4 Heavy metals charges

Hunter Water's current heavy metals charges are based on the costs associated with environmental monitoring, sludge and effluent/influent heavy metal monitoring, a portion of load-based licensing fees, and the administration costs of treating and accepting heavy metals. The charges are currently calculated using the original methodology adopted by IPART in 1994.

Hunter Water's proposal

Hunter Water proposed a significant reduction in its heavy metal charges. This is in line with the load-based licensing metal fees imposed by DECC. Hunter Water proposed retaining the differential charge for Burwood Beach Waste Water Treatment Works. This was on the basis that it uses a different treatment process, which results in different load-based licensing fees imposed by DECC.

Hunter Water's proposed heavy metal charges are shown in Table 10.11. Hunter Water has also proposed that these charges be increased annually in line with the CPI.

Table 10.11 Hunter Water's trade waste heavy metal charges (\$/kg \$2008/09)

	2008/09	2009/10 – 2012/13
Burwood Beach WWTW catchment	32.31	16.07
All other catchments	26.48	18.54

Source: Hunter Water Corporation submission, January 2009, p 127.

Deloitte/Halcrow's recommendations

Deloitte/Halcrow supported Hunter Water's proposal, stating in their report:

...our review of Hunter Water's supplied information suggests that the proposed heavy metal charges are appropriate and consistent with the IPART trade waste pricing principles.²³⁵

Customer impact

Hunter Water's proposed heavy metal charges represent a net decrease in revenue of \$4,000 or 35 per cent when compared with the same load basis at current charges.

Decision

- 32 IPART's decision is to set trade waste heavy metal charges in line with Hunter Water's proposal as shown in Table 10.11, and that these fees will be indexed annually in line with the CPI.

²³⁵ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 80.

10.6.5 Phosphorous charge

Hunter Water currently charges trade waste customers for the disposal of phosphorous.

Hunter Water's proposal

Hunter Water proposed to amend its phosphorous charge to include biosolids management costs and remove the contribution to the recovery on/of capital. Biosolids are produced as a byproduct of the treatment of phosphorous and Hunter Water considered it is appropriate that the costs of the management of such waste are recovered directly from these customers.

However, Hunter Water noted that it is difficult to isolate phosphorous removal capital expenditure as solely benefitting trade waste customers, and phosphorous removal investment is often driven by DECC pollution reduction requirements. For these reasons, it considered it is more appropriate to recover this capital expenditure through sewer periodic charges. This more than offsets the inclusion of biosolids management costs in the phosphorous charge.

Hunter Water's proposed phosphorous charges are shown in Table 10.12. Hunter Water also proposed that these charges be increased annually in line with the CPI.

Table 10.12 Phosphorous charge (\$/kg \$2008/09)

	2008/09	2009/10 – 2012/13
Phosphorus >11mg/L (\$/kg)	3.10	1.77

Source: Hunter Water submission, January 2009, p 80.

Deloitte/Halcrow's recommendations

Deloitte/Halcrow supported Hunter Water's proposal and stated in their report:

...we are satisfied that the methodology used is appropriate and reflects the trade waste pricing principles, particularly in relation to cost reflectivity and customer equity.²³⁶

Customer impact

Hunter Water indicated that the proposed phosphorous charge reductions will result in a drop in associated income of \$4,600 (37 per cent) per year.

²³⁶ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 81.

Decision

- 33 IPART's decision is set the trade waste phosphorous charge in line with Hunter Water's proposal as shown in Table 10.12, and that these fees will be indexed annually in line with the CPI.

10.6.6 Sulphate charges

Hunter Water introduced sulphate charges in 2003, to bring it into line with Sydney Water. These charges apply to trade waste customers who discharge higher sulphate concentrations than domestic customers.

Hunter Water's proposal

Hunter Water put the view that because it is difficult to develop an accurate cost-reflective charging methodology for sulphur, an incentive-based charge is more appropriate. Therefore, it proposed continuing the set sulphate charges based on Sydney Water's sulphate charge formula that it adopted in 2003.²³⁷

Hunter Water's proposed sulphate charge formula is shown in Table 10.13. While the formula is unchanged, Hunter Water has proposed that the resulting charges be increased annually in line with the CPI.

Table 10.13 Sulphate charges (\$/kg \$08/09)

	2008/09	2009/10 – 2012/13
Sulphate formula (\$/kg)	$0.126 \times (\text{SO}_4/2000)$	$0.126 \times (\text{SO}_4/2000)$

Source: Hunter Water submission, January 2009, p 127.

Deloitte/Halcrow's recommendations

Deloitte/Halcrow stated in their report that they consider Hunter's sulphate fees and charges to appropriately reflect the trade waste pricing principles²³⁸.

Customer impact

Hunter Water indicated that it has only one customer discharging sulphate, thus the impact of this charge would be small.

²³⁷ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 127.

²³⁸ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 81.

Decision

- 34 IPART's decision is to set sulphate charges in line with Hunter Water's proposal as shown in Table 10.13, and that these charges will be indexed annually in line with the CPI.

10.6.7 Tankering service charges

Hunter Water currently accepts and treats waste transported to its sites by tanker customers. This waste includes septic waste, portable toilet waste, ship waste and industrial waste. Fees for tankered waste currently include the capital cost of the dedicated equipment installed to accept tankered waste, administration costs associated with managing tankered waste and treatment plant operating costs. A component of the administration costs is recovered through a fixed cost, and the remainder of the costs through volume-based charges.

Hunter Water's proposal

Hunter Water revised its approach to tanker customer management to align with *WSAA National Wastewater Guidelines*,²³⁹ and has proposed to revise its tankered fee structure in line with the new approach. In particular, Hunter Water proposed:

- ▼ Absorbing the existing monthly invoicing fee into the delivery processing fee. This will enable administration costs to be recovered based on transaction volumes and minimise cross-subsidies.
- ▼ Introducing a new ship waste volumetric charge as this category has distinctive discharge quality characteristics.
- ▼ Merging the septic effluent and septic sludge volume charges, as currently customers self-identify their type of waste and the 10-fold difference in charges is resulting in undesirable incentives for customers and under-recovery of costs for Hunter Water.
- ▼ Incorporating the return of/on capital for the automated tankering receival facilities into charges, as these assets are used solely for tanker receival.

Hunter Water's proposed tankering service charges are shown in Table 10.14. Hunter Water has also proposed that these charges be increased annually in line with the CPI.

²³⁹ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 127.

Table 10.14 Hunter Water's proposed tankering service charges (\$2008/09)

	2008/09	2009/10 – 2012/13
Establish tankering agreement	\$160.21	\$190.39
Renew agreement	\$118.75	\$121.51
Monthly invoicing fee	\$22.41	n/a
Delivery processing fee	\$2.24	\$3.75
Portable toilet effluent (\$/kL)	\$16.14	\$12.07
Septic effluent (\$/kL)	\$3.39	n/a
Septic sludge (\$/kL)	\$31.23	n/a
Septic waste (\$/kL)	n/a	\$3.62
Ship waste (\$/kL)	n/a	\$6.73
High-strength waste :		
Volume charge (\$/kL)	\$2.85	\$3.34
Load charge (\$/kL)	See variable quality charges	See variable quality charges

Source: Hunter Water submission, January 2009, p 133.

Deloitte/Halcrow's recommendations

Deloitte/Halcrow found that the proposed tankering charges better reflect the actual costs of accepting and treating tankered waste. They noted that increased costs are offset by decreases in high-strength charges (tanker customers pay the same BOD/NFR charges as other trade waste customers).²⁴⁰

Customer impact

Hunter Water conducted a consultative process with key customers as part of its charge review. This indicated that its tankering charges represent a relatively small proportion of the costs of customer's operations. Further, customers will benefit from the new automated receival systems which will enable 24 hour access rather than the current system where it operates only when the treatment facility is staffed.

Decision

- 35 IPART's decision is to set trade waste tankering charges in line with Hunter Water's proposal as shown in Table 10.14, and that these fees will be indexed annually in line with the CPI.

²⁴⁰ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 81.

Summary of impact of changes to trade waste charges

The overall impact of the changes to trade waste charges is a reduction in trade waste revenue of \$0.8 million, from \$3.2 million in 2008/09 to \$2.4 million in 2009/10.²⁴¹ The main reason for this is the removal of return on and of capital from trade waste high-strength charges, which Hunter Water proposed to recover through sewer periodic charges²⁴². Trade waste customers pay substantial sewer periodic charges as these are based on meter size, but Hunter's reforms aim to ensure trade waste customers are paying a more equitable share.

This reduction in high-strength charges is partially offset by higher agreement and inspection fees, which result in additional revenue of \$80,000 and a total revenue of \$440,000 in 2009/10.

10.7 Ancillary and miscellaneous charges

Hunter Water offers a number of non-contestable one-off services to customers for which it levies various miscellaneous charges. These charges tend to be incurred by small number of customers. The total revenue from miscellaneous charges is approximately \$4.5 million (or 2.5 per cent of total revenue). In line with IPART's miscellaneous charges pricing methodology, Hunter Water's charges are based on the user pays philosophy.

The *IPART miscellaneous charges pricing model* requires the recovery of:

- ▼ direct labour costs (hourly) including on-costs
- ▼ business unit overheads
- ▼ material costs where incurred.

10.7.1 Hunter Water's proposal

Hunter Water has substantially revised its miscellaneous charges structure in response to its review of its business processes to ensure costs align with service delivery. As part of this, Hunter Water proposed 21 new charges or components within charges. It also proposed price increases for 27 services and price reductions for 17 services. For 10 services, it proposed increases to some components and decreases to other components. Under the proposed prices, total miscellaneous charges revenue is expected to rise by up to \$1 million or approximately 28 per cent.²⁴³

²⁴¹ These aggregate figures are sourced from the Annual Information Return (AIR) provided by Hunter Water.

²⁴² This represents approximately 1 per cent of sewer periodic charge revenue

²⁴³ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 127.

Hunter Water has divided its proposed miscellaneous charges into two categories: customer service charges and commercial development charges. A complete list of Hunter Water's proposed miscellaneous charges, including existing charges, predicted quantity and predicted income can be found in the Hunter Water submission and in Appendix H of this report.

Hunter Water has also proposed that its miscellaneous charges be indexed annually in line with the CPI, and rounded after indexation.

Customer service charges

Customer service charges largely relate to administrative services for individual properties such as special meter readings and the provision of sewer location diagrams. Hunter Water proposed 15 new charges and changes to many of its existing charges. These changes are being driven by the introduction of Hunter Water's new customer information system which triggered a review and change of a number of business processes.

The key changes proposed for customer service charges are:

- ▼ the introduction of a number of new charges to cover services routinely performed but where costs are not currently recouped directly from beneficiaries
- ▼ decreases in some charges as a result of the improved efficiency of the new customer information system
- ▼ restructure of some charges where it has been identified that the previous methodology did not fully recover costs incurred in providing the service.

Customer service charges account for approximately \$1.5 million per annum in revenue.

Commercial development charges

Commercial development miscellaneous charges aim to recover the costs of the administration of development applications and associated services. Hunter Water recently reviewed its development-related charges, and proposed changes to its existing charges and four new charges. In summary, it proposed:

- ▼ decreasing core high-volume charges in real terms, and increasing some low-volume services to more accurately reflect the time taken to provide the service
- ▼ improving service descriptions to remove ambiguities, define scope and where appropriate, seek additional fees from a customer where the extent of work exceeds the scope of the basic service. The aim is to reduce cross-subsidies between an average applicant and those requiring additional services
- ▼ basing charges on an expectation that the activity level will decline by 4 per cent over the determination period due to reduced development.

Commercial development charges account for approximately \$2.5 million per annum in revenue.

Rounding after indexation

Hunter Water proposed that its miscellaneous charges be rounded at the time of indexation. This is intended to simplify cash handling and ensure customers pay the same charge regardless of the method of payment. Hunter Water proposed:

- ▼ where the charge is \$100 or more, and is submitted by the agency and set by IPART rounded to the nearest whole dollar, it is indexed each year to the nearest whole dollar
- ▼ where the charge is less than \$100 and is submitted by the agency and set by IPART rounded to the nearest 5 cents, it is indexed each year to the nearest 5 cents.²⁴⁴

10.7.2 Deloitte/Halcrow's findings

IPART engaged Deloitte/Halcrow to review Hunter Water's miscellaneous charges. This involved undertaking a general review of Hunter Water's charging methodology including a comparison with other agencies' approaches. It also involved a detailed review of 20 key charges to assess the general methodology. These 20 charges were selected to include those: utilised by the largest number of customers; forecast to generate the most revenue or highest increase in revenue; and which represented a range of new and existing charges from the customer service and commercial development categories.

General findings

Deloitte/Halcrow found that in general Hunter Water's approach to calculating miscellaneous service charges is sound.²⁴⁵ They noted that the information Hunter Water used to support its charges was reliable and drawn from appropriate sources, that it undertook checks on data consistency and supported calculations by spreadsheets where appropriate.

Deloitte/Halcrow also found Hunter Water's approach to formulating charges complied with the IPART formula for miscellaneous charges, and suggested it may be superior to the existing IPART approach. Deloitte/Halcrow formed this view because Hunter Water's approach included business overheads in terms of cost per hour rather than as a percentage of the base unit cost of labour, and business

²⁴⁴ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 148.

²⁴⁵ Deloitte/Halcrow, *Review of Hunter Water's miscellaneous and trade waste charges - Final Report*, December 2008, p 62.

overheads for a particular service (such as IT systems, etc.) would not be expected to vary according to the wage rate of the person providing the service.²⁴⁶

Many of Hunter Water's charges are based on the time taken to perform the service. Deloitte/Halcrow found that Hunter Water's approach for determining the time taken was thorough and well-considered, and based on reliable data. They also found that the hourly rates and overheads used in the price build-up were reasonable. However, they noted that Hunter Water's forecasts of the demand for many of its activity related services were conservative and should be increased.²⁴⁷

Overall, Deloitte/Halcrow concluded that 'we strongly support those new and amended charges' which will drive business efficiencies and provide appropriate signals to customers. They also noted the changes will improve cost reflectivity and customer equity. Further, after conducting a comparison with other agencies they found that 'for most services, Hunter Water's prices were reasonably aligned with charges levied by other NSW agencies'.²⁴⁸

Findings for individual charges

Deloitte/Halcrow's detailed review of 20 of Hunter Water's proposed miscellaneous charges found that in general, these charges accurately reflected the IPART pricing principles. They recommended minor amendments to three of the 20 charges including:

- ▼ A minor reduction to the charge for provision of a conveyancing certificate (charge 1). This arose through Deloitte/Halcrow's recommendation that processing time be reduced by two minutes per transaction from 22.5 minutes to 20.5 minutes. This reduces the charge 1a) from \$30.10 to \$27.50 and would result in an overall revenue decrease of \$2,626 per annum.
- ▼ A minor reduction to the charge for the provision of electronic service location diagram (charge 3b). This arose from Deloitte/Halcrow's recommendation that the allowance in the fee for the cost of manual interventions be set at 10 per cent of the over-the-counter fee as it is expected to occur 10 per cent of the time. Therefore, this would reduce this component by \$1.05 and the overall fee to \$13.20 from \$14.25, with an overall revenue decrease of \$8,384 per annum.

²⁴⁶ Ibid, p 7.

²⁴⁷ Ibid, p 8.

²⁴⁸ Ibid, p 27.

- ▼ That a specific price per additional drawing of \$20 be provided for service 34c) (hydraulic design assessment) when the number of drawings exceeds 50. Hunter Water proposed that customers pay \$258 for up to 10 drawings and \$23 per additional drawing up to 50, and seek a quote above 50 drawings. This modification will add to customer certainty and enable a figure to be included in Hunter Water's revenue forecasts. This would result in an overall revenue increase of \$3,200 per annum.²⁴⁹

Hunter Water has indicated that it is comfortable with Deloitte/Halcrow's recommendations.

Deloitte/Halcrow also noted that Hunter Water's proposed charge for service 22 (application to connect or disconnect water and sewerage services) seems low at \$101 given this is the same as the charge for service 10 (application for water service connection.) However, they did not recommend a change to this charge. Hunter Water indicated that administratively, these tasks are comparable, with charge 22 levied on customers with both a water and sewer connection and charge 10 on those customers with only a water connection. IPART is satisfied with Hunter Water's explanation and does not seek to modify these charges.

10.7.3 IPART's decision

IPART has decided to accept Hunter Water's proposed miscellaneous and ancillary charges but to make the following three amendments recommended by Deloitte/Halcrow:

- ▼ Charge 1 (provision of a conveyancing certificate) reduced to \$27.50
- ▼ Charge 3b (provision of electronic service location diagram) reduced to \$13.20
- ▼ Charge 34c) (hydraulic design assessment) modified to include a price of \$20 per drawing for additional drawings in excess of 50.

The impact on overall revenue from miscellaneous charges as a result of these amendments is a net decrease of \$7,810 out of total forecast revenue of \$4.5 million.

Decisions

- 36 IPART's decision is that Hunter Water can charge customers the maximum miscellaneous charges shown in Table H.1 in Appendix H and that these charges will be indexed annually in line with the CPI.
- 37 IPART also considers that Hunter Water's rounding proposal is reasonable and agrees to round miscellaneous charges each year after indexation to the nearest dollar for charges equal to or greater than \$100, and to the nearest 5 cents for charges less than \$100.

²⁴⁹ Correspondence from Hunter Water received 26/11/08 indicates that this would be based on 16 assessments with an average of 60 drawings.

Summary of impact of changes to miscellaneous charges

The overall impact of IPART's decisions on miscellaneous charges is an increase in revenue from these charges of approximately \$1 million, from approximately \$3.1 million in 2008/09 to \$4.1 million in 2009/10.

11 Implications of pricing decisions

Throughout the review process, IPART has considered the impact of maximum prices on Hunter Water, its customers and the environment. It has considered and balanced each of the matters listed in section 15 of the IPART Act.²⁵⁰ Overall, IPART is satisfied that the implications of its findings for customers, economic efficiency, the environment and financial outcomes for Hunter Water are appropriately balanced.

This chapter explains IPART's assessment of the implications of this determination. Section 11.1 discusses the implications for customers from the final prices. Section 11.2 outlines the impact of section 16A directions on customer bills and section 11.3 discusses the impact of DECC requirements. Sections 11.4 and 11.5 outline the implications of these prices for service standards and financial outcomes respectively. Section 11.6 discusses the impact on the Consumer Price Index (CPI) and section 11.7 details the implications for the environment from the final determination.

11.1 Implications for customers of prices

In reaching its decisions, IPART considered the likely impact on Hunter Water's residential, commercial and industrial customers. In particular, it considered the affordability of water services for high and low water users and vulnerable customers, and the quality of the services customers receive. It considers that these impacts are well balanced against the other matters it is required to consider under section 15 of the IPART Act.

IPART is conscious of the economic importance of water and the long-term implications for customers of sustainable water, sewerage and stormwater drainage services. It is also conscious that Hunter Water serves a large number of customers and that the household income of these customers varies considerably. A large proportion of households in the Hunter region are pensioners and low-income households. Specifically, IPART's Household Survey found that 35 per cent of households in the Hunter region have an income below \$31,200 while 42 per cent of households have a concession card.²⁵¹

²⁵⁰ Appendix A lists the factors included in section 15 of the Act and identifies where these matters have been considered in IPART's draft determination.

²⁵¹ IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, p 12-13.

Hunter Water's large forward capital program and cost pressures are driving increases in its expenditure. This means that customers will face significant increases in the cost of water, sewerage and stormwater drainage services. Combined water and sewerage and water, sewerage and stormwater drainage bills for all users are expected to increase in each year of the determination. However, IPART considers that these increases are warranted to ensure Hunter Water's financial viability through a period of intensive capital expenditure and to ensure that customers have access to reliable and sustainable water, sewerage and stormwater drainage services of appropriate quality. Increases are also necessary to ensure that prices reflect the efficient costs of producing water and sewerage so that water is not over-used.

The key implications for particular customer groups are discussed below.

11.1.1 Residential customers

IPART's analysis of the impact on Hunter Water's residential customers concentrated on the overall impact on total bills. It looked at how the increased bills compare with the past costs of these services, and how the size of these bill increases vary with water usage. Table 11.1 provides a summary of combined water and sewerage bills for residential customers from 2005/06 to 2012/13.

Table 11.1 Summary of annual bills for individually metered residential properties with water and sewerage services from 2008/09 to 2012/13 (\$2008/09)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Δ 05/06 ->12/13
100 kL pa	471.60	539.35	553.52	567.97	666.49	695.05	723.22	753.08	281.49
% increase		14.4%	2.6%	2.6%	17.3%	4.3%	4.1%	4.1%	59.7%
200 kL pa	614.63	684.18	700.81	718.47	817.49	857.05	897.22	939.08	324.45
% increase		11.3%	2.4%	2.5%	13.8%	4.8%	4.7%	4.7%	52.8%
250 kL pa	686.15	756.60	774.46	793.72	892.99	938.05	984.22	1,032.08	345.93
% increase		10.3%	2.4%	2.5%	12.5%	5.0%	4.9%	4.9%	50.4%
300 kL pa	757.67	829.02	848.10	868.97	968.49	1,019.05	1,071.22	1,125.08	367.42
% increase		9.4%	2.3%	2.5%	11.5%	5.2%	5.1%	5.0%	48.5%
400 kL pa	900.70	973.86	995.39	1,019.47	1,119.49	1,181.05	1,245.22	1,311.08	410.38
% increase		8.1%	2.2%	2.4%	9.8%	5.5%	5.4%	5.3%	45.6%
500 kL pa	1,043.74	1,118.69	1,142.68	1,169.97	1,270.49	1,343.05	1,419.22	1,497.08	453.35
% increase		7.2%	2.1%	2.4%	8.6%	5.7%	5.7%	5.5%	43.4%
750 kL pa	1,401.32	1,480.79	1,510.91	1,546.22	1,647.99	1,748.05	1,854.22	1,962.08	560.76
% increase		5.7%	2.0%	2.3%	6.6%	6.1%	6.1%	5.8%	40.0%
1500kL pa	2,441.20	2,545.76	2,605.28	2,674.97	2,780.49	2,963.05	3,159.22	3,357.08	915.88
% increase		4.3%	2.3%	2.7%	3.9%	6.6%	6.6%	6.3%	37.5%

Source: IPART modelling.

This table shows that between 2005/06 and 2008/09, water and sewerage bills for the typical residential customer (with water consumption of 200kL per year)²⁵² increased by an average of 6.2 per cent per annum (in real terms). Under the final 2009 Determination, residential customers will face additional increases in their water and sewerage bills, with the bill of a household with 200kL water consumption increasing by a total of \$220.61 (or 30.7 per cent) in real terms by the end of the 2009 determination period (or 6.9 per cent per annum on average). This equates to a total increase of 52.8 per cent (or 6.2 per cent per annum on average) over the combined 2005 and 2009 determination periods.

The amount of the increase will vary depending on the household's water consumption. For example, households with consumption of 100kL per annum (whose bills increased by 6.4 per cent (real) on average between 2005/06 and 2008/09) will face real bill increases of 7.3 per cent annually (on average) over the 2008/09 to 2012/13 period (which equates to a total increase of \$185 over the period). On the other hand, households with consumption of 300kL per annum (whose bills increased by 4.7 per cent (real) on average between 2005/06 and 2008/09) face lower real bill increases of 6.7 per cent annually (on average) over the 2008/09 to 2012/13 period (which equates to a total increase of \$256 over the period).²⁵³

Nevertheless, despite the lower percentage bill increases for higher levels of consumption, total bills increase significantly in dollar terms for all levels of consumption (with larger dollar increases for larger levels of consumption to provide an incentive to conserve and use water wisely). On this basis, IPART considers that a strong conservation message is maintained at all consumption levels. This is evidenced by the large 46.5 per cent increase to the water usage charge over the determination period.

Hunter Water only provides stormwater drainage services for approximately 66,500 customers. Table 11.2 provides a summary of combined water, sewerage and stormwater drainage bills for individually metered residential customers. It shows that the combined bill for customers with an average water consumption of 200kL per year²⁵⁴ increased by an average of 5.6 per cent per annum (in real terms) between 2005/06 and 2008/09. Under the final determination, residential water, sewerage and stormwater drainage bills for a household with average water

²⁵² The results of IPART's 2008 household survey found that average annual residential household consumption in Hunter Water was 182kL in 2008. See IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, pp 44-45. However, using 200kL per year for all agencies also allows comparisons to be drawn between bills.

²⁵³ IPART's 2008 household survey found that on average households of 5 or more people in the Hunter region use 294kL per annum, see: IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, p 48.

²⁵⁴ The results of IPART's 2008 household survey found that average annual residential household consumption in Hunter Water was 182kL in 2008. See IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, pp 44-45. However, using 200kL per year for all agencies also allows comparisons to be drawn between the bills of different water agencies.

consumption will increase further in real terms over the 2008/09 to 2012/13 period - by a total of \$236.12 or 30.3 per cent (or 6.8 per cent per annum on average). This equates to a total increase of 53.5 per cent (or 6.3 per cent per annum on average) over the combined 2005 and 2009 determination periods.

Table 11.2 Summary of annual bills for individually metered residential properties with water, sewerage and stormwater drainage services from 2008/09 to 2012/13 (\$2008/09)

	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	Δ 05/06 ->12/13
100 kL pa	519.13	591.53	610.43	629.49	739.08	769.09	798.73	830.11	310.97
% increase		13.9%	3.2%	3.1%	17.4%	4.1%	3.9%	3.9%	59.9%
200 kL pa	662.17	736.37	757.72	779.99	890.08	931.09	972.73	1,016.11	353.94
% increase		11.2%	2.9%	2.9%	14.1%	4.6%	4.5%	4.5%	53.5%
250 kL pa	733.69	808.79	831.36	855.24	965.58	1,012.09	1,059.73	1,109.11	375.42
% increase		10.2%	2.8%	2.9%	12.9%	4.8%	4.7%	4.7%	51.2%
300 kL pa	805.20	881.20	905.01	930.49	1,041.08	1,093.09	1,146.73	1,202.11	396.90
% increase		9.4%	2.7%	2.8%	11.9%	5.0%	4.9%	4.8%	49.3%
400 kL pa	948.24	1,026.04	1,052.30	1,080.99	1,192.08	1,255.09	1,320.73	1,388.11	439.87
% increase		8.2%	2.6%	2.7%	10.3%	5.3%	5.2%	5.1%	46.4%
500 kL pa	1,091.27	1,170.88	1,199.59	1,231.49	1,343.08	1,417.09	1,494.73	1,574.11	482.83
% increase		7.3%	2.5%	2.7%	9.1%	5.5%	5.5%	5.3%	44.2%
750 kL pa	1,448.86	1,532.97	1,567.81	1,607.74	1,720.58	1,822.09	1,929.73	2,039.11	590.25
% increase		5.8%	2.3%	2.5%	7.0%	5.9%	5.9%	5.7%	40.7%
1500kL pa	2,488.74	2,597.95	2,662.19	2,736.49	2,853.08	3,037.09	3,234.73	3,434.11	945.37
% increase		4.4%	2.5%	2.8%	4.3%	6.4%	6.5%	6.2%	38.0%

Source: IPART modelling.

11.1.2 Commercial and industrial customers

As with residential customers, IPART's analysis of the impact of its decisions on non-residential customers considered the overall impact on these customers' total bills. However, because commercial and industrial customers are more diverse in terms of their water usage patterns, it is more difficult to draw general conclusions about the impact of IPART's decision on this group of customers.

Table 11.3 summarises the impact of price changes on the combined water and sewerage bills for non-residential customers with 20mm meters that consume 300kL of water per year, customers with 32mm meters that consume 1,000kL of water per year and customers with 80mm meters that consume 10,000kL of water per year. This table shows that the combined water and sewerage bill for non-residential customers with a 20mm meter that consumes 300kL of water per year will increase by a total of \$384.75 (or 40.6 per cent) in real terms over the 2009 determination period. The bill for a customer with an 80mm meter that consumes 10,000kL of water per year will increase by a total of \$9,972.43 (or 44.5 per cent).

Table 11.3 Individually metered non-residential properties with water and sewerage services – bill impact from prices (\$2008/09)

	2008/09	2009/10	2010/11	2011/12	2012/13	Δ from 2008/09
Meter connection size 20mm (300kL consumption)	947.30	1,165.50	1,219.50	1,274.87	1,332.05	384.75
annual bill increase (%)		23.0%	4.6%	4.5%	4.5%	40.6%
Meter connection size 32mm (1,000kL consumption)	2,699.19	3,367.65	3,531.38	3,700.97	3,875.19	1,176.01
annual bill increase (%)		24.8%	4.9%	4.8%	4.7%	43.6%
Meter connection size 80mm (10,000kL consumption)	22,404.61	27,892.36	29,328.27	30,838.22	32,377.04	9,972.43
annual bill increase (%)		24.5%	5.1%	5.1%	5.0%	44.5%

Note: Assumes sewerage discharge factor of 60%.

Source: IPART modelling.

Table 11.4 shows the impact of price changes on combined water, sewerage and stormwater drainage bills for non-residential customers with 20mm meters that consume 300kL of water per year, those with 32mm meters that consume 1,000kL of water per year, and those with 80mm meters that consume 10,000kL per year.

Table 11.4 Individually metered non-residential properties with water, sewerage and stormwater drainage services – bill impact of prices (\$2008/09)

	2008/09	2009/10	2010/11	2011/12	2012/13	Δ from 2008/09
Meter connection size 20mm (300kL consumption)	1,058.49	1,296.71	1,353.32	1,411.36	1,471.25	412.76
annual bill increase (%)		22.5%	4.4%	4.3%	4.2%	39.00%
Meter connection size 32mm (1,000kL consumption)	2,810.38	3,498.85	3,665.20	3,837.46	4,014.39	1204.02
annual bill increase (%)		24.5%	4.8%	4.7%	4.6%	42.84%
Meter connection size 80mm (10,000kL consumption)	22,515.80	28,023.57	29,462.09	30,974.71	32,516.24	10000.44
annual bill increase (%)		24.5%	5.1%	5.1%	5.0%	44.42%

Note: Assumes sewerage discharge factor of 60 per cent and medium non-residential stormwater drainage area based charge (1,001 – 10,000m).²⁵⁵

Source: IPART modelling.

²⁵⁵ In past determinations (eg, 2008 Sydney Water Determination, p 134) IPART has modelled the non-residential customer impacts based on an 80 per cent discharge factor. This is consistent with assumptions made regarding all businesses in the Productivity Commission reference business. However, as businesses will now be charged at the mid-point of the discharge band, IPART has modelled a discharge factor of 60 per cent in this instance. This is consistent with Hunter Water's submission, see: Hunter Water Corporation, *Submission to IPART on prices to apply from 1 July 2009*, January 2009, p 100.

IPART's decision to accept Hunter Water's proposal to charge non-residential customers based on sewer discharge factors set at the mid-point of the range for the relevant band rather than at the top of the range somewhat offsets the rises in bills presented in Tables 11.3 and 11.4 above. This change also seeks to ensure non-residential customers are not disadvantaged compared to residential customers for whom the sewer usage charge has been discontinued.

11.1.3 Affordability and social programs

IPART is conscious that price increases could make it difficult for some customers to pay their water bills. Submissions have noted that a particularly large proportion of Hunter Water's residents have low incomes.²⁵⁶ In its submissions to IPART PIAC states that:

The Hunter is home to a large number of low-income households. Australian Bureau of Statistics data indicates that a markedly greater proportion of local residents are in receipt of the aged pension and disability support pension than is the case for the rest of New South Wales and Australia.²⁵⁷

PIAC is particularly concerned about the capacity of low-income and other disadvantaged households to cope with the proposed price increases over the determination period.²⁵⁸

IPART's household survey supports PIAC's statements. This survey found that 35 per cent of households in the Hunter region have incomes under \$31,200, while only 13 per cent have incomes over \$104,000.²⁵⁹ However, the survey also found that characteristics such as home ownership status and household size are more strongly associated with payment difficulties than household income.²⁶⁰

In addition, the survey found that 10 per cent of respondents (across the Hunter and Central Coast areas) reported difficulties with paying their water bills in the last three years. Respondents were, however, less likely to experience payment difficulties with their water bills than their gas and electricity bills.²⁶¹

²⁵⁶ See, for example, Public Interest Advocacy Centre (PIAC) submission to IPART Issues Paper, 11 November 2008; and NSW Council of Social Service (NCOSS) submission to IPART, 6 November 2008.

²⁵⁷ Public Interest Advocacy Centre submission to IPART Issues Paper, 11 November 2008, p 2.

²⁵⁸ Public Interest Advocacy Centre submission to IPART Draft Report, 22 May 2009, p 2.

²⁵⁹ IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, p 12.

²⁶⁰ Ibid, p 76.

²⁶¹ Ibid, p 84.

IPART recognises that some customers will experience payment difficulties in the 2009 determination period, a point which is clearly made by the Hon. Phillip Costa MP, NSW Minister for Water, during the review:²⁶²

I note that the Tribunal's draft determination proposes a 31 per cent increase over the four years to 2012/13 for a typical residential household using 200kL per year, rather than the 57 per cent increase sought by Hunter Water. Nevertheless, a 31 per cent increase comes at a difficult time for many Hunter region residents who are feeling the impacts of the global economic crisis. The Hunter region economy is particularly vulnerable to the current economic downturn due to its reliance on commodity exports.²⁶³

Customer impact mitigation is primarily the responsibility of the Government, as part of its broader social policies, rather than a role that should be undertaken as part of pricing policies. The reason is that Government subsidies and rebates can be targeted to those in need whereas pricing policies of general application are a relatively more blunt instrument.

Nevertheless, IPART is concerned to ensure that Hunter Water 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.

In its issues paper, IPART asked Hunter Water to identify the potential customer impacts of its proposals, including options explored to mitigate or minimise these impacts.²⁶⁴ Hunter Water's submission discussed the measures it has in place to assist customers in financial difficulty:

Customers initially have 21 days to pay their account. However if they are concerned about meeting a payment on time, they are encouraged to contact the Corporation to discuss their situation. Hunter Water aims to help customers identify solutions to sort out their current account as well as discuss ongoing options to help keep their account at a manageable level. The options offered to customers are:

- an extension of time to pay their account
- a payment plan of regular instalments over an agreed timeframe
- a budget plan where regular manageable amounts are debited from their bank account
- access to the Payment Assistance Schemes that operate through local welfare Agencies.²⁶⁵

²⁶² Similar sentiments are expressed in the submission received from The City of Newcastle (21 May 2009).

²⁶³ Hon. Phillip Costa MP, NSW Minister for Water, Letter to IPART, 21 May 2009.

²⁶⁴ IPART, *Review of prices for water, sewerage, stormwater and recycled water services for Hunter Water Corporation from 1 July 2009 - Issues Paper*, July 2008, p 8.

²⁶⁵ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 112.

Hunter Water's submission goes on to list a number of areas identified for improvement to better its financial support services to vulnerable customers.²⁶⁶ These include:

- ▼ a newly-created dedicated email link on Hunter Water's website specifically for customers who require assistance due to financial hardship
- ▼ updating of welfare agency information on both the website and in printed documentation to include their locations, contact numbers and website links and advise that some agencies can visit customers at home to arrange assistance
- ▼ restructuring of information on the Hunter Water website to not only refer to the pensioner rebate but to other support available to pensioners
- ▼ extending the washer replacement services to non-pension customers who participate in the payment assistance scheme²⁶⁷
- ▼ relief from charges for eligible nursing homes through reductions to or waiving of water and sewerage charges and waiving of the EIC.

At the public hearing held on 12 December 2008, the Managing Director, Hunter Water, announced that Hunter Water would enhance this program of financial assistance by doubling the current free 'water allowance' rebate to kidney dialysis customers to 250 kilolitres per year. In its submission Hunter Water stated:

Hunter Water recognises the increase in prices necessary to cover efficient costs may cause financial stress for some customers. Since the commencement of the price review process Hunter Water has expanded its assistance programs for customers experiencing financial hardship. The free "water allowance" for kidney dialysis customers has doubled.²⁶⁸

Hunter Water's submission also states:

Hunter Water is progressing with provision of funding for the No Interest Loans Scheme (NILS) that assists low income households to purchase water efficient appliances. These programs are in addition to existing mechanisms such as exemptions for non-profit properties, payment assistance scheme (PAS) and flexible payment arrangements.²⁶⁹

At the public hearing, PIAC welcomed the decision of Hunter Water to double the free water allowance rebate to kidney dialysis customers²⁷⁰. IPART also supports this proposal.

²⁶⁶ Ibid, pp 112-116.

²⁶⁷ The payment assistance scheme operates through registered community welfare agencies with staff trained to assist customers experiencing hardship.

²⁶⁸ Hunter Water Corporation submission to IPART Draft Report, 22 May 2009, p 2.

²⁶⁹ Ibid, p 2.

²⁷⁰ Transcript of Hunter Water public hearing, 12 December 2008.

In submissions made prior to the public hearing, the New South Wales Council of Social Services (NCOSS) supported Hunter Water's use of payment plans for vulnerable customers and its participation with welfare agencies in the payment assistance scheme. However, NCOSS stated that it believed that Hunter Water should reconsider its decision to not adopt the Centrepay program²⁷¹ and consider offering no-interest loans to low-income earners for the purchase of water efficient washing machines and the like.²⁷² Similarly, PIAC advocated the benefits to low-income earners from free water use audits, no-interest loans and Centrepay. PIAC also urged Hunter Water to adopt such programs to better service customers who experience difficulties in managing their finances.²⁷³

At the public hearing, the Hunter Water Managing Director also announced that Hunter Water was considering the adoption of the Centrepay program. Hunter Water is currently watching the take up of the Centrepay program by Sydney Water customers to evaluate the benefits of the program.²⁷⁴

11.1.4 Pensioner rebates

IPART's recommendation from the draft report

IPART's draft report recommended that the NSW Government review the sufficiency of the current rebate provided to Hunter Water pensioners to re-assess the way in which it is calculated. At that time pensioners received a rebate capped at \$175 per annum which applied to sewerage, water and stormwater drainage service charges. Hunter Water stated in its submission that:

Customers who hold a Pensioner Concession Card or certain types of Department of Veterans' Affairs Gold Card are entitled to a pensioner rebate. This rebate is designed to provide a relief for the pensioners' personal water and sewer charges and applies to properties owned and occupied by them. Where applicable, the environmental improvement charge (EIC) is also waived. Pensioners who are water and sewer customers and are entitled to 100 per cent of the rebate currently receive a reduction in charges of \$175.00 per year.²⁷⁵

²⁷¹ Centrepay is a payment option program offered through Centrelink.

²⁷² NSW Council of Social Services submission to IPART Issues Paper, 6 November 2009, pp 4-5.

²⁷³ Public Interest Advocacy Centre submission to IPART Issues Paper, 11 November 2008, p 6.

²⁷⁴ Email correspondence between IPART Secretariat and Hunter Water, 22 June 2009.

²⁷⁵ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009, p 115.

IPART's draft report recommended that the sufficiency of the current rebate be reviewed to address inequities which arose because:

- ▼ the percentage pensioner bill increase resulting from IPART's draft prices was significantly higher in comparison to the bill increases experienced by customers who did not qualify for pensioner rebates.²⁷⁶
- ▼ Hunter Water pensioners receive a fixed rebate of \$175.00 regardless of the total bill amount. This compares unfavourably to the Sydney Water pensioner rebate which provides a rebate in percentage terms of the total bill.

NSW Government response to increase to the pensioner rebate

On consideration of IPART's draft report the NSW Government announced an increase to the rebate received by Hunter Water pensioners in April 2009. The increase attempts to offset the higher percentage increases to pensioner bills in the Hunter Water area that occurred as a result of IPART's draft determination. The Government's announced increase raises the current 2008/09 rebate of \$175 on an annual basis to match the percentage increase in the total bill for a pensioner consuming 200kL.

The revised rebate was introduced to reduce disparities between the price impacts faced by a typical residential customer consuming 200kL per annum and a pensioner using the same amount. However, pensioner advocate groups have sought increases in the rebate to eliminate disparities between the rebates paid to pensioners in the Hunter and Sydney regions.²⁷⁷

Table 11.5 incorporates the increased pensioner rebate in the calculation of annual bills for pensioners with individually metered residential properties with water and sewerage services and consumptions under the final determination.

²⁷⁶ This occurred because the EIC is waived for pensioners so they do not benefit from the \$22.86 reduction from \$54.84 (current charge) to \$31.98 (for 2009/10 onwards). As a consequence, the overall increase for the typical pensioner bill from IPART's draft determination prices (prior to the Government's pension rebate increase) was higher in percentage terms in comparison with customers who were not eligible for the rebate.

²⁷⁷ The Newcastle Herald, *Pensioners win water rebate rise*, 27 April 2009.

Table 11.5 Pensioner annual bills for individually metered residential properties with water and sewerage services (\$2008/09)

	2008/09	2009/10	2010/11	2011/12	2012/13	% Δ from 2008/09	\$ Δ from 2008/09
100 kL pa	338.13	427.37	445.50	463.07	481.90	42.5%	143.77
annual increase (%)		26.4%	4.2%	3.9%	4.1%		
139 kL pa	396.83	486.26	508.68	530.93	554.44	39.7%	157.62
annual increase (%)		22.5%	4.6%	4.4%	4.4%		
200 kL pa	488.63	578.37	607.50	637.07	667.90	36.7%	179.27
annual increase (%)		18.4%	5.0%	4.9%	4.8%		
250 kL pa	563.88	653.87	688.50	724.07	760.90	34.9%	197.02
annual increase (%)		16.0%	5.3%	5.2%	5.1%		
300 kL pa	639.13	729.37	769.50	811.07	853.90	33.6%	214.77
annual increase (%)		14.1%	5.5%	5.4%	5.3%		

Source: IPART modelling.

Table 11.5 shows that pensioner bill increases range from 42.5 per cent for pensioner customers who consume 100kL per annum to 33.6 per cent for those who consume 300kL per annum.

IPART's recent household survey found that an average pensioner in the Hunter region uses less than a typical non-concession card holding household. The survey found that the average pensioner's consumption is 139kL per annum.²⁷⁸ As illustrated in Table 11.5 (above), the final year bill increase for the average residential pensioner who consumes 139kL per annum is 39.7 per cent.

11.2 Impact of section 16A directions

As Chapter 3 discussed, IPART has been directed by the Minister for Water to include an amount in its 2009 determination which represents Hunter Water's efficient costs in relation to the construction of Tillegga Dam.²⁷⁹ This direction, under section 16A of the IPART Act, is additional to IPART's requirements in relation to section 15 of the IPART Act.

²⁷⁸ IPART, *Residential energy and water use in the Hunter, Gosford and Wyong: Results of the 2008 household survey*, December 2008, p 73.

²⁷⁹ The direction also includes reference to the payment of a subsidy of up to \$10 million for the Kooragang Island Scheme. However, as discussed in Chapter 3, no subsidy has been paid hence the efficient costs of this requirement has been assessed at zero.

IPART considers that it has met the 16A direction in a way that also satisfies the requirements of section 15. As Chapter 5 discussed, it did this by including all the efficient costs of Tillegra Dam in calculating the notional revenue requirement, and deferring the recovery of some of these costs to future determination periods in setting prices to reflect the benefits of the dam to current and future customers.

IPART's modelling suggests that this approach means that the increase to a typical residential customer's combined water and sewerage bill associated with Tillegra Dam is \$32 per annum in 2012/13. If IPART had not deferred a portion of the Tillegra Dam costs for recovery through future prices, the impact on this customer's bill would have been an additional \$70 per annum in 2012/13.²⁸⁰

Table 11.6 shows the expected increase in a typical residential customer's bill for water and sewerage services over the determination period, including the impact of the projects which are the subject of the Government's section 16A direction under the IPART Act.

Table 11.6 Contribution of requirements for operating expenditure and capital investment to the expected increase in a typical residential customer's bill, 2008/09 to 2012/13 (\$2008/09)

	IPART determination
Operating expenditure	\$44
Capital investment:	
Tillegra Dam ²⁸¹	\$32
Subsidy for Kooragang Island Recycled Water Scheme	\$0
Sewer projects required to meet DECC standards	\$26
Sewer transport and treatment plant upgrades	\$53
Water supply system development and upgrades	\$19
Other system augmentation, and water resource capital expenditure	\$30
	\$160
Removal of developer charges (all costs recovered through customer prices)	\$16
Total	\$220

Note: Typical bills are based on households with water and sewerage services consuming 200kL of water per annum.

Source: Hunter Water submissions and IPART modelling.

²⁸⁰ Under IPART's final decision, the bill for a residential customer consuming 200kL per annum increases from \$718 per annum in 2008/09 to \$939 per annum in 2012/13. In the absence of these measures, the same customer would pay \$1009 per annum in 2012/13.

²⁸¹ Hunter Water has received a Ministerial direction under section 20P of the *State Owned Corporations Act 1989* in relation to construction of a 450 billion litre dam at Tillegra and the Kooragang Island recycling project. IPART has received a section 16A directive under the IPART Act 1992 which requires it to consider the efficient costs of Hunter Water complying with these requirements.

11.3 Impact of DECC requirements

As Chapter 7 discussed, Hunter Water needs to undertake significant capital works to comply with current DECC²⁸² standards. As illustrated in Table 11.6 above, the costs associated with these works contributes around \$26 to the increases in a typical residential customer's combined water and sewerage bill.

11.4 Service standards

IPART sought to ensure that its decisions would not adversely affect the standards of service Hunter Water delivers to customers. IPART has set prices in the expectation that service levels commensurate with the proposed expenditures will be delivered. This will result in improved service delivery in some areas. Cost reductions and efficiency savings will not be obtained at the expense of service standards.

Hunter Water is licensed under the *Hunter Water Act 1991*. The Act requires Hunter Water to hold an operating licence issued by the Minister and be audited annually²⁸³ by IPART. The licence itself contains performance standards that Hunter Water must meet or risk penalties associated with a breach of licence conditions. Hunter Water's submission identified expenditure associated with its regulatory requirements, IPART has assumed that this funding is adequate for Hunter Water to meet its obligations under both its operating licence and DECC administered environmental licence.

To improve environmental service standards and meet DECC licence conditions, significant levels of investments are required in Hunter Water's sewerage infrastructure. Hunter Water has stated that all 17 of its sewerage treatment plants require upgrades, as each of these plants have reached the capacity of the licences that DECC has issued to Hunter Water.²⁸⁴ Investments to be undertaken include upgrades to reduce sewerage overflows and to improve the quality of discharges from sewerage treatment plants, and thereby improve service standards to customers.

Current levels of water service could also be expected to improve following upgrades to replace critical mains, to upgrade the water supply systems of Cessnock, Shortland, North Rothbury, South Wallsend, West Wallsend and Tomaree and to

²⁸² NSW Department of Environment and Climate Change.

²⁸³ Performance indicators are now incorporated into Hunter Water's operating licence and are reviewed as part of the annual audit process.

²⁸⁴ At the public hearing, the Managing Director stated "you will note for our treatment plants, they are all reaching capacity at the same time, which is unfortunate. On 17 treatment plants, I think you'll see that all of them are reaching the limit on the licences that we have with the Department of Environment and Climate Change. Also we are seeing from the studies that we need to protect the environment and they need to have upgrades". Mr Young also noted that Hunter Water had "come to a period in the past where perhaps we haven't invested when we could have done, but what we do know from our asset management and condition assessment is that there is a great need to invest in this area" (ie, the sewerage system).

upgrade the Grahamstown water treatment plant included in Hunter Water's forward capital program.

In addition, IPART has revised the output measures introduced in the 2005 Determination to reflect the nature of the capital program over the upcoming determination period and the observations of Atkins/Cardno during the review of capital and operating expenditure.²⁸⁵ These will assist IPART to identify whether Hunter Water achieves the project outcomes it has committed to under the Determination. A list of 2009 output measures for Hunter Water (along with targets) is set out in Appendix D.

11.5 Financial outcomes

The decisions made by IPART for this determination will enable Hunter Water to operate, maintain, renew and develop the assets required to deliver the regulated services. Hunter Water has a large capital expenditure program over the four years of the 2009 determination period. IPART's analysis and financial modelling indicates that Hunter Water will achieve a credit rating of at least BBB+ in each year of the determination period.

11.5.1 Impact on rate of return

The real pre-tax rate of return on Hunter Water's RAB is expected to achieve the target rate of 6.5 per cent in NPV terms over the course of the determination period. This calculation is based on the assumptions used in IPART's modelling of the financial impacts of its pricing decisions and depends on Hunter Water achieving the efficiency targets IPART has set.

11.5.2 Overall financial strength as assessed by investment category ratings

IPART 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 Government believes that a BBB rating is the minimum target rating to ensure financial viability. IPART undertook its analysis of financial indicators on the assumption that Hunter Water makes tax equivalent payments of 30 per cent of pre-tax earnings and dividend payments of 50 per cent of post-tax earnings.

IPART's analysis and financial modelling indicate that the maximum prices set in the determination will enable Hunter Water to achieve an overall credit rating of at least BBB+ in each year of the determination period (which is above the investment grade rating of BBB).²⁸⁶ Table 11.7 presents Hunter Water's key financial indicators and credit ratings associated with IPART's decision on prices.

²⁸⁵ The output measures are discussed more fully in Chapter 3.

²⁸⁶ The NSW Treasury considers that an overall credit rating of BBB represents investment grade. IPART treats this as the minimum rating required to maintain financial viability.

Table 11.7 Financial indicators and credit ratings for Hunter Water

	2008/09	2009/10	2010/11	2011/12	2012/13
Funds from Operations Interest Cover	2.90	2.70	2.21	2.19	1.92
NSW Treasury ratings (2008)	A+	A+	A	A	BBB+
Funds from Operations / Total Debt	0.10	0.10	0.07	0.07	0.06
NSW Treasury ratings (2008)	BBB+	BBB+	BBB	BBB	BBB
Debt gearing (regulatory value)	35.5%	39.7%	43.4%	49.1%	53.4%
NSW Treasury ratings (2008)	AA+	AA+	AA	AA	A+
Pre-tax Interest Cover	249.7%	255.6%	202.6%	198.4%	170.4%
NSW Treasury ratings (2008)	A+	AA	A+	A	A
NSW Treasury overall score and rating					
NSW Treasury total score (0 -10)	7.00	7.25	6.25	6.00	5.50
Overall rating	A+	A+	A	A	BBB+

Source: IPART modelling.

11.5.3 Payment of dividends

Based on the prices in this Determination, IPART's modelling indicates that Hunter Water will be able to maintain a 50 per cent dividend payout ratio and a credit rating of at least BBB+ in each year of the determination period if the outcomes and targets set out in this report are achieved.

IPART notes that the exact level of dividends and therefore Hunter Water's financial structure is a matter for negotiation between Hunter Water and the Government. However, it is common when a firm makes a very substantial capital investment that it would seek additional equity funding, including through the reinvestment of dividends. Similarly, it is imperative that Hunter Water is supported financially by its shareholder as it undertakes extensive works at the direction of the shareholder to safeguard drinking water supplies.

Hunter Water's management needs to have the flexibility in its tax management and dividend policies to better balance its future financial outcomes. In the short term, the situation may arise where Hunter Water's shareholder may need to accept a lower level of cash extraction from the business to ensure financial sustainability ie, retention of funds in the business in place of higher levels of debt. Alternatively, Hunter Water's shareholder may have to accept a level of lesser financial performance for a short period of time when capital expenditure levels are abnormally high. However, this will be reflected in lower financial ratios with the chance of a reduction in Hunter Water's credit rating and an increase in its cost of borrowing.

11.5.4 Impact on the Consolidated Fund

Under section 16 of the IPART Act, IPART is required 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 tax equivalent and 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.

IPART's financial modelling is consistent with a tax rate of 30 per cent for pre-tax profit and dividend payments at 50 per cent of after-tax profit. Assessing dividend applicable after-tax profits only, a one dollar decline in after-tax profit would result in a loss of revenue to the Consolidated Fund of 50 cents. Including the tax payable on pre-tax profits, a one dollar decline in pre-tax profit would result in a loss of revenue to the Consolidated Fund of 50 per cent of the after-tax profit of 70 cents, or 35 cents in total.

11.6 Impact on the Consumer Price Index (CPI)

Under section 15 of the IPART Act, IPART is required to consider the effect on general price inflation. Water and sewerage currently comprise 0.77 per cent of the Consumer Price Index (all groups, eight capital cities).²⁸⁷

The annual average increase of a water, sewerage and stormwater drainage bill for a customer consuming 200kL per annum is 6.9 per cent for Hunter Water (in real terms).

If all customers in the eight Australian capital cities faced the same percentage increases in their bills as Hunter Water's customers face then the approximate annual impact on general price inflation is approximately 0.05 per cent.

11.7 Implications for the environment

As discussed in detail in Chapter 9, IPART has set the water usage charge with reference to the long run marginal cost (LRMC) of water supply, and set a fixed water service charge to recover the portion of the efficient costs of water supply not recovered through the usage charge. The LRMC of supply represents the incremental cost of funding measures to bring supply and demand into balance, and signals the true cost to provide water to customers over the longer term. Therefore, setting variable per kL water usage charges to reflect this cost should encourage the efficient consumption of water resources.

²⁸⁷ Australian Bureau of Statistics, Consumer Price Index 15th Series Weighting Pattern (cat. no. 6430.0).

The Government is responsible for determining any negative environmental impacts associated with water, sewerage and stormwater drainage service supply, and imposing standards or requirements on Hunter Water to address them. For instance, DECC is responsible for setting standards for, and monitoring the environmental impacts of, the effluent discharged from Hunter Water's treatment plants and sewerage systems.

Hunter Water has demonstrated a commitment to environmental objectives. It's head office in Newcastle is the first building in Newcastle to achieve a four and a half star environmental rating under the Australian building greenhouse program, due to the building's innovative and sustainable design. Other examples of Hunter Water's environmental-related programs for the 2009 determination period include:²⁸⁸

- ▼ The provision of sewer services to backlog areas not connected to Hunter Water's sewerage system, which will lessen the environmental impact from sewerage in these areas.
- ▼ A number of initiatives aimed at both reducing and changing the pattern of electricity usage. This will benefit the organisation from both a cost saving and environmental perspective.
- ▼ Sewerage transport upgrades to reduce wet weather customer and environmental impacts. Upgrades will be made to the Newcastle, Morpeth, Aberglasslyn and Windale/Gateshead sewerage transport systems.
- ▼ The provision of environmentally sustainable recycled water opportunities that can be provided in a cost-effective way from existing sewerage treatment facilities. Recycled water as a product is still in a development stage but new opportunities, such as reticulated residential recycling, are rapidly presenting themselves as residential subdivisions develop around some inland treatment plants and factors such as Building Sustainability Index (BASIX) planning legislation strengthen demand for recycled water.

²⁸⁸ Hunter Water Corporation submission to IPART on prices to apply from 1 July 2009, January 2009.



Appendices

A Matters to be considered by IPART under section 15 of the IPART Act and their application to this report

In making determinations IPART is required by the *IPART Act* to have regard to the following matters (in addition to any other matters IPART 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 *Protection of the Environment Administration Act 1991*) 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).

Table A.1 outlines the sections of the report that address each matter.

Table A.1 Consideration of section 15 matters by IPART

Section 15(1)	Report Reference
a) the cost of providing the services	Chapter 3
b) the protection of consumers from abuses of monopoly power	Whole report
c) the appropriate rate of return and dividends	Chapters 3, 5, 7 and 11
d) the effect on general price inflation	Chapter 11
e) the need for greater efficiency in the supply of services	Chapters 3, 6 and 7
f) ecologically sustainable development	Chapter 11
g) the impact on borrowing, capital and dividend requirements	Chapter 11
h) 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	Chapter 9
i) need to promote competition	Not applicable
j) considerations of demand management and least cost planning	Chapters 6, 7 and 8
k) the social impact	Chapter 11 and Appendix G
l) standards of quality, reliability and safety	Chapters 2, 3, 6 and 11

B Section 16A Direction from Government to IPART & underpinning State Owned Corporations Act direction from Government to Hunter Water



NEW SOUTH WALES

The Hon. Nathan Rees MP

Minister for Emergency Services
Minister for Water

S08/806

Mr Michael Keating
Chairman
Independent Pricing and Regulatory Tribunal
PO Box Q290
QVB POST OFFICE NSW 1230



15 JUL 2008

Dear Mr Keating

I am writing to you regarding the pricing determination to apply to Hunter Water Corporation (Hunter Water) from 1 July 2009.

I advise that I have directed Hunter Water under section 20P of the *State Owned Corporations Act 1989*, to immediately bring forward the construction of a 450 billion litre dam at Tillegra (the Tillegra Dam); and provide a subsidy of up to \$10 million for the Kooragang Island recycling project.

The construction of the Tillegra Dam and increased recycling will improve long term drought security across the Lower Hunter and the Central Coast, allow for population growth and help to meet future challenges from climate change in the longer term.

Accordingly, I enclose a direction to the Independent Pricing and Regulatory Tribunal (the Tribunal) under section 16A of the *Independent Pricing and Regulatory Tribunal Act 1992* in relation to the requirements imposed on Hunter Water under section 20P of the *State Owned Corporations Act 1989*. This direction is to apply to the Tribunal's consideration of the maximum prices to be charged by Hunter Water from 1 July 2009.

If you have any queries in relation to this matter please do not hesitate to contact Mr James Lonsdale, Acting Corporate Counsel, Department of Water and Energy, on telephone (02) 8281 7404.

Yours sincerely

The Hon. Nathan Rees MP
Minister for Water
Minister for Emergency Services

INDEPENDENT PRICING AND REGULATORY TRIBUNAL ACT 1992

Direction as to efficient costs of Hunter Water

I, NATHAN REES, Minister for Water and portfolio Minister for the Hunter Water Corporation, pursuant to section 16A of the *Independent Pricing and Regulatory Tribunal Act 1992*, direct the Independent Pricing and Regulatory Tribunal, when it determines the maximum price for government monopoly services provided by Hunter Water from 1 July 2009, to include in the maximum price an amount representing the efficient cost of complying with the requirements imposed on Hunter Water to:

1. Immediately bring forward the construction of a 450 billion litre dam at Tillegra, and
2. Provide a subsidy of up to \$10 million for the Kooragang Island recycling project.

These requirements have been imposed on Hunter Water by Ministerial direction under section 20P of the *State Owned Corporations Act 1989*.

Minister for Water

Dated:



STATE OWNED CORPORATIONS ACT 1989

DIRECTION UNDER SECTION 20P

TO: Mr Ron Robson
Chairman of the Board
Hunter Water Corporation

I, NATHAN REES MP, Minister for Water, with the approval of the Treasurer, hereby direct Hunter Water to:

1. Immediately bring forward the construction of a 450 billion litre dam at Tillegra, and
2. Provide a subsidy of up to \$10 million for the Kooragang Island recycling project.

Reasons:

Increases in projected population growth in the Hunter and the Central Coast, the current drought, and extremely low water storage levels on the Central Coast mean that the accelerated action is required to deliver secure and sustainable water supplies. The construction of the Tillegra dam and increased recycling will improve the long term drought security of the Lower Hunter and the Central Coast.

The Tillegra dam will require a lead time of up to 10 years to build and fill, including five years to fill completely on the basis of average rainfall estimates. However, water is anticipated to be available from the dam by 2013. Commencement of construction of the Tillegra Dam is called for in the public interest. The Kooragang Island recycling project is expected to take up to four years to deliver. This recycling project will have the capacity to replace up to 3 billion litres of potable water with highly treated effluent for use by major industrial customers.

The payment of the subsidy for the Kooragang Island recycling project will enable the price of recycled water to be set at levels competitive with the price of potable water, which is set by the Independent Pricing and Regulatory Tribunal.

There are public benefits in allowing the Kooragang Island recycling project to proceed. It will increase the supply of potable water that is available for Hunter Water and Central Coast customers in the medium term and its establishment will promote and encourage the use of recycled water generally.

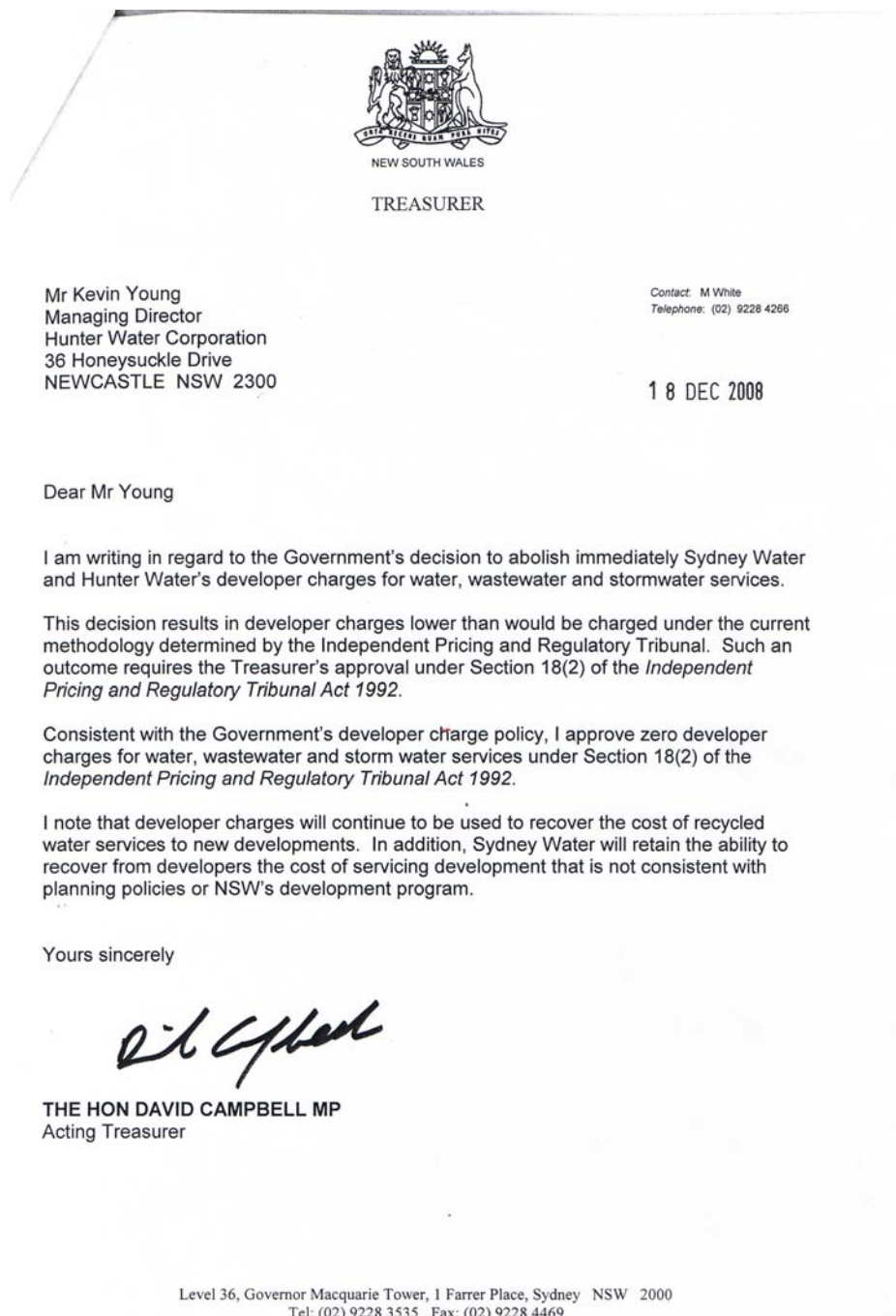
Even without considering the issues facing the Central Coast, these two projects will address the long term interests of the customers of the Hunter Water Corporation by improving drought security, allowing for population growth and meeting any future challenges from climate change in the longer term.

I am satisfied that these are exceptional circumstances that render it necessary to give the direction in the public interest.


Minister for Water

Dated:

C Government decision on developer charges for water and sewerage services



D Hunter Water's performance against 2005 output measures





As set out in Chapter 3 IPART has concluded that over the determination period:

- ▼ Hunter Water has achieved 33 of the 50 output measures specified in the 2005 Determination and Report. These outputs are marked in green below and include: the renewal/upgrade of more than 55 kilometres of water mains; the construction of a new water pumping station at Belmont; sewerage of Fern Bay, Kitchener and Lochinvar as part of the Priority Sewerage Program; the upgrade of the Lake Macquarie, Cessnock and Beresfield/Morpeth sewerage transport systems; the upgrade of the Belmont and Cessnock sewerage treatment plants; and the replacement of more than 50,000 customer meters.
- ▼ Six of the projects have been delayed due to factors beyond Hunter Water's control, as marked in orange below. This is largely the result of delays in reaching agreements with developers about the financing of these projects. The Government's recent decision to set water and sewerage developer charges in the Hunter region at zero should mean that such delays do not impact Hunter Water's delivery of its forward capital program.
- ▼ It was sensible and potentially efficient for Hunter Water to decide to not proceed with seven projects following changes in the external environment and/or review by Hunter Water,. While Atkins reported these projects as delayed, IPART's conclusion is that the decision not to proceed with the project as originally scheduled is sensible and, potentially, efficient. These measures are marked in grey below.
- ▼ Four projects have been delayed but Hunter Water is expected to prioritise to complete them. These are marked in red below. The St John Telarah and Harpers Hill pump station upgrades were delayed following re-prioritisation by Hunter Water of its projects. The Newcastle sewerage transport system upgrade, which was to have been completed by 2009/10, is not expected to be completed until 2010/11. The renewal/refurbishment of critical sewer mains has also been delayed while new techniques are trialled.

In its response to the draft determination, Hunter Water noted that over the same period, it also delivered projects announced by the Premier in November 2006. These projects include upgrade of the Balickera Pump Station, completion of the upgrade of the link to the Central Coast system and pre-construction activities for Tillegra Dam and the Kooragang Island Recycled Water project.

Table D.1 Assessment of Hunter Water's performance against 2005 output measures

Output Measure	Target	Forecast	Performance
Water			
Length of critical mains undergoing risk assessment	65km	222.7km	
Length of trunk mains for renewal / upgrade	13km	13.7km	
Length of distribution mains for renewal / upgrade	55km	58.7km	
Pump stations constructed / upgraded to increase capacity for growth			
Talleen Road	Complete	Achieved	
Cameron Park	Complete	Deferred- construction subject to developer timing requirements	
Belmont HLS and Whitebridge	Complete	Achieved	
Cessnock	Complete	No longer required	
Wallsend	Complete	Construction commenced but will not be completed until 2009/10	
Aberdare	Complete	No longer required	
Mt View Road	Complete	Deferred as strategy changed	
John St Telarah	Complete	Reprioritisation of funding - construction is now expected to commence in 2011/12	
Irrawong St Raymond Terrace	Complete	Deferred - servicing strategy and upgrade not needed until beyond 2012/13	
Minmi	Strategy complete	No longer required due to revision of strategy	
New reservoirs constructed for growth			
Lookout	Commence	No longer required due to revision of strategy	
Harpers Hill	Commence	Reprioritisation of capital funding - now expected that construction will start 2010/11	
Wyee	Substantially complete	Deferred – subject to developer’s timing	
Cameron Park	Complete	Deferred – subject to developer’s timing	
Boat Harbour	Complete	Delayed but construction expected to be completed in 2009/10	
North Wallarah	Complete	Deferred – subject to developer’s timing	

Output Measure	Target	Forecast	Performance
Water treatment plant upgrades			
Grahamstown WTP upgrade	Complete	Delayed to take account of Tillegra Dam	
Anna Bay WTP upgrade	Design in progress	On track	
Lemon Tree Passage WTP upgrade	Design in progress	On track	
Dungog PAC / KMnO4 Dosing Facility	Design in progress	On track	
Sewerage			
Length of critical sewers renewed / refurbished	32km	11.5km - Hunter Water say that project has been delayed as new techniques are trialled	
Length of non-critical sewers renewed / refurbished	23km	31.7km	
Priority Sewer Program for Fern Bay, Kitchener and Lochinvar	550 ET – Complete	Achieved	
Priority Sewer Program for Millfield and Ellalong	840 ET - Substantially complete	Expected to be completed in 2009/10	
Major wastewater transport system upgrades			
Lake Macquarie	Complete	Achieved	
Newcastle	Complete	Hunter Water assess as on track for completion in 2009/10. Atkins argued it would not be completed until 2010/11	
Dudley – Charlestown	Stage 1 and 2 complete	On track	
Cessnock	Substantially complete	Achieved	
Cardiff	Substantially complete	On track	
Dora Creek	Substantially complete	Hunter Water assess as on track. Atkins assess as delayed and subject to developer’s timing	
Beresfield Morpeth	Complete	Achieved	
Upgrades to wastewater treatment plants			
Farley	Commence	On track	
Dora Creek	Substantially complete	On track	
Raymond Terrace	Substantially complete	On track	
Boulder Bay	Substantially complete	On track	

D Hunter Water's performance against 2005 output measures

Output Measure	Target	Forecast	Performance
Edgeworth (Inlet Works)	Substantially complete	Achieved	
Branxton	Substantially complete	Delayed due to review of the scope to meet growth projections	
Cessnock	Substantially complete	Achieved	
Belmont	Complete	Achieved	
Stormwater			
Stormwater drainage channel rehabilitations			
Newcastle System	Complete	On track	
Cessnock System	Complete	On track	
Lake Macquarie	Complete	On track	
Corporate			
Replace customer meters (20mm)	34,000	49,907	
Replace customer meters (>20mm)	2,000	1,836 (slight decrease in forecast demand for >20mm meter replacement)	
Complete MIMS platform change	Complete FY06	Achieved	
Complete SCADA upgrade	Complete FY06	Achieved	
Establish remote disaster facility	Complete FY06	Achieved	

Source: IPART's analysis, Atkins/Cardno Final Report, Hunter Water submission.

Note: Green denotes that the project is on track or complete.

Red denotes that the project is delayed but the expectation is that Hunter Water will prioritise to complete it.

Orange denotes that the project has been delayed for reasons beyond Hunter Water's control.

Grey denotes that the project has been delayed but that the decision not to proceed, as originally scheduled, is sensible and, potentially, efficient.

E Hunter Water - Output measures for 2009 Determination

In its submission, Hunter Water proposed a range of output measures for the 2009 determination. IPART revised the existing output measures based on the advice of its consultants, Atkins/Cardno and Hunter Water's proposals. The list of output measures for the 2009 determination period is set out in Table E.1.

In its submission to the issues paper, Hunter Water provided IPART with a list of the capital projects to be undertaken over the determination period. In its submission to the draft determination, Hunter Water provided further information requested by IPART including clarification of some measures.

As set out in Chapters 3 and 4, IPART also expects Hunter Water to monitor expenditure on these projects and provide annual progress reports and six monthly reports in relation to Tillegra Dam. In addition, Hunter Water should provide a reconciliation of their expenditure and outcomes against the IPART capital and operating expenditure allowances.

In response to the draft determination, Hunter Water proposed modifications to a number of targets where capital projects had been re-prioritised in response to the recommendations of Atkins/Cardno. Following the receipt of that submission, Hunter Water withdrew one of the suggested amendments upon identifying an error.²¹⁴ IPART has accepted all except one of these amendments. IPART has decided to maintain the target of 46km of distribution mains for renewal/upgrade.

Table E.1 2009 Output measures

Output (or activity) measure	Target value	Driver
Water services		
Length of critical trunk mains undergoing condition assessment	160km	Maintaining standards
Length of trunk mains for renewal/upgrade	3.5km	Maintaining standards
Length of distribution mains for renewal/upgrade	46km	Maintaining standards
Pump stations constructed/upgraded to increase capacity for growth		Growth

²¹⁴ As such, the length of critical sewer mains to undergo condition assessments is 120km as Hunter Water proposed in its January submission.

Output (or activity) measure	Target value	Driver
▼ West Cessnock, Telarah, Cameron Park, Wallsend New reservoirs constructed	Complete	Growth and maintaining standards
▼ Windella, Anna Bay, West Cessnock, North Wallarah Water treatment upgrades	Complete	Growth and maintaining standards
▼ Anna Bay, Grahamstown Construction of Tillegra Dam	Complete Commence construction	Growth and maintaining standards
Wastewater services		
Length of critical sewer mains to undergo condition assessments	120km	Maintaining standards
Length of critical sewer mains renewed/refurbished	6km	Maintaining standards
Length of non-critical sewer mains renewed/refurbished	32km	Maintaining standards
Priority sewerage programs		Government programs
▼ Millfield/Ellalong and Clarence Town schemes Sewerage treatment plant upgrades	Complete	
▼ Burwood Beach (Stage 2), Branxton, Boulder Bay (Stage 2), Raymond Terrace (Stages 2&3), Toronto (inlet works), Shortland (Stage 3), Paxton, Dora Creek, Farley (Stage 3a) Sewerage pumping station upgrades	Complete	Growth and maintaining standards
▼ 30 upgrades Reduce wet weather overflows in the following catchments:	Complete	Growth and maintaining standards
▼ Newcastle, Windale/Gateshead, Dora Creek, Kurri Kurri, Raymond Terrace/Medowie, Dudley/Charlestown, Sandgate/Shortland, Maryland/Minmi Sewerage transport system upgrades	Record number of overflow events per annum at each site	Growth and maintaining standards
▼ Newcastle (Stage 1), Dudley-Charlestown (Stage 1), Cardiff, Dora Creek (Stages 1&2), Windale (stages 1&2), Kurri Kurri (stages 1&2), Raymond Terrace (Stages 1&2), Sandgate/Shortland, Maryland/Minmi (Stages 1&2) Improve biosolids management	Complete Record in dry tonnes per annum: ▼ amount of biosolids produced ▼ amount of biosolids	Growth and maintaining standards Maintaining standards

Output (or activity) measure	Target value	Driver
Design biological capacity of treatment works with a licence requiring biochemical oxygen demand and suspended solids removal only (EP)	disposed Record capacity and load annually by plant	Maintaining standards
Design biological capacity of treatment works with a licence requiring nutrient removal (nitrogen only or both nitrogen and phosphorous) (EP)	Record capacity and load annually by plant	Maintaining standards
Stormwater services		
Stormwater drainage channel rehabilitations		Growth and maintaining standards
▼ Newcastle system	1.5km	
▼ Cessnock system	0.6km	
▼ Lake Macquarie system	0.3km	
Corporate services		
Replace customer meters 20mm	44,000	Business efficiency
Replace customer meters >20mm	2,000	Business efficiency

Note: Hunter Water is to record the actual commencement and completion dates for all output measures relating to a construction or upgrade project.

Source: IPART's analysis, Atkins/Cardno Final Report, Hunter Water submission.

F IPART's financial modelling approach

This section discusses IPART's approach to price modelling to determine Hunter Water's charges. It begins with some brief observations about Hunter Water's approach to its modelling of proposed prices.

F.1 Hunter Water proposal

Hunter Water proposed a 57.4 per cent increase over the four year price path for a residential customer who consumes 200kL per year. The overall impact from Hunter Water's proposed prices on a typical residential bill is shown in Table F.1.

Table F.1 Hunter Water proposed impact on typical residential bill (\$08/09)

	2008/09	2009/10	2010/11	2011/12	2012/13	% Δ
Water service charge	41.46	57.38	65.13	74.29	82.41	98.8%
Water usage charge (\$/kL)	1.27	1.63	1.77	1.94	2.08	63.8%
Sewer service charge	321.17	516.61	553.45	581.09	600.36	86.9%
Sewer usage charge (\$/kL)	0.47	0.00	0.00	0.00	0.00	-100.0%
Environmental improvement charge	54.84	31.98	31.98	31.98	31.98	-41.7%
Typical residential bill (200kL)	718.47	931.97	1,004.56	1,075.36	1,130.75	57.4%
% year on year increase		29.7%	7.8%	7.0%	5.2%	
\$ year on year increase		213.50	72.59	70.80	55.39	

Note: Assumes residential consumption of 200kL per year.

Source: Hunter Water submission, 9 January 2009.

Table F.1 shows that Hunter Water proposed to increase prices through a P-nought adjustment. A P-nought approach applies a large initial increase in prices in the first year of the price path with smaller increases in the remaining years.

Hunter Water's P-nought adjustment is comprised of a 29.7 per cent increase in the first year followed by increases of 7.8 per cent in the second year, 7.0 per cent in the third year and 5.2 per cent in the fourth year. Hunter Water has used a 7.5 per cent WACC (real, pre-tax) to model prices.

Commenting on Hunter Water's proposed P-nought adjustment, the Public Interest Advocacy Centre (PIAC) commented in its submission:

PIAC understands that the price path proposed by Hunter Water intends to introduce the largest increase to water bills in the first year of the determination, followed by smaller increases over ensuing years. PIAC understands that many low-income earners have little discretionary expenditure and few savings and is concerned that a price increase that adds 28.8 per cent to the average water bill in year one will mean many of these households will experience extreme difficulty managing their bills. PIAC requests that IPART require Hunter Water to introduce constant price increases over the period so that consumers experience incremental adjustments in their bills in place of large increases that are likely to generate additional financial stress.²¹⁵

F.2 IPART modelling of charges

IPART's final decision is to adopt a smoothed net present value (NPV) neutral approach so that the targeted rate of return of 6.5 per cent (as set by the WACC) is achieved in NPV terms over the course of the determination period. Previously, IPART's draft decision was to use a P-nought pricing approach.²¹⁶

IPART's decision to use an NPV neutral approach was made in response to the submissions it received to its draft determination. Hunter Water and Sydney Water highlighted inconsistencies between the draft decision to use a P-nought approach and the approach adopted by IPART in other recent metropolitan water reviews. Further, Hunter Water argued that this approach was inconsistent with the approach of the majority of other Australian economic regulators. Hunter Water argued that a smoothed NPV neutral approach would preserve the concept of capital maintenance, smooth prices and achieve full cost recovery over the regulatory period.

A smoothed NPV neutral approach places upward pressure on prices. However, IPART's final decision incorporates a 30 basis points reduction to the targeted rate of return on the grounds of section 15 considerations of the IPART Act (such as the social impact of prices on customer affordability).²¹⁷ IPART's decision to reduce the targeted rate of return limits the price increase for the typical residential customer over the determination period to 30.7 per cent (a similar level to IPART's draft decision which resulted in a 30.6 per cent increase in the typical residential bill).

IPART has maintained its draft decision to set the price increase in the first year of the determination period higher than in subsequent years. IPART considers that its 13.8 per cent initial year increase (rather than the 29.7 per cent increase proposed by

²¹⁵ Public Interest Advocacy Centre submission to IPART Issues Paper, 11 November 2008, p 3.

²¹⁶ For the purposes of this determination, a P-nought modelling approach is defined as an initial first-year price increase followed by smaller, more even increases over the course of the determination period. Under this approach, prices achieve full cost recovery in NPV terms in the final year of the determination period only.

²¹⁷ IPART considers that its decision to deviate from the selection of the WACC midpoint estimate represents a 'special case' which was strongly motivated by stakeholder submissions such as that received from Minister Phillip Costa MP which urged IPART to limit price increases.

Hunter Water) addresses PIAC's concerns about the impact of large adjustments in prices for customers on fixed or low incomes. At the same time, IPART's approach delivers the necessary revenue for Hunter Water to maintain an investment grade credit rating.

Table F.2 presents the key pricing outcomes of IPART's proposed prices. IPART's decision on prices results in a 30.7 per cent increase over the price path period for a residential customer who consumes 200kL per year. IPART has used a 6.5 per cent WACC (real, pre-tax) to model prices.

Table F.2 IPART proposed impact on typical residential bill (\$08/09)

	2008/09	2009/10	2010/11	2011/12	2012/13	% Δ
Water service charge	41.46	38.44	38.86	38.99	40.30	-2.8%
Water usage charge (\$/kL)	1.27	1.51	1.62	1.74	1.86	46.5%
Sewer service charge	321.17	445.08	462.21	478.25	494.80	54.1%
Sewer usage charge (\$/kL)	0.47	0.00	0.00	0.00	0.00	-100.0%
Environmental improvement charge	54.84	31.98	31.98	31.98	31.98	-41.7%
Typical residential bill	718.47	817.49	857.05	897.22	939.08	30.7%
% year on year increase		13.8%	4.8%	4.7%	4.7%	
\$ year on year increase		99.02	39.56	40.17	41.87	

Note: Assumes residential consumption of 200kL per year.

Source: IPART modelling.

IPART's decision on prices increases the final year bill for the typical residential customer to \$939.08 in 2012/13. This is \$191.67 less than the final year bill under Hunter Water's proposal. IPART's proposal amounts to a 30.7 per cent increase on 2008/09, which is 26.7 per cent less than the 57.4 per cent increase proposed by Hunter Water. The lower bill increase compared with Hunter Water's proposal is attributable to IPART's:

- ▼ reduction to Hunter Water's proposed capital expenditure program of 14.2 per cent (or \$138.8 million) over the determination period
- ▼ 3.2 per cent reduction to Hunter Water's proposed operating expenditure over the determination period (which includes a \$3.5 million reduction in the final year of the price path in 2012/13)
- ▼ approach to the recovery over time of the revenue requirement associated with Tillegra Dam (as set out in detail in Chapter 4).

F.2.1 RAB allocation

In determining Hunter Water's charges, IPART used a different RAB allocation to water, sewerage and stormwater to that implied by Hunter Water (through its proposed prices). While different methods of RAB allocation do not affect the overall revenue requirement (nor the overall bill increase or financial impacts), they do vary the values of charges between water, wastewater and stormwater.

IPART determined the RAB allocation for this determination through a roll forward of the RAB allocation from the last price determination, with adjustments for the capital expenditure and depreciation that occurred over that period. The RAB allocations produced through this approach compared with the allocations derived from Hunter Water's proposed prices are set out in Table F.3.

Table F.3 RAB allocation

	Derived from Hunter Water proposed prices	IPART roll forward
Water allocation	43.3%	51.7%
Wastewater allocation	55.4%	46.3%
Stormwater allocation	1.3%	2.0%

Source: IPART modelling.

Using the roll forward method of RAB allocation, IPART obtained values for water, wastewater and stormwater charges that it considered better reflect the relative balance of past and future expenditures in the charges for each service (based on the capital expenditure and depreciation incurred over the period). The roll forward method of RAB allocation increases the RAB allocation to water (43.3 per cent to 51.7 per cent) and stormwater (1.3 per cent to 2.0 per cent) but decreases the allocation to wastewater (55.4 per cent to 46.3 per cent).

Increasing (or decreasing) the RAB allocation raises (or lowers) the return on capital component to be recovered through prices for a specific service. As such, increasing the RAB allocation to a service increases the price required for cost recovery. Decreasing the RAB allocation has the opposite affect.

IPART's treatment of Tillegra Dam related capital expenditure reduces the large price impact that would otherwise have been brought to bear on Hunter Water's current customers. Through IPART's treatment of Tillegra Dam related capital expenditure an alignment of the recovery of Tillegra's costs with the take-up of its capacity is achieved. The outcome of this alignment better addresses inter-generational equity concerns by alleviating the large cost burden on the relatively small base of current users and sharing costs with the dam's future beneficiaries.

G Weighted Average Cost of Capital (WACC)

There are several approaches for calculating the return on capital on the regulated asset base (RAB). IPART's preferred approach is to use the weighted average cost of capital (WACC) to determine an appropriate range for the rate of return. A point estimate of the WACC is selected by IPART from this range. The WACC for a business is the expected cost of its various classes of capital (debt and equity), weighted to take into account the relative share of debt and equity in the total capital structure. As with previous determinations, IPART has used a real pre-tax WACC.²¹⁸

There are a number of input parameters to consider in determining an appropriate WACC range. Of these, the risk free rate, inflation adjustment and debt margin are dependent on current market rates. The market risk premium, tax rate and dividend imputation factor do not vary with the nature of the business, however the equity beta, capital structure and debt margin can vary with the nature of the business.

G.1 IPART's WACC decision

IPART has selected a point estimate for the WACC of 6.5 per cent for the final determination.

IPART has calculated a range for the WACC of 6.0 per cent to 7.8 per cent, with a midpoint estimate of 6.8 per cent. IPART's construction of a range recognises the uncertainty in calculating the WACC, particularly related to the market risk premium, debt margin, equity beta and the dividend imputation factor (gamma). Since the draft determination IPART has updated its estimate of the rate of return to reflect market conditions averaged to 11 May 2009, as well as its decision to update its approach to calculating the debt margin and inflation adjustment.

For the draft determination IPART adopted a WACC of 7.0 which incorporated a 20 basis point reduction below the midpoint of the range (ie, 7.2 per cent).²¹⁹

²¹⁸ The real pre-tax formula is presented in; IPART, *Bulk Water Prices for State Water Corporation and Water Administration Ministerial Corporation from 1 October 2006 to 30 June 2010 – Final Report*, September 2006, Appendix D.

²¹⁹ IPART applied a rate of return of 7.0 per cent in the draft decision which incorporated a 20 basis point reduction below the midpoint. This was based on market conditions to 14 January 2009.

For the final determination, IPART has adopted a WACC of 6.5 per cent which incorporates a 30 basis points reduction below the midpoint of the range (ie, 6.8 per cent). This decision aims to achieve consistency with other recent determinations and to strike a balance between the interests of Hunter Water and its customers.

IPART considers that its decision to deviate by 30 basis points from the selection of the WACC midpoint estimate represents a 'special case'. This decision recognises the very large resulting price increase of 37.3 per cent should a WACC of 6.8 per cent have been applied. IPART's decision to apply a 30 basis point reduction was strongly motivated by stakeholder submissions such as that received from the Minister for Water. The Minister urged IPART to limit the increases to those:

...absolutely necessary to ensure the ongoing supply of safe, healthy and reliable water and sewerage for the region.²²⁰

IPART considers that the point estimate selected has recognised the:

- ▼ need to set prices that provide Hunter Water with a commercial rate of return that adequately compensates the business for the capital it has invested
- ▼ significant price increase faced by customers.

IPART considers that a WACC of 6.5 per cent provides Hunter Water with an allowance for the full efficient costs of its operations. The point estimate selected is well within the range of values that could be considered to provide an appropriate return on capital.

IPART's analysis of Hunter Water's financial position in Chapter 11 finds that the prices set by IPART will enable Hunter Water to achieve an overall credit rating of at least BBB+ (above investment grade) in each year of the determination period.

Decision

39 IPART's decision is to select a real pre-tax WACC of 6.5 per cent to be applied to the RAB.

G.2 Hunter Water's proposal

Hunter Water supports IPART's approach to calculating a real pre-tax WACC, however it proposed a WACC of 7.5 per cent. Hunter Water's proposal is based on the WACC determined for Sydney Water in 2008. The parameters used for the Sydney Water determination are shown in Table G.1.

Hunter Water provided comments on IPART's draft decision on the rate of return.²²¹ Hunter Water commented on IPART's approach to estimating the cost of debt and WACC point estimate, stating:

²²⁰ Minister for Water, Letter to IPART, 21 May 2009.

²²¹ Hunter Water Corporation, Response to IPART's Draft Determination and Draft Report, May 2009.

Hunter Water has received advice from NSW Treasury expressing concern regarding the methodology adopted by IPART to determine the debt margin and selection of the point estimate within the WACC range.²²²

Hunter Water's May 2009 submission also commented on IPART's selection of a point below the midpoint of the range, and provided some principles to consider when setting the WACC. According to Hunter Water, IPART should select a point estimate for the WACC that:

- ▼ is sufficiently likely to meet Hunter Water's underlying cost of funds
- ▼ does not threaten the long term viability of the business
- ▼ provides appropriate incentives for future investment.

Hunter Water's submission noted that IPART departed from the midpoint of the range in its draft decision after considering the requirements of section 15 of the IPART Act. Hunter Water considers that the WACC should provide the business with at least a 50 per cent chance of achieving its cost of capital. IPART considers that the section 15 factors and other matters it considered in the selection of a rate of return for Hunter Water are consistent with the above principles.

G.3 Stakeholder comment

In contrast to the views of Hunter Water, a number of submissions have called for a lower rate of return to ameliorate the impacts on customers. PIAC's submission indicated a preference for a reduction in the WACC to lower the increase in prices.²²³ Hunter Councils Inc recognised that it is appropriate to seek contributions from users for capital costs, however it considered that a rate of return higher than other recent decisions made by IPART was not necessary.²²⁴

On other matters, Sydney Water commented on the estimation of the equity beta and the debt margin.²²⁵ With regards to the equity beta, Sydney Water has expressed concern with IPART's decision considering the AER's recent determination for electricity transmission and distribution network service providers. Sydney Water submitted its view that water utilities may face greater risk than electricity transmission and distribution providers. Sydney Water was also concerned over the use of Bloomberg data instead of CBASpectrum.

²²² Ibid, p 20.

²²³ Public interest Advocacy Centre, Hunter Water Prices: Submission to IPART Draft report on prices for water, sewerage, stormwater and other services for Hunter Water Corporation, May 2009.

²²⁴ Hunter Councils Inc submission on the draft determination on water prices for Hunter Water, May 2009.

²²⁵ Sydney Water Corporation, Sydney Water response to review of Prices for Hunter Water Corporation – Draft Determination and Report, May 2009.

G.4 IPART's past WACC decisions

Table G.1 shows the final parameters adopted by IPART in the 2008, 2005 and the 2003 metropolitan water decision, the 2006 bulk water decision, the 2007 electricity decision and the more recent 2008 CityRail decision.

Table G.1 Rate of return parameters – past decisions

Parameter	2008 CityRail	2008 Sydney Water	2007 Electricity retail	2006 Bulk water	2005 Metro water	2003 Metro water
Nominal risk free rate	5.2%	6.1%	5.9%	5.8%	5.2%	5.1%
Real risk free rate	2.5%	2.4%	2.7%	2.4%	2.6%	2.9%
Inflation	2.7%	3.6%	3.1%	3.3%	2.5%	2.2%
Market risk premium	5.5 - 6.5%	5.5 - 6.5%	5.5 - 6.5%	5.5 - 6.5%	5.5 - 6.5%	5.0 - 6.0%
Debt margin	2.9 - 6.0%	3.1 - 3.7%	1.0 - 1.3%	1.1 - 1.3%	1.2 - 1.3%	0.7 - 1.0%
Debt to total assets	60%	60%	30 to 40%	60%	60%	60%
Dividend imputation factor (gamma)	0.5 - 0.3	0.5 - 0.3	0.5 - 0.3	0.5 - 0.3	0.5 - 0.3	0.5 - 0.3
Tax rate	30%	30%	30%	30%	30%	30%
Equity beta	0.8 - 1.0	0.8 - 1.0	0.8 - 1.2	0.8 - 1.0	0.8 - 1.0	0.65 - 0.90
WACC range (real pre-tax)	6.5 - 9.7%	6.8 - 8.4%	7.2 - 9.9%	5.5 - 6.9%	5.7 - 7.1%	5.2 - 6.7%
WACC (real pre-tax point estimate)	7.2%	7.5%	8.6%	6.5%	6.5%	5.6%

Table G.1 shows there has been a wide variation in the WACC range that IPART has determined over the years. This is not surprising given that some parameters are based on market observations and consequently reflect prevailing market conditions at the time of the decision. However, IPART considers that there is merit in maintaining a consistent approach to the calculation of the cost of capital across regulatory decisions.

Table G.1 highlights a very high degree of consistency for parameters that are not directly observable from market data. Such intertemporal consistency reduces regulatory risk and its associated costs. Hence, there is a presumption that unless an alternative approach to the calculation of a WACC parameter is demonstrated to be clearly superior, the existing approach should be maintained.

In July 2008, IPART released an issues paper setting out a preliminary position on its approach to calculating an appropriate rate of return to apply to Hunter Water's RAB.²²⁶ IPART proposed to maintain its existing approach of using the real pre-tax WACC and selecting a point estimate for the WACC from a range. IPART indicated that the capital asset pricing model (CAPM) has been used to derive the cost of equity, and the cost of debt has been calculated as a margin over the risk free rate.

G.5 Calculation of the range and midpoint estimate

IPART's approach to calculating the WACC resulted in a range in which the midpoint was 6.8 per cent.²²⁷ The WACC parameters used in the draft and final decisions for Hunter Water are shown in Table G.2 below.

Table G.2 Draft and final decisions on the rate of return and the parameters IPART used to calculate the WACC

WACC parameter	Draft decision	Final decision
Nominal risk free rate	4.2% ^a	4.6% ^b
Real risk free rate	2.8% ^a	NA ^c
Inflation adjustment	1.3% ^a	2.5% ^b
Market risk premium	5.5% - 6.5%	5.5% - 6.5%
Debt margin	1.2% - 3.6% ^a	2.7% - 3.5% ^b
Debt to total assets	60%	60%
Dividend imputation factor (gamma)	0.5 - 0.3	0.5 - 0.3
Tax rate	30%	30%
Equity beta	0.8 - 1.0	0.8 - 1.0
Cost of equity (nominal post-tax)	8.6% - 10.7%	9.0% - 11.1%
Cost of debt (nominal pre-tax)	5.4% - 7.7%	7.3% - 8.1%
WACC range (real pre-tax)	5.9% - 8.6%	6.0% - 7.8%
WACC (real pre-tax) midpoint	7.2%	6.8%
WACC (real pre-tax) point estimate	7.0%	6.5%

^a Reflects market data averaged for the 20 days to 14 January 2009.

^b Reflects market data averaged for the 20 days to 11 May 2009.

^c The real risk free rate is unnecessary when using swap market data to derive the inflation adjustment.

The parameters used to calculate the WACC range for the final determination were based on market conditions averaged over the 20 days to 11 May 2009 (where relevant). The continued volatility in financial markets between the draft and final decisions is one factor that has led to a 40 basis point difference between the midpoints of the WACC ranges for the draft and final determinations. IPART's decision to change the methodology used to calculate the implied inflation

²²⁶ IPART, *Review of prices for the Hunter Water Corporation from 1 July 2009 – Issues Paper*, July 2008.

²²⁷ The midpoint is calculated on the basis of the midpoint of the range for each parameter. Because the formula is non-linear, the calculated midpoint is not necessarily the midpoint of the range of the WACC.

(consistent with the approach described in IPART's discussion paper)²²⁸ is another factor.²²⁹

These effects have been mitigated, to some extent, by IPART's decision to revise the selection of proxies for the debt margin. IPART's consideration of the individual market parameters are provided in more detail in the sections that follow.

G.5.1 Nominal risk free rate and inflation

The risk free rate is used as a point of reference in determining both the return on equity and the cost of debt within the WACC. In both the CAPM and the cost of debt calculation, the risk free rate is the base to which a premium or margin is added to reflect the riskiness of the specific business for which the rate of return is being derived.

In its draft decision, IPART used the 20-day average yield on the 10-year Commonwealth Government bond for the risk free rate. It determined a long term inflation forecast by measuring the difference between the nominal and real risk free rates. In turn, the real risk free rate was measured as the 20-day average yield on indexed government bonds, adjusted by 20 basis points for a potential bias in real yields. This adjustment was consistent with other recent decisions.²³⁰

There are a number of problems with using Commonwealth Government bond yields to estimate inflation for the purposes of calculating the WACC:

- ▼ there is a potential bias in real Commonwealth Government bond yields due to supply constraints
- ▼ the Australian Office of Financial Management has indicated that there will be no further issues of indexed bonds.²³¹

In response to these significant problems, IPART released a discussion paper in February to investigate alternative approaches to calculating the implied inflation forecast.²³² In particular, this paper sought comments on a methodology whereby the inflation adjustment is estimated using data from the zero-coupon inflation-

²²⁸ IPART, *Adjusting for expected inflation in deriving the cost of capital – Discussion Paper*, February 2009.

²²⁹ Note that this decision had a downward effect on the WACC range in this particular instance. This may not be the case in future decisions as the values are dependent on underlying market data at the time of the determination.

²³⁰ See IPART, *Draft report - Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation*, April 2009, pp 181-182 for details on the adjustment.

²³¹ The Australian Office of Financial Management is giving consideration to resuming issuance of Treasury Indexed Bonds in 2009-10. If further indexed bonds are issued and supply constraints in the market are corrected, IPART may reconsider its previous approach of deriving a forecast of inflation using the difference between the yield on nominal and real Commonwealth Government bonds.

²³² IPART, *Adjusting for expected inflation in deriving the cost of capital, Discussion Paper*, February 2009.

linked swap market. Following consultation IPART made a final decision to use swap market data when setting the inflation adjustment. It also resolved to cross check that result against the appropriate breakeven inflation rates and economists' forecasts of inflation.²³³

IPART considers that relying on swap market data has several advantages when compared to other options, as:

- ▼ it is based on market observations and is therefore objective, repeatable and transparent and does not require the subjective selection of data (unlike the use of economists' forecasts)
- ▼ it does not require an arbitrary adjustment for biases in the market data (unlike the methodology of using the difference between real and nominal government bond yields)
- ▼ it overcomes the practical problem which has arisen because the Australian Office of Financial Management has indicated that there may be no further issues of indexed bonds
- ▼ the calculation of the real risk free rate is not required when using this methodology.

For these reasons, IPART has set the inflation adjustment for the purposes of estimating the WACC for Hunter Water using data from the zero-coupon inflation-linked swap market. The adjustment was cross checked against breakeven inflation rates and economists' forecasts of inflation and found to be consistent.

The inflation adjustment resulting from the swap market is 2.5 per cent for this determination. This result is broadly consistent with official forecasts of the Reserve Bank of Australia, although movements in the swap market may lead to results that vary in other determinations.

The 20-day average of the yield on nominal Commonwealth Government bonds and the inflation adjustment from swap market data sampled over the 20 days to 11 May 2009 are shown in Table G.3.

Table G.3 Risk free rate and inflation adjustment

Parameter	Value
Nominal risk free rate	4.6%
Inflation adjustment	2.5%

Source: Australian Financial Review, Bloomberg and IPART analysis.

²³³ IPART, *Adjusting for expected inflation in deriving the cost of capital, Final decision*, May 2009.

Decision

- 40 IPART's decision is to use the following parameters for the purpose of calculating the rate of return to apply for Hunter Water:
- a nominal risk free rate of 4.6 per cent based on the 20-day average as at 11 May 2009
 - an inflation adjustment of 2.5 per cent based on the 20-day average of market swap data to 11 May 2009.

G.5.2 Debt margin

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.

For the final decision IPART based its debt margin range on 20-day averages of fair value yield curve data obtained for BBB rated Australian corporate bonds with a maturity of 10 years, as well as actual bond yields for BBB and BBB+ rated securities. The final decision included an allowance of 12.5 basis points for debt raising costs.

Decision

- 41 IPART's decision is to adopt a debt margin range of 2.7 per cent to 3.5 per cent based on market observations as at 11 May 2009.

In response to the draft determination, Hunter Water provided comment specific to the calculation of the debt margin.²³⁴ Hunter Water has queried the source of the data and the selection of the proxies. Hunter Water's exposure to interest rate risk is also raised. These issues are considered in turn.

Data sources and selection of proxies

IPART's final decision sources the data underpinning the range for the debt margin from Bloomberg rather than CBASpectrum. Hunter Water submits that:

...fair value yields reported by Bloomberg and CBASpectrum have widened considerably in recent months.²³⁵

Sydney Water also expressed concern over the decision to use of Bloomberg data instead of CBASpectrum.²³⁶

²³⁴ Hunter Water Corporation, Response to IPART's Draft Determination and Draft Report, May 2009.

²³⁵ Ibid p 20.

²³⁶ Sydney Water Corporation, Sydney Water response to review of Prices for Hunter Water Corporation – Draft Determination and Report, May 2009.

As noted in the draft decision, IPART obtained actual and fair value yields from Bloomberg because CBASpectrum discontinued its service to some non bank customers, including IPART.²³⁷ Neither Hunter Water nor Sydney Water has proposed a practical alternative to address the problem of accessing the CBASpectrum service. IPART also notes:

- ▼ Bloomberg is accepted by Australian banks and businesses seeking to raise funds in the equity and debt capital markets and is considered by other Australian regulators to be an appropriate source of data
- ▼ there is no evidence that Bloomberg consistently understates yields or is biased.

IPART considers that it is appropriate to source data from Bloomberg for the final decision.

Hunter Water also submitted that:

...it is appropriate to determine [the] debt margin with reference to credit spreads across the entire market for a particular credit rating range, rather than limiting debt market analysis to any particular sector.²³⁸

IPART conducted preliminary analysis on the measurement of the debt margin.²³⁹ This was in response to concerns that market conditions in the Australian corporate bond market may not reflect the actual cost of debt that a utility would face in a competitive market.

The analysis conducted in the CityRail decision highlighted the extent of the volatility in the yield on corporate debt resulting from the current financial crisis. Yields prior to the middle of 2007 were fairly stable. Since then, a repricing of risk became evident, particularly with regards to:

- ▼ industry specific issues (property and financial services) and
- ▼ business specific issues (mainly debt and its refinancing).

IPART has updated this research for its recent discussion paper on approaches to calculate the debt margin.²⁴⁰

In its decision making IPART has had regard to both the traditional set of securities (referred to in IPART's debt margin discussion paper as the 'old universe' of securities) as well as a set of utility issued securities ('new universe' of securities). However, the debt margin was calculated using the traditional approach, whereby

²³⁷ IPART, *Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation - Draft Report*, April 2009, p 187.

²³⁸ Hunter Water Corporation, *Response to IPART's Draft Determination and Draft Report*, May 2009, p 21.

²³⁹ See for instance: IPART, *Final Report - Review of CityRail fares, 2009-2012*, December 2008 Appendix G; IPART, *Review of prices for water, sewerage, stormwater and other services for Hunter Water Corporation - Draft Report*, Appendix G.

²⁴⁰ IPART, *Estimating the debt margin for the weighted average cost of capital - Discussion Paper*, May 2009.

the range for the debt margin is based on 20-day averages of fair value yield curve data obtained for BBB rated Australian corporate bonds with a maturity of 10 years, as well as actual bond yields for BBB and BBB+ rated securities. The same set of actual BBB and BBB+ corporate bonds has been used for the draft and final determination, except for the exclusion of the AGL and GPT bonds (discussed below). As was the case in the draft determination, IPART's final decision includes an allowance of 12.5 basis points in the debt margin for debt raising and debt refinancing costs (ie, costs above the debt margin that businesses incur in competitive markets).

However, for the final determination, IPART gave further consideration to the composition of the portfolio of bonds since making its draft decision. One of the proxies, the AGL bond, is due to mature in September of this year (2009). Due to its short term to maturity, in its final decision IPART has excluded the AGL bond as its yield is not likely to be representative of the yield of 10-year corporate debt. Another bond referenced in the draft determination, the GPT bond, has also been excluded in estimating the debt margin for the final determination. IPART considers that there were too few reliable quotes for the GPT bond within the 20-day sampling period.

The 20-day average debt margins generated using IPART's traditional methodology (excluding the AGL and GPT bond) and the debt margin based on a portfolio of utility issued bonds are presented in Table G.4. For this determination IPART has decided to maintain its use of the traditional methodology (old universe of securities) but will consider the potential use of the utility issued securities methodology (new universe of securities) for future reviews.

Table G.4 Debt margins at 11 May 2009

	Lower bound	Upper bound
Traditional IPART methodology	2.7%	3.5%
Utility issued securities methodology	1.1%	3.5%

Note: Includes 12.5 basis points for debt raising costs.

Source: Bloomberg and IPART analysis.

Cost of debt and interest rate risk

Hunter Water expressed concern with its exposure to interest rate risk due to its significant increase in debt for the forward capital works program. In its submission to the draft determination Hunter Water stated:

It should be noted that in order to achieve this investment grade rating, there is very little scope for unfavourable movements in key assumptions. This is particularly the case for the financial years 2011/12 and 2012/13.

Of particular concern is Hunter Water's exposure to interest rate risk. Future spending on critical infrastructure will result in a significant increase in debt. This, in turn, will result in a substantial increase in interest costs over future price path periods.²⁴¹

IPART's approach of setting the WACC for a benchmark Australian water utility allows Hunter Water to adopt risk and financing strategies that suit the business. It is IPART's view that Hunter Water has the capacity to remove its exposure to interest rate risk.

This determination sets a WACC that provides Hunter Water with an adequate allowance for the cost of capital consistent with current market rates. While rates are likely to change over the determination period, Hunter Water is free to hedge against any movements in rates through a variety of instruments, such as raising debt at the time of the decision or entering into swap agreements. It is IPART's view that Hunter Water has the capacity to remove its exposure to interest rate risk.

G.5.3 Equity beta

The equity beta value is a business specific parameter that measures the extent to which the return of a particular security varies in line with the overall return of the market. It represents the systematic or market wide risk of an asset that cannot be avoided by holding it as part of a diversified portfolio. It is important to note that the equity beta does not take into account business specific or unsystematic risks.

In its draft decision, IPART valued equity beta in a range of 0.8 to 1.0. Table G.1 shows that this value is consistent with values adopted in previous decisions. For example, this range was adopted in the 2005 determination for Hunter Water and in the 2008 determination for Sydney Water. A range is preferred by IPART in estimating the equity beta due to the inherent uncertainty in estimating the equity beta. IPART notes that new evidence on the value of equity beta has led other Australian regulators to revise their established valuations for equity beta:

- ▼ The Australian Energy Regulator's (AER) final decision in its review of the WACC parameters for electricity transmission and distribution businesses has valued the equity beta at 0.80.
- ▼ In the Essential Services Commission of Victoria's final decision of the Gas Access Arrangement Review 2008-2012 it valued equity beta at 0.7. This decision included a transitional mechanism which effectively allowed an equity beta at 0.8.

IPART considers that it is not appropriate to change its approach to valuing the equity beta at such a late stage in a review. However IPART will consider the new evidence that has emerged from the AER's review for future reviews. Sydney Water has submitted its view that water utilities may face greater risk than electricity

²⁴¹ Hunter Water Corporation submission to IPART Draft Report, 22 May 2009, p 25.

transmission and distribution providers.²⁴² When reviewing the AER's findings, IPART will consider whether there is new evidence is applicable to the industries that IPART regulates.

Given that it is likely that Hunter Water faces a similar level of systematic risk to that of Sydney Water, and in the interest of achieving consistency between regulatory decisions, IPART considers that a range of 1.0 to 0.8 is appropriate for this determination.

Decision

- 42 IPART's decision is to adopt an equity beta of 0.8 to 1.0 for the purpose of calculating the rate of return to apply for Hunter Water.

G.5.4 Capital structure, tax rate and dividend imputation factor (gamma)

When determining the level of gearing used to calculate the WACC, IPART adopted a benchmark capital structure (rather than the actual financial structure of Hunter Water) to ensure that customers will not bear the cost associated with an inefficient financing structure. Another factor that IPART considered is the dividend imputation factor (gamma). Under the Australian dividend imputation system, investors receive a tax credit (franking credit) for the company tax they have paid. This ensures that 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 the imputation tax credits is represented in the 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 (valued at or approaching one) would reduce the cost of capital considerably.

As Table G.1 shows, IPART's preference for debt to total assets and tax rate parameters has been the benchmark capital structure value and the prevailing company statutory tax rate. In establishing what value to assign to gamma, IPART has reviewed a number of independent expert reports and academic studies over the years that have consistently shown that there is no conclusive evidence on the exact value that investors attach to imputation tax credits. The draft determination adopted a range of 0.5 to 0.3 rather than a point estimate to account for the uncertainty in estimating this value. IPART also set the level of gearing at 60 per cent for gamma and assumed a tax rate of 30 per cent.

No submissions were received in response to the draft position on gamma, the level of gearing or the assumed tax rate. IPART notes that since the draft determination the AER released its final decision for its review of the WACC parameters for

²⁴² Sydney Water Corporation, Sydney Water response to review of Prices for Hunter Water Corporation – Draft Determination and Report, May 2009.

electricity transmission and distribution businesses. The AER valued gamma at 0.65. However, IPART considers that it is not appropriate to change its approach to valuing gamma at this late stage. IPART has maintained its draft decision's values for the capital structure, tax rate and dividend imputation factor for the final decision.

Decision

- 43 IPART's decision is to adopt the following parameters for the purpose of calculating an appropriate rate of return to apply for Hunter Water:
- debt to total assets of 60 per cent
 - tax rate of 30 per cent (statutory tax rate)
 - dividend imputation factor of 0.5 to 0.3.

G.5.5 Market risk premium

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.

As Table G.1 shows, in most recent decisions IPART has maintained an MRP range of 5.5 to 6.5 per cent. For the draft determination, IPART adopted a value within the range of 5.5 to 6.5. Since the draft decision was made, the AER determined an MRP value of 6.5 per cent in its final decision on the WACC parameters for electricity transmission and distribution businesses. IPART does not consider that it is appropriate to change its approach to valuing the MRP at this late stage. IPART has maintained the draft decision's value of 5.5 to 6.5 per cent for the final decision.

Decision

- 44 IPART's decision is to adopt an MRP range of 5.5 to 6.5 per cent for the purpose of calculating an appropriate rate of return to apply for Hunter Water.

H | Miscellaneous and ancillary services

Table H.1 Draft decisions for miscellaneous and ancillary services

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
1	Conveyancing Certificate			
	a) Over the Counter	Over the counter statement of outstanding rates and charges at a specific date which is issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.	\$20.90	\$27.50
	b) Electronic	Electronic statement of outstanding rates and charges at a specific date. Issued to solicitors, conveyancing companies and individuals as a requirement for buying property and selling property.	\$8.20	\$8.40
2	Property Sewerage Diagram-up to and including A4 size- (where available)	Where available, issue a copy of a diagram showing the location of the house – service line, building and sewer for a property.	\$15.10	
	a) Certified			NA
	b) Uncertified			
	i. Over the Counter			\$16.20
	ii. Electronic			NA
3	Service Location Diagram			
	a) Over the Counter	Over the counter plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewer main is available.	\$15.10	\$22.65
	b) Electronic	Broker or agent lodges an application via the Land Title Office . This office interfaces and extracts property details, produces an electronic plan of Hunter Water's services and connection points in relation to a property's boundaries or	\$8.75	\$13.20

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
		a statement that no sewer main is available.		
4	Meter Reading – Special Reads and by Appointment <i>(previously Special Meter Reading Statement)</i>	Provide a statement of account where customers request a special meter reading. Meter Reader obtains a special reading outside the existing read schedule.	MODIFIED	
	During business hours			\$23.35
	Outside of business hours, by appointment			\$42.90
5	Billing Record Search Statement			
	a) Up to and including 5 years	Customers request search of Hunter Water's archived financial reports providing account details for up to 5 years. Account details for the current and previous financial year are free of charge. This charge is applied for each property requiring a billing record search.	\$53.40	\$61.70
	b) For multiple properties	An hourly charge to prepare and provide billing and consumption data to owners of multiple properties.	NEW	\$77.50 per hour
6	Building over or Adjacent to Sewer Advice	Statement of Approval Status for existing Building Over or Adjacent to a Sewer.	\$25.50	\$77.20
7	Water Reconnection – after restriction			
	During business hours	Restoration of the water supply during business hours to a property restricted for non-payment of accounts when payment has been received, during normal business hours (8am to 3pm).	\$57.85	\$59.55

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
	Outside business hours	Restoration of the water supply outside business hours to a property restricted for non-payment of accounts during the hours of 3.00pm – 8.00am, the following business day.	\$173.90	\$160.00
8	Workshop Flow Rate Test of Meter			
	Without Strip Test	Removal, transportation, flow rate and strip test of a mechanical meter at the customer's request to determine the accuracy of the water meter. Two options were built into the previous charge: a) where only a flow rate could be applied; or b) when the strip test was also required, a higher fee was charged. This charge has been restructured into two separate charges.		
	20mm		20mm -25mm \$187.45	\$156.00
	25mm		20mm -25mm \$187.45	\$156.00
	32mm		\$233.15	\$213.00
	40mm		\$250.60	\$223.00
	50mm	'Light' being a Meter weighing less than 10 kgs and 'heavy' being a Meter weighing 10 kgs or more).	light \$277.10 heavy \$508.25	light \$256.00 heavy \$459.00
	65mm		\$508.25	\$461.00
	80mm		\$512.60	\$469.00
	100mm		\$596.25	\$569.00
	150mm		\$596.25	\$706.00
	With Strip Test	Removal, transportation, flow rate and strip test of a mechanical meter at the customer's request to determine the accuracy of the water meter.	MODIFIED	

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
	20mm			\$216.00
	25mm			\$216.00
	32mm			\$273.00
	40mm			\$283.00
	50mm	'Light' being a Meter weighing less than 10 kgs and 'heavy' being a Meter weighing 10 kgs or more.		light \$316.00 heavy \$519.00
	65mm			\$521.00
	80mm			\$529.00
	100mm			\$629.00
	150mm			\$766.00
9	Application for Water Disconnection			
	a) Application for water disconnection-(<i>all sizes</i>)	Process applications to disconnect existing water service – all sizes.	\$30.15	\$94.95
	b) Application for recycled water disconnection	Process applications to disconnect an existing recycled water service. A plumbing inspection is required to ensure the service has been correctly capped off and complies with Plumbing standards.	NEW	\$123.00
10	Application for Water Service Connection (up to and including 25mm)	Process applications to connect a new water service. This covers the administration fee only. There will be a separate charge payable to the utility if they also perform the physical connection.	\$34.80	\$101.00

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
11	Application for Water Service Connection-(32-65mm)	This covers administration and system capacity analysis as required including hydraulic assessment. Applicable where a new meter is required. It includes the fee for connection service.	\$294.00	\$294.00
12	Application for Water Service Connection-(80mm or greater)	This covers administration and system capacity analysis as required including hydraulic assessment and processing and assessment of tee and valve requirements. Applicable where a new meter is required. It includes the fee for connection service.	\$539.00	\$539.00
13	Application to assess a Water Main Adjustment	This covers preliminary advice as to the feasibility of the project and will result in either:		
		▼ A rejection of the project in which cases the fee covers the associated investigation costs; or	\$375.00	\$265.00
	or	▼ Conditional approval in which case the fee covers the administrative costs associated with the investigation and recorded amendment.	\$375.00	\$265.00
14	Standpipe Hire Security bond	Bond paid by standpipe hirers and held in a public moneys account, refundable upon return of the standpipe in an undamaged state and upon payment of all outstanding hire and usage charges. The charge is equivalent to the actual purchase price of the standpipe.		
	20mm standpipe		\$327.90	\$280.00
	32mm low flow standpipe		\$765.10	\$340.00
	32mm high flow standpipe		\$765.10	\$750.00
	50mm standpipe		\$765.10	\$750.00

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
15	Standpipe Hire – monthly and tri-annual fees	Hire fees payable for the use of a portable metered standpipe owned by Hunter Water that is used to extract water from a water main.		
	Monthly Fee:			
	20mm standpipe		\$11.60	\$8.45
	32mm low flow standpipe		\$20.75	\$9.45
	32mm high flow standpipe		\$20.75	\$16.35
	50mm standpipe		\$21.85	\$16.35
	Tri-annual Fee			
	20mm standpipe		\$24.50	\$38.30
	32mm low flow standpipe		\$61.20	\$39.30
	32mm high flow standpipe		\$61.20	\$46.20
	50mm standpipe		\$65.60	\$46.20
16	Standpipe Water Usage Fee	Charge per kilolitre of measured consumption on a standpipe.	As per water usage tariff per kilolitre	As per water usage tariff per kilolitre
17	Backflow Prevention Device Application and Registration Fee	Charge for the initial application and registration of a backflow prevention device.	\$20.90	\$23.25
18	Backflow Prevention Device Annual Administration Fee and Test			
	a) Annual administration fee	Charge for the maintenance of backflow prevention device records including logging of inspection reports.	\$13.95	\$15.25

No.	Ancillary and miscellaneous service	Description	2005 Determination	Charge from Commencement Date to 30 June 2010 (\$)
	b) Backflow Device Test	This fee is for arranging to test a customer’s backflow device as a result of that customer failing to arrange their own test.	NEW	\$242.00
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)		\$6.89	\$6.89
	Gravity Sewer Mains (\$ per Metre)		\$10.38	\$10.38
	Rising Sewer Mains (\$ per Metre)		\$6.89	\$6.89
	Reinspection		N/A	NA
20	Statement of Available Pressure and Flow	Water pressure report detailing relative water pressures in Hunter Water’s mains. This fee covers all levels whether modelling is required or not.	\$306.00	\$288.00
	Plus Technical Services hourly rate (if required)			\$99.00

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
21	Application to Connect or Disconnect Sewer Services or for a Special Internal Inspection Permit	Process applications to connect a new sewer service or to disconnect an existing sewer service.	\$38.30	\$125.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
22	Application to Connect or Disconnect Water & Sewer Services (combined application)	Process combined application to connect a new water and/or sewer or to disconnect and existing water and/or sewer service.	\$40.65	\$101.00	NA
23	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.			
	Banking Authority:				
	Cheques	Fees relating to cheques returned by banking authorities as irregular or dishonoured.	\$22.50	\$21.95	NA
	Credit Card decline	Fees relating to credit card payment decline.	N/A	N/A	NA
	Direct Debit decline	Fees relating to direct debit payment decline.	\$14.30	\$24.45	NA
	Australia Post:				
	Cheques	Fees relating to cheques dishonoured when paid at Australia Post agencies.	\$28.00	\$36.95	NA
24	Request for Separate Metering of Units (per plan)	Process a request for separate sub-metering of individual units within a registered Strata Plan or Community Title. The new fee is applied per plan regardless of the number of units.	\$72.85 1-4 units \$92.15 5-10 units \$119.05 +10 units	\$34.10 per Strata Plan or Community Title	NA
25	Unauthorised Connections	Charge to a Customer Account to recover costs and appropriate application fees where a connected service is located but no application to connect has been lodged with Hunter Water.	NEW	\$148.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
26	Building Plan Stamping	Approval to basic building/development plans certifying that the proposed construction does not adversely impact on Hunter Water's assets.	NEW	\$11.60	NA
27	Determining Requirements for Building Over/Adjacent to Sewer or Easement	Statement of conditional requirements to council approved building plans to safeguard Hunter Water's sewer assets.	60.95	\$83.70	NA
28	Hiring of a Metered Standpipe				
	a) Application to Hire a Metered Standpipe	Process applications for the hire of portable metered standpipes.	\$121.85	\$164.00	NA
	b) Breach of Standpipe Hire Conditions	Fee for failing to provide a standpipe meter reading as required by the standpipe hire agreement. The standpipe hire agreement specifies that if three breaches occur the standpipe hire agreement will be terminated. Due to processing times each breach attracts its own charge.	NEW		
	Breach 1			\$19.90	NA
	Breach 2			\$25.05	NA
	Breach 3 – step 1			\$28.90	NA
	Breach 3 – step 2 (customer fails to return standpipe)			\$31.50	NA
29	Meter Affixtures/Handling Fee	Installation of a water meter to the water connection framework.			
	a) Up to 50mm light duty		\$21.85 (up to 50mm light duty)	\$22.95 (up to 50mm light duty)	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
	b) For meters 50mm or larger, Hunter Water can deliver the meter with the customer paying the delivery fee.		NEW	\$17.50	NA
30	Inspection of Non-Compliant Meters	Reinspect a proposed multi-metered development or stand alone property where a second inspection is required for separate metering as Meter Frames were either non compliant or were not accessible at initial inspection.	House: Not charged Units: 1 -4 units \$34.55 5-10 units \$42.20 +10 units \$57.50	\$48.55	Contractor hourly rate if required
31	Standard Plumbing Inspections <i>(previously Special Inspections)</i>	There are three different types of Special Inspections with each inspection type attracting its own fee.			
	a) General plumbing inspection	Inspection of rainwater tanks and water cartage storage tanks and the inspection of temporary toilet connections to the sewer on large building sites.	\$66.20	\$94.15	NA
	b) Additional recycled water connection inspection		\$66.20	\$97.00	NA
	c) Hourly rate for commercial and industrial plumbing inspections		\$66.20	NA	\$68.85

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
32	Connect to or Building Over/Adjacent to Stormwater Channel for a Single Residence	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.	\$71.15	\$71.15	NA
33	Stormwater Channel Connection	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.	\$282.00	\$250.00	NA
34	Hydraulic Design Assessment	The <i>NSW Code of Practice: Plumbing and Drainage</i> 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.	MODIFIED		
	a) Up to 10 drawings		\$268.00	\$258.00	NA
	b) 11 to 50 drawings		\$268.00	\$258.00 + \$23 per drawing in excess of 10 drawings	NA
	c) More than 50 drawings		\$268.00	\$1,178.00 + \$20 per drawing in excess of 50 drawings	NA
35	Pump Station Design Assessment	Pump station designs prepared by consultants are audited to ensure compliance with Hunter Water standards.			
	Water Pump Station		\$2,789.00	\$3,380.00	NA
	Sewer Pump Station		\$3,069.00	\$3,722.00	NA
	Recycled Water Pump Station		NEW	\$3,380.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
36	Application to Assess Sewer Main Adjustment	This fee covers preliminary advice as to the feasibility of the project and either : a) a rejection of the project in which case the fee covers the associated investigation costs; or b) conditional approval in which case the fee covers the administration costs associated with the investigation and record amendment.	\$375.00	\$345.00	NA
37	Indicative Developer Charge Application	This fee covers a determination of indicative developer charges.	\$248.00	\$200.00	NA
38	Revision of Development Assessment (previously revision of notice requirements)	<i>The revision fee covers the cost of recalculating the developer charge and reviewing the design and construction requirements..</i>	\$316.00	\$286.00	NA
39	Bond Application	This fee covers the lodging and release of a bond, and an estimation of the cost of outstanding works for a single asset, where a developer wishes to provide security in lieu of constructing works to facilitate early release of Hunter Water compliance certificates.	\$1,226.00	\$1,304.00	NA
40	Bond Variation	This charge covers Hunter Water's administration cost for adjustment of securities, per adjustment.	\$178.00	\$188.00	NA
41	Development Assessment Application	The application fee covers the basic processing of each application to determine if there are any requirements such as developer charges or the design and construction of works.	\$375.00	\$345.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
42	Application for Water or Sewer Main Extensions	Unserviced property owners can apply for approval to extend water and/or sewer mains. Hunter Water calculates appropriate developer charges and extension of options based on system capacity and topographical constraints.	\$375.00	\$345.00	NA
43	Assessment of Minor Works	Where the necessary works are less than 25 metres in length and less than 2.5 metres in depth, they are considered to be 'Minor Works'.	\$592.00	\$618.00	NA
44	Major Works (previously assessment of major works)				
	a) Major Works Design Review and Contract Preparation	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.	\$2,129.00	\$2,109.00	NA
	b) Major Works Design Re-assessment		NEW	\$278.00	NA
45	Connection to Existing Water System				
	a) Major Works (valve shutdown)	This fee covers the shutdown of water supply by Hunter Water using valves to allow connections to existing mains and recharging the main.	\$671.00	\$601.00	NA
	b) Major Works (non-valve shutdown)	This fee covers the shutdown of water supply by developer (or their contractor) using a non-valve method to allow connections to existing mains and recharging the main.	MODIFIED	\$249.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
46	Insertion or Removal of Tee & Valve				
	a) Valve shutdown and charge up	This fee applies when the developer elects for Hunter Water to insert the connection to existing mains and where the shutdown is performed using valves.	\$841.00	\$912.00	NA
	b) Non-valve shutdown and charge up	This fee applies when the developer elects for Hunter Water to insert the connection to existing mains and where the shutdown is performed using a non-valve method.	\$671.00	\$559.00	NA
47	Application for Additional Sewer Connection Point	Existing development requiring alternative sewer connection points must make an application to Hunter Water. Review of options and assessment of drawings or designs is covered by additional fees.	\$282.00	\$250.00	NA
48	Tee and Valve Connection	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.	\$163.00	\$183.00	NA
49	Minor Works Inspection Fee	Auditing of works constructed under minor works contracts to ensure that specified quality is being achieved.	\$161.00	\$161.00	NA
50	Major Works Inspection and WAE Fee	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		\$4,317.00	\$4,317.00	NA
	Sewer Pump Stations		\$5,848.00	\$5,848.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
	Recycled Water Pump Station		N/A	\$4,317.00	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.	\$274.00	\$345.00	Plus Technical Services Hourly Rate if required
52	Technical Services Hourly Rate (previously Fee per hour)	This fee provides an hourly rate for additional technical work to be undertaken where base services are exceeded.	\$99.00	NA	\$99.00
53	Remote Application Fee	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.	\$226.00	\$214.00	NA
54	Preliminary Servicing Advice <i>(previously Indicative Requirements Fee)</i>	This charge covers technical assessment of a proposed development and general advice on the level of developer servicing plan charges.	\$375.00	\$326.00	NA
55	Servicing Strategy Review	Major developments often require the preparation of a servicing strategy for the whole development. Each asset group attracts an assessment fee.	\$564.00	\$572.00	NA
56	Environmental Assessment Report Review	Developments often require the preparation of EA reports in association with water and sewer design and construction activities. Consultants are engaged by developers to prepare this report and Hunter Water reviews the report to ensure the outcomes comply with relevant legislative and regulatory	NEW	\$572.00	Plus Technical Services Hourly Rate

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
		requirements.			
57	Recycled Water Inspection and Work As Executed (WAE) Fee	Some developments require inspection and WAE services for dual reticulation (recycled water). This is in addition to the water and sewer inspection fee (ie, Fee No. 19)	NEW	\$9.45 per metre	NA
58	Reservoir Construction Inspection and WAE Fee	Specific to reservoir construction – comprises inspection /audit of works constructed under major works contracts to ensure that specified quality is achieved. WAE comprises survey of the constructed work and modifying plans to detail the precise location of the work for inclusion in Hunter Water's GIS database.	NEW	By quotation	NA
59	Water Cart Tanker	Initial inspection of a water cart tanker or annual inspection to ensure the air gap and backflow prevention is sufficient to protect HWC potable water supply. The location of the inspection will be negotiated with the customer to take place at either a location in the field nominated by the customer or Hunter Water depot.	NEW	\$114.00	NA
	a) Inspection of water cart tanker				
	b) Reinspection of water cart tanker due to non-compliance	Reinspect a water cart tanker if it was non compliant at the initial inspection. The purpose of the inspection is to ensure the air gap and the backflow prevention is sufficient to protect HWC potable water supply. This fee will be charged each time the tanker requires a follow up inspection due to non compliance.	NEW	\$98.50	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
60	Inaccessible Meter-Reading Agreement	Preparation of an agreement with a customer, whereby the customer provides Hunter Water with water metering reading. This arrangement is necessary where the meter is not accessible to Hunter Water as part of our normal meter reading process.	NEW	\$45.70	NA
61	Inaccessible Meter – Imputed Charge for Breach of Meter-Reading Agreement	Apply a charge for water and sewer usage when a customer breaches their Meter Reading Agreement with Hunter Water by failing to provide a meter reading within the specified time requested. This charge is in addition to water and sewer usage charges that will be raised when an actual meter reading is obtained.	NEW	\$16.80 plus imputed usage charge.	NA
62	Damaged Meter Replacement	The replacement of meters that have been wilfully or accidentally damaged by a third party as noted in 10.2 of the Customer Contract. In this situation the customer is responsible for the replacement cost of the asset. This does not include normal wear and tear.	NEW		
	20mm meter			\$70.35	NA
	25mm meter			\$110.00	NA
	32mm meter			\$149.00	NA
	40mm meter			\$173.00	NA
	50mm light meter			\$284.00	NA
	50mm heavy meter			\$334.00	NA
	65mm meter			\$424.00	NA
	80mm meter			\$434.00	NA
	100mm meter			\$454.00	NA

No.	Ancillary and miscellaneous service	Description	2005 Determination	Fixed Charge (\$)	Hourly Charge (\$)
				\$809.00	NA
				\$2,806.00	NA
				\$3,564.00	NA
63	Affix a Separate Meter to a Unit	Affix a meter to a unit where the meter frame is compliant with requirements. This fee will be applied for each meter that is affixed.	NEW	\$30.05	NA
64	Recycled Water Meter Affix Fee	Costs associated with affixing a meter to a recycled water service customer's property.	NEW	\$48.00	NA
65	Plumbing Non-Compliance follow up Inspection Fee	A fee to imposed on licensed plumbers to recoup Hunter Water's costs in follow up inspections due to non compliant plumbing work.	NEW	\$81.40	NA
66	Application for Recycled Water Service Connection –Domestic	This charge recoups the costs associated with processing of applications and mandatory inspections for recycled water services connections.	NEW		
	Pre-laid service:			\$287.00	NA
	Redevelopment:			\$366.00	NA

Source: IPART's analysis, Deloitte/Halcrow Final Report, Hunter Water submission 2009.

I | IPART's decision on Hunter Water's proposal to use a cost index to adjust the RAB for inflation

In its submission Hunter Water proposed that in rolling forward the RAB, capital expenditure forecasts, which are assessed in real terms, be inflated using a capital cost escalation of 4.8 per cent per year rather than inflation. Hunter Water argued that the construction sector was in a high growth environment which would continue over the 2009 determination period. Evidence for this view included:

- ▼ forecasts that construction activity would grow robustly over the period, placing strong demand pressures on constrained resources including skilled labour and locally sourced materials
- ▼ expectations that construction activity would rise by a further 19 per cent over the period at a national level, driven by a global resource boom
- ▼ increases in bitumen, steel and concrete prices driven by rising global demand and tight markets.³⁰

Hunter Water's proposed escalation of 4.8 percent was based on analysis undertaken by BIS Shrapnel for Hunter Water of the change in the CPI and the engineering construction cost implicit price deflator over the period 2003/04 to 2007/08³¹. Hunter Water explains that escalation would be applied to capital expenditure estimates defined in real terms and notes that the then current NSW Treasury CPI rate of change forecast was 2.5 per cent per year.

In the 2005 Determination Hunter Water also sought the application of a construction cost index. IPART rejected this proposal and concluded that:

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.³²

³⁰ Hunter Water submission to IPART on prices to apply from 1 July 2009, January 2009, Appendix B.

³¹ Hunter Water submission to IPART on prices to apply from 1 July 2009, January 2009, Appendix B.

³² IPART, *Hunter Water Corporation, Prices of Water Supply, Wastewater and Stormwater Services from 1 November 2005 to 30 June 2009 - Final Report*, June 2005, p 65.

In the 2008 Sydney Water determination Sydney Water requested IPART to escalate its forecast capital costs by the construction cost index. In the course of that review IPART undertook its own analysis of two Australian indices of construction costs to identify trends in the industry. Based on that evidence, IPART concluded:

...the rate of change of the general construction index is considerably lower throughout this period than the non-building construction index, although the averages over the longer term are relatively close. The rate of change in the general construction index is also lower than the rate of change in the CPI in all periods, except the most recent period where it is the same.

IPART recognises that construction activity is predicted to remain strong in the near future. However, there are significant uncertainties in the global equity markets and credit markets that could have a negative impact on construction activity. Construction activity (and costs) could also be dampened by anticipated further increases in domestic interest rates, which would increase borrowing costs for businesses.³³

IPART notes that this issue has been considered in detail in these previous reviews and it is not aware of any new rationale for changing the approach to escalation.

IPART also notes that since Hunter Water made its initial submission in September 2008, economic activity has slowed significantly. Recent economic forecasts predict a lengthened contraction throughout the general economy with a substantial decline in aggregate demand for the mining and industrial sector. In the February 2009 *Statement on Monetary Policy*, the RBA noted:

Conditions in the business sector have deteriorated sharply in recent months as a result of the continuing crisis in global financial markets and deepening recession in the world economy. In particular, there has been a significant reappraisal of future demand for commodities, resulting in cuts to production and exports and a growing number of mining companies announcing reductions in their capital expenditure intentions for 2009.³⁴

IPART has decided against Hunter Water's proposal to inflate the future capital expenditure by the construction cost index and, instead, proposes that this expenditure be escalated by movements in the CPI.

Decision

- 45 IPART's decision is not to support Hunter Water's proposal to escalate capital costs by the construction cost index and to use movement in the CPI to inflate forecast capital costs.

³³ IPART, *Sydney Water Corporation, Prices of Water Supply, Wastewater and Stormwater Services from 1 July 2008 – Final Report*, June 2008, p 59.

³⁴ Reserve Bank Australia, *Statement on Monetary Policy*, February 2009. www.rba.gov.au/PublicationsAndResearch/StatementsOnMonetaryPolicy/Feb2009/domestic_economic_conditions.html

J | IPART's average cost approach for bulk water transfer prices between the Central Coast and Hunter regions

Scarcity pricing aims to equate supply and demand through immediate price increases in times of water scarcity. IPART decided not to adopt a scarcity pricing approach for two reasons. Firstly, given Hunter Water's current storage levels, it is considered unlikely that it will experience water scarcity in the short to medium term.³⁵ Furthermore, due to Hunter Water's sufficient storage levels, the majority of future transfers are likely to be supplied by Hunter Water to the Central Coast.

Secondly, since IPART also sets the maximum price for the Central Coast, price increases would be limited by the degree to which the Central Coast could pass on price increases to signal scarcity to its customers. This in effect limits the use of scarcity pricing.

IPART also discarded the use of Hunter Water's water usage price to price water sales between Hunter Water and the Central Coast. IPART's decision to not use the water usage price is based on its view that the cost to supply the Central Coast is relatively inexpensive and that price should take this into account. This is particularly in light of the significant capital investment that the Central Coast has made towards upgrading the trunk main pipeline that links the water systems.

Hunter Water's proposal to price transfers at the IPART determined water usage price, less a discount, was also not adopted by IPART. Hunter Water proposed that

...the current agreed price structure be maintained as commercial agreement was reached on this approach... [However,] Hunter Water has not agreed to provide the councils with access to Tillegra Dam under the current supply agreement unless the councils agree to purchase a share of the yield from Tillegra Dam. In this light, the tier one usage price to which the agreement price is linked needs to be deflated for Tillegra-related depreciation and rate of return. To give effect to this deflation, Hunter Water proposes that the discount on the tier one price be increased from the current 28.3 per cent to 37 per cent from 1 July 2009.³⁶

IPART decided not to follow this approach since IPART sets the water usage price with reference to Hunter Water's long run marginal cost (LRMC) to supply water from Tillegra Dam. While this is the case, a discount to 'back out' Tillegra Dam

³⁵ The SKM report found that there was a 1 in 21.3 chance that Hunter Water would need to impose restrictions in any year. When Tillegra Dam is added the chance of needing to impose restrictions falls to 1 in 1250 chance of imposing restrictions in any year. The trigger point for imposing restrictions is assumed to be reached when storage levels fall below 60 per cent.

³⁶ Hunter Water submission to IPART on prices to apply from 1 July 2009, January 2009, p 93.

related expenditure would not be effective when the water usage price is based solely on the LRMC of Tillegra Dam supply.³⁷

J.1 Why use the average cost of Hunter Water?

IPART has used the average cost (AC) of Hunter Water's supply of water to the Central Coast as a reference to price water sales between the two parties. IPART considers that Hunter Water's AC represents a fair value to use to price water transfers in both directions (ie, north to south and south to north) because:

- ▼ the majority of past transfers since 2005/06 have come from Hunter Water's supplies
- ▼ the majority of future transfers are expected to come from Hunter Water's supplies³⁸
- ▼ Hunter Water's current price/cost is presently used as the basis for pricing water transfers.

³⁷ IPART notes that Hunter Water proposed to set volumetric prices in line with X-factor adjustments that deliver the notional annual revenue requirement throughout the determination period (Hunter Water submission to IPART on prices to apply from 1 July 2009, January 2009, p 88). Under this approach, Hunter Water's proposal to price water transfers to the Central Coast does have merit.

³⁸ Hunter Water is unlikely to need large volumes of water (if any at all) given its current storage levels and its plans to augment supply.

K Glossary

2005 Determination	IPART, <i>Prices of Water Supply, Wastewater and Stormwater Services - Hunter Water Corporation - 1 July 2005 to 30 June 2006</i> , September 2005 (Determination No. 6, 2005)
2009 determination period	The period from the date of gazettal to 30 June 2013
ABS	Australian Bureau of Statistics
ACG	Allen Consulting Group
AER	Australian Energy Regulator
AIC	Average Incremental Cost
AIR	Annual Information Return
Atkins/Cardno	A consortium of WS Atkins International Ltd and Cardno MBK
AC	Average Cost
CAPM	Capital Asset Pricing Model
Central Coast	The geographical area encompassing Wyong Shire Council and Gosford City Council areas
CGS	Commonwealth Government Securities
COAG	Council of Australian Governments
(the) Corporation	Hunter Water Corporation
Central Coast Councils	The water, sewerage and stormwater drainage sections of Wyong Shire Council and Gosford City Council (the regulated business)
CPI	Consumer Price Index
CSO	Community Service Obligation

DAFF	Dissolved Air Flotation and Filtration
(the) dam	Tillegra Dam
Date of gazettal	The date on which the determination is published in the government gazette
DECC	Department of Environment and Climate Change
Deloitte/Halcrow	A consortium of Deloitte Pty Ltd and Halcrow Pacific Pty Ltd
determination	The price limits set by IPART for a given determination period
DSP	Development Service Plan
Dungog	The area of Dungog Shire
Dungog Council	Dungog Shire Council
DWE	Department of Water and Energy
EIC	Environmental Improvement Charge
EPL	Environment Protection Licence
ESC	Essential Services Commission
financial year	The year commencing on 1 July and ending on 30 June
GIS	Graphic Information System
GL	Gigalitre (1000 ML = 1,000,000,000 litres)
glide path	where, price increases evenly over the price path to achieve full cost recovery in the final year
Gosford Council	The water, sewerage and stormwater drainage sections of Gosford City Council
Hunter Water	Hunter Water Corporation
IPART	Independent Pricing and Regulatory Tribunal of New South Wales
IPART Act	<i>Independent Pricing and Regulatory Tribunal Act 1992</i>

H250Plan	Hunter Water, <i>H250 Plan: Securing our water future</i> , December 2008
JWS	Joint water supply projects undertaken by the Gosford and Wyong Councils' Water Authority
kL	Kilolitre (1000 litres)
LCD	Litres per capita per day
LGA	Local Government Area
LRMC	Long Run Marginal Cost
Meter equivalent	Expresses the size of water meters in terms of their relationship to a standard 20mm residential water meter using the expression, $(meter\ size)^2/400$. For example, a 40mm meter is equivalent to four 20mm water meters and a 100mm meter is equivalent to twenty-five 20mm meters. This relationship can be used to apply a common water service, or fixed, charge to larger water meter sizes by multiplying the service charge for a 20mm meter by the meter equivalent of the larger meter.
ML	Megalitre (1000kL = 1,000,000 litres)
MMA	McLennan Magasanik Associates
MRP	Market risk premium
NCOSS	Council of Social Services of NSW
NERA	NERA Economic Consulting
NPV	Net Present Value
NSA	National Seniors Association
NWC	National Water Commission
NWI	National Water Initiative
OH&S	Occupational health and safety
PED	Price elasticity of demand
PIAC	Public Interest Advocacy Centre

PS	Pumping Station
PSP	Priority Sewerage Program
RAB	Regulatory Asset Base
RBA	Reserve Bank of Australia
SDF	Sewer discharge factor
SIR	Special Information Return
SKM	Sinclair Knight Merz
SPS	Sewage pumping station
STP	Sewage treatment plant
STW	Sewage treatment works
Sydney Water	Sydney Water Corporation
System criteria	Water system performance criteria
TEC	Total Environment Centre
WACC	Weighted Average Cost of Capital
WAE	Work As Executed
WWSTP	Wastewater sewage treatment plant
Wyang Council	The water, sewerage and stormwater drainage sections of Wyong Shire Council

