



Independent Pricing and Regulatory Tribunal

# **Review of prices for water, sewerage, stormwater and recycled water services for Hunter Water Corporation**

From 1 July 2009

**Water — Issues Paper**  
July 2008



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## Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

**Submissions are due from Hunter Water by 12 September 2008 and from all other stakeholders by 10 October 2008.**

We would prefer to receive them by email <[ipart@ipart.nsw.gov.au](mailto:ipart@ipart.nsw.gov.au)>.

You can also send comments by fax to (02) 9290 2061, or by mail to:

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Our normal practice is to make submissions publicly available on our website <[www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)>. If you wish to view copies of submissions but do not have access to the website, you can make alternative arrangements by telephoning one of the staff members listed on the previous page.

We may choose not to publish a submission – for example, if it contains confidential or commercially sensitive information. If your submission contains information that you do not wish to be publicly disclosed, please indicate this clearly at the time of making the submission. A request for access to a confidential submission will be determined in accordance with the *Freedom of Information Act 1989* and section 22A of the *Independent Pricing and Regulatory Tribunal Act 1992*.

If you would like further information on making a submission, IPART's submission policy is available on our website.



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# 1 Introduction

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is responsible for setting the maximum prices that may be charged by metropolitan water agencies for water and sewerage services. These include services provided by Hunter Water Corporation (Hunter Water), as well as Gosford City Council and Wyong Shire Council (collectively, Central Coast Councils), the Sydney Catchment Authority (SCA) and Sydney Water Corporation (Sydney Water).

IPART regulates:

- ▼ charges or prices for the provision of water, sewerage, stormwater, trade waste and other ancillary and miscellaneous services, including the provision of residential and non-residential properties with water and the transportation/disposal of sewage from those properties
- ▼ developer charges for the provision, or upgrading, of water supply, sewerage and drainage facilities for new developments.<sup>1</sup>

In 2005, IPART made a determination of the maximum charges to apply to the services provided by Hunter Water and described in the first dot point above (2005 Determination).<sup>2</sup> The period for that determination was 1 November 2005 to 30 June 2009 (current determination period). In this review, IPART will determine Hunter Water's charges for these services to apply from 1 July 2009 (upcoming determination period). Before setting those prices, IPART will examine Hunter Water's water, sewerage, recycled water and stormwater functions, its regulatory requirements and the appropriate level of revenue needed to support these activities in an efficient and effective manner.

## 1.1 The 2005 Determination<sup>3</sup>

IPART's 2005 Determination, which applied for the period from 1 November 2005 to 30 June 2009, set Hunter Water's prices to generate total revenue of \$618.7 million. This reflected IPART's assessment of Hunter Water's efficient costs of supplying

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<sup>1</sup> Throughout 2007/2008, IPART has been conducting a review of developer charges for metropolitan water agencies (for services described in the second dot point above). The final report for this review is scheduled to be released in September of this year.

<sup>2</sup> IPART, *Sydney Water Corporation, Hunter Water Corporation, Sydney Catchment Authority – Prices of Water Supply, Wastewater and Stormwater Services, Final Determination and Report, June 2005* (Determination Nos 5, 6 and 7, 2005) (2005 Determination).

<sup>3</sup> *Ibid*, pp 4 – 9.

water, sewerage and stormwater drainage services to its customers. The effect of the 2005 Determination was that, on average, prices increased by 7.5 per cent above inflation (real increase) in the first year of the current determination period, and by 2.5 per cent above inflation (real increase) in each of the following years of the period.

The 2005 Determination noted that the decisions made on prices would allow Hunter Water to:

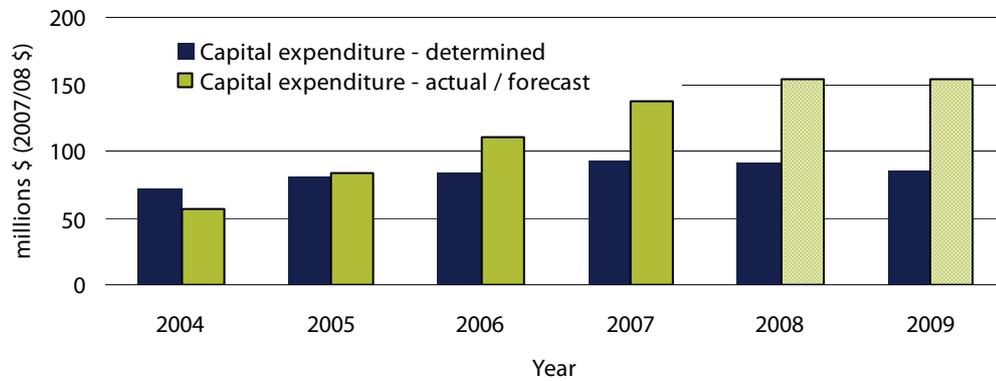
- complete the Grahamstown Dam augmentation to increase supply capacity and security
- replace a trunk main between Tarro and Shortland to improve security of supply and cater for growth
- construct a new trunk main on Kooragang Island to cater for growth
- undertake work on the water delivery system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

Hunter Water's water and sewerage prices for 2008/09, compared to those of Sydney Water and the Central Coast Councils are listed in Appendix E.

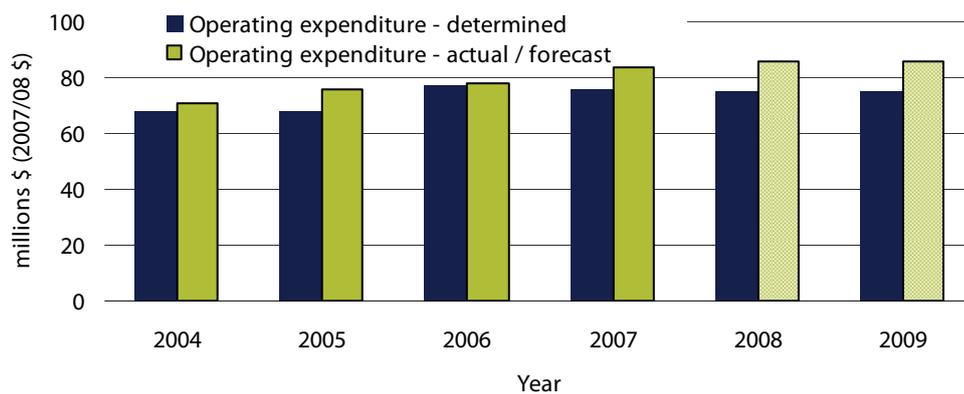
#### Hunter Water's actual costs since the 2005 Determination

The figures below present a comparison of Hunter Water's actual (or forecast) capital and operating expenditure against costs used by IPART in determining Hunter Water's prices for the purposes of the 2005 Determination. They show that there is some discrepancy between 'determined' costs and actual costs.

For this review, IPART will be seeking from Hunter Water a reconciliation of its actual costs over the 2005 determination period against costs allowed by IPART when it set prices in the 2005 Determination, and an explanation of the variances.

**Figure 1.1 Hunter Water Corporation capital expenditure**

**Data source:** IPART 2003 and 2005 Determinations and Annual Information Returns from Hunter Water.

**Figure 1.2 Hunter Water Corporation operating expenditure**

**Data source:** IPART 2003 and 2005 Determinations and Annual Information Returns from Hunter Water.

## 1.2 Scope of this review

This review will be conducted under section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act). Under section 15 of the IPART Act, IPART is to have regard to the following matters in making a determination:

- ▼ the **cost** of providing the services
- ▼ the **protection of consumers** from abuses of monopoly power in terms of prices, pricing policies and standard of services
- ▼ the **appropriate rate of return** on public sector assets, including appropriate payment of dividends
- ▼ the **effect on general price inflation** over the medium term
- ▼ the **need for greater efficiency** in the supply of the services so as to reduce costs for the benefit of consumers and taxpayers
- ▼ the **need to maintain ecologically sustainable development** by appropriate pricing policies that take account of all the feasible options available to protect the environment
- ▼ 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
- ▼ 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
- ▼ the **need to promote competition** in the supply of the services
- ▼ **considerations of demand management** (including levels of demand) and least cost planning
- ▼ the **social impact** of IPART's determinations and recommendations
- ▼ the **quality, reliability and safety** of the services.<sup>4</sup>

In considering these matters, IPART must balance the diverse needs and interests of stakeholders – such as customer affordability, environmental impact and maintenance of overall customer service quality – and ensure that Hunter Water is adequately recompensed for the services it provides.

IPART will also take account of principles issued by the Council of Australian Governments (COAG) and contained in the National Water Initiative.<sup>5</sup> In addition, the Minister for Water (Minister), pursuant to section 16A of the IPART Act, has directed IPART to include in its determination the efficient costs of Tillegra Dam and

<sup>4</sup> The section 15 requirements are listed in full in Appendix C.

<sup>5</sup> The National Water Initiative has built on the principles established in the 1994 COAG Water Reform Framework.

parts of the Kooragang Island water recycling project. Section 16A of the IPART Act 1992 relevantly states that:

- i) 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.

The implications of the Minister's direction is that IPART's review of Hunter Water's costs associated with the Dam and the Kooragang Island water recycling project will be 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 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.

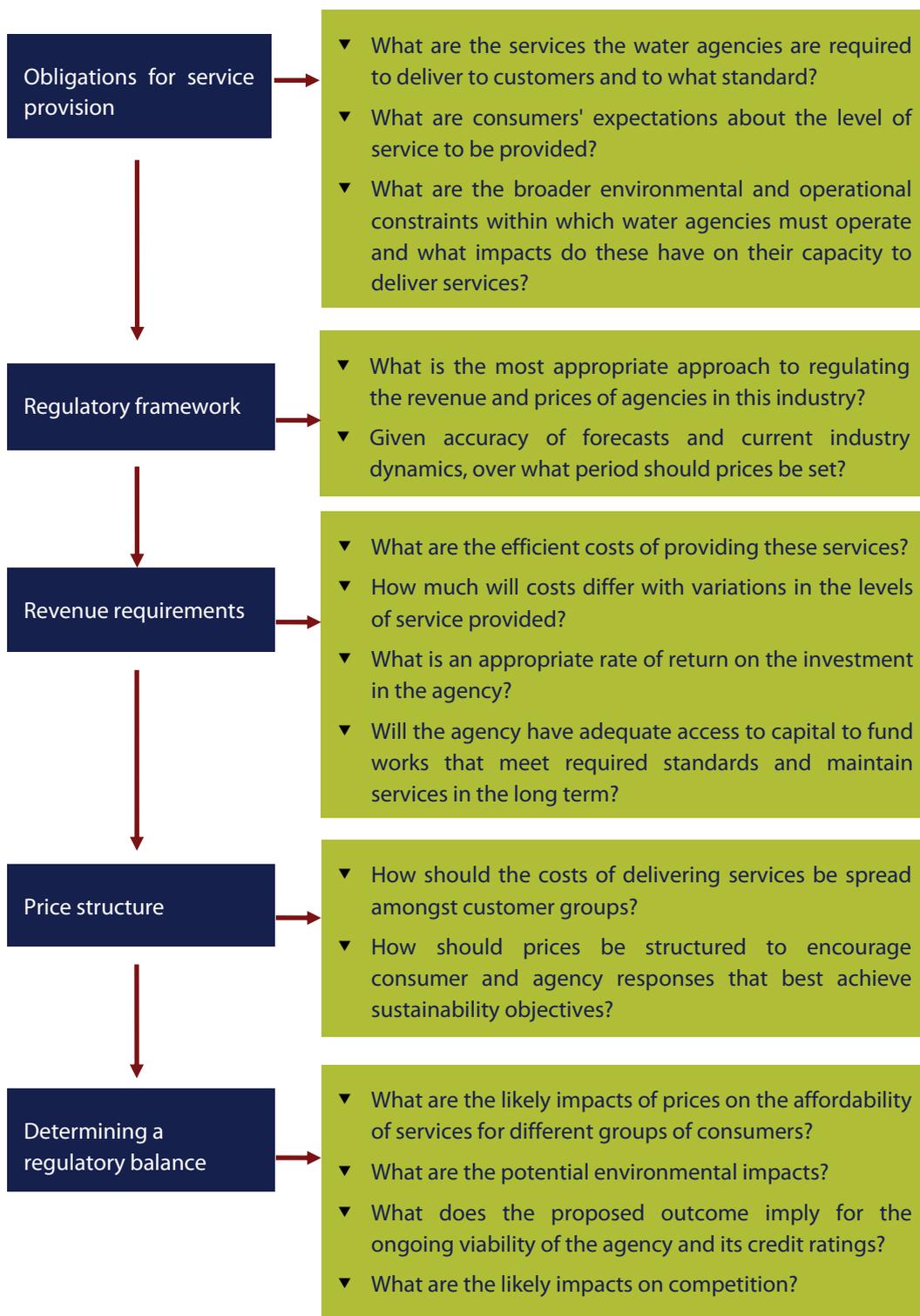
For other expenditure, IPART and its consultants will need to consider whether Hunter Water's program of capital and operating expenditure represents the best way of meeting the community's requirements for water, sewerage, stormwater and recycled water services.

Specific matters for IPART to examine in this review include:

- ▼ the efficiency of Hunter Water's operating costs and the scope for further efficiency gains over the upcoming determination period
- ▼ Hunter Water's capital expenditure requirements and the outcomes that will be achieved by its proposed capital expenditure program
- ▼ Hunter Water's regulatory requirements and any other government-imposed requirements
- ▼ the appropriate rate of return for Hunter Water
- ▼ forecast demand for Hunter Water's water and sewerage services
- ▼ the apportionment of the costs of the Dam among its beneficiaries
- ▼ the structure of Hunter Water's prices, taking into account potential impacts on Hunter Water, its customers and principles of economic efficiency.

IPART's general approach to determining monopoly prices for water agencies is outlined in the following diagram.

**Figure 1.3 IPART’s determination process**



### 1.3 The review process

In conducting its review, IPART will rely on its own research and analysis, drawing on selected consultant investigations and public consultation. As part of the consultation process, IPART invites submissions to the review. This Issues Paper has been prepared to assist in identifying and understanding the key issues for the review and encourage stakeholder comment. The Paper raises a range of issues and questions – both throughout the Paper and in a consolidated list provided in section 1.4.1 – on which IPART seeks particular comment. However, stakeholders are free to raise and discuss any other issues that they believe are relevant to the review. Details on how to make submissions are provided at the front of the Paper (on the page prior to the Table of Contents).

In addition, this Paper identifies information that IPART requests Hunter Water to provide.

IPART will also hold a public hearing to provide a further opportunity for stakeholders to present their views.

Following this consultation, IPART will release a draft report and determination, and invite stakeholders to comment. It will then consider these comments before making its final determination and releasing its final report.

An indicative timetable for the review is set out below.

**Table 1.1 Indicative review timetable**

<b>Task</b>	<b>Timeframe</b>
Release Issues Paper	18 July 2008
Receive submission from Hunter Water	12 September 2008
Receive public submissions	10 October 2008
Public hearing	21 November 2008
Release draft report	February 2009
Receive submissions to the draft report	March 2009
Release final report	May 2009

**Note:** Please note that these dates are indicative and may be subject to change.

In the past, IPART has had difficulties completing its reviews on time because of delays in the provision of necessary information by regulated entities. Delays and the provision of supplementary information late in the review process can mean that work has to be suspended or revised in the light of the new information received. Delays and new information not only adds to IPART's workload and that of its consultants, but also limits stakeholders' ability to participate and provide input into IPART's processes and decisions.

To enable IPART to better manage delays in the provision of information and supplementary information, it intends to put in place mechanisms that will ‘stop the clock’ when necessary information is not received from Hunter Water on time. Under ‘stop the clock’ arrangements, a delay in the receipt of information will mean that the timetable will be automatically extended by a period equal to the length of the delay. If IPART ‘stops the clock’ it will make a statement to this effect and publish a revised timetable on its website. Where new information is provided by Hunter Water, IPART also reserves the right to ‘reset the clock’ to reflect the need to rework and reconsider matters in the light of this new information.

To assist Hunter Water in providing information, this Paper outlines IPART’s information requirements (both throughout the Paper and listed in Appendix D). IPART will also separately write to Hunter Water to seek confirmation that it can provide this information in accordance with the review timetable. IPART will endeavour, as far as possible, to reach agreement with Hunter Water on the information that should be provided for the review and the date by which it should be provided. This should ensure that the demands placed on Hunter Water are not unreasonable, and minimise the risk that the review ‘clock’ has to be stopped or reset.

In addition to the requirement that Hunter Water provide information in a timely manner, it will also be required to provide sufficiently comprehensive information to justify its costs and forecast sales. In particular, any proposal to change the price structure or level of any of its regulated services must be accompanied by sufficient cost information, argument and justification to support the proposed change and allow IPART to analyse the proposal and stakeholders to make an informed response. Their submission should also identify the potential customer impacts of the proposal, the distribution of these impacts and options they have explored to mitigate or minimise these impacts.

IPART is also interested in receiving Hunter Water’s response to the broader range of issues raised throughout this Paper (and listed in section 1.4.1), as well as its views on other issues that it believes are relevant to the review.

## 1.4 Purpose and structure of this Issues Paper

To assist stakeholders in making submissions, this Paper explains how the review will be undertaken, provides background information, and outlines the issues on which IPART particularly seeks comments. The Paper is organised as follows:

- ▼ Chapter 2 provides an overview of the role of Hunter Water and its regulatory framework, and a discussion of IPART’s price-setting approach.
- ▼ Chapters 3 provides a summary of IPART’s approach to determining Hunter Water’s revenue requirement, including its review of historical and proposed capital and operating expenditure, the rate of return on the Regulatory Asset Base (RAB), asset lives, adjustments to the RAB for contributed assets, the significance of recycled water schemes (including their avoided costs) and the use of output measures.
- ▼ Chapter 4 outlines the price-setting process, including the forecasting of water customer numbers and sales, determining the appropriate length of the upcoming determination period and aggregate pricing approach, determining appropriate prices and price structures and considering the potential impacts on customers of any price changes. It also highlights the fact that factoring the costs of Tillegra Dam into water prices is likely to be a key issue for this review.

### 1.4.1 List of Issues for stakeholder comment

To assist in identifying and understanding the key issues for this review, this Paper has sought comment on the following issues, which are explained and discussed throughout the report (see page numbers listed below). However, stakeholders are free to raise and discuss any other issues that they believe are relevant to the review.

- |   |  |    |
|---|--|----|
| 1 | The prudence of Hunter Water’s capital expenditure over the current determination period.  | 23 |
| 2 | Hunter Water’s projected capital expenditure program, including its expenditure drivers, proposed service outcomes and scope for efficiency gains, as outlined in its submission due 12 September 2008.      | 23 |
| 3 | An appropriate rate of return to apply on Hunter Water’s Regulatory Asset Base (RAB), and the means of calculating/determining this rate.  | 24 |
| 4 | Appropriate asset classes and lives (for each asset class) to apply in calculating Hunter Water’s depreciation charge for the determination (with reference, where necessary, to Hunter Water’s submission). | 25 |
| 5 | The efficiency of Hunter Water’s operating costs over the current determination period and the efficiency of its projected operating costs (to be outlined in its submission).                               | 27 |
| 6 | Whether there is scope for Hunter Water to achieve further efficiency gains over the upcoming determination period.  | 27 |

7	Hunter Water’s recycled water schemes, including costs, avoided costs, proposed means of cost recovery, the timing/uptake of these schemes, and the drivers or ‘mandates’ behind the schemes.	30
8	The effectiveness of output measures as indicators of the prudence of capital and operating expenditure.	31
9	Hunter Water’s progress or performance against its 2005 output measures (listed in Appendix C).	31
10	The development of appropriate output measures for Hunter Water for the upcoming determination period.	31
11	Hunter Water’s projected customer numbers and sales (as set out in its 12 September submission).	33
12	The length of the price path that should apply for this review.	36
13	The approach that should be used to translate Hunter Water’s revenue requirement into prices over the upcoming determination period.	36
14	The appropriate structure for Hunter Water’s water and sewerage prices.	40
15	The basis on which Hunter Water’s Long Run Marginal Costs (LRMC) of supply might be calculated.	40
16	The extent to which IPART should regulate the price of water transferred between Hunter Water and the Central Coast Councils.	43
17	Principles that should be considered in the apportionment of Tillegra Dam’s costs between its beneficiaries.	45
18	Appropriate arrangements for apportioning and sharing costs of Tillegra Dam between Hunter Water and the Central Coast.	45
19	Whether Hunter Water’s costs of Tillegra Dam should be incorporated in upfront developer charges or periodic prices or a combination of both.	45
20	Appropriate arrangements for apportioning and sharing costs of Tillegra Dam between new development (developer charges) and existing customers (periodic charges).	45
21	Whether Hunter Water’s costs of Tillegra Dam should be recovered through the fixed or usage component of the two-part tariff or a mix of fixed and usage components.	45
22	Whether Hunter Water’s cost of Tillegra Dam should be reflected in its prices prior to the dam becoming operational.	45
23	The issues that should be considered as part of this review in light of the <i>Water Industry Competition Act 2006</i> .	46

24	Appropriate levels and structures of charges for Hunter Water’s stormwater drainage, trade waste, sewer service access and environmental improvement services, and its ancillary and miscellaneous services.	49
25	The impact of Hunter Water’s proposed prices (as set out in its submission, due September 12) on customer groups.	50
26	The need for, and form of, a revenue volatility adjustment mechanism for Hunter Water over the upcoming determination period.	51
27	The need for, and form of, other mechanisms to deal with risk throughout the upcoming determination period.	52

## 2 The role of Hunter Water and its regulatory framework

In the absence of competitive markets, Hunter Water is regulated to ensure that the appropriate economic, social and environmental objectives are achieved.

This chapter outlines the role and functions of Hunter Water, its broader regulatory framework and IPART's regulatory approach.

### 2.1 The role of Hunter Water

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 (MoUs), 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:

- a) supplying water,
- b) providing sewerage and drainage services, and
- c) disposing of waste water”

subject to the terms of the operating licence.<sup>6</sup>

Hunter Water's area of operations covers approximately 5,400km<sup>2</sup>, 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 the Dungog township and to a small area of the Great Lakes.<sup>7</sup> From 1 July 2008, Hunter Water will further expand its operations by providing water and sewerage services to around 2,000 properties in the Dungog Shire, with the local council transferring its water and wastewater 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

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<sup>6</sup> *Hunter Water Act 1991* sections 4A and 12.

<sup>7</sup> Hunter Water Corporation, *Draft H<sub>2</sub>50 Plan – Securing Our Water Future*, April 2008, p 9 (H<sub>2</sub>50 Plan).

between Hunter Water's system and the Central Coast now has capacity to transfer approximately 35 ML per day.<sup>8</sup>

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).<sup>9</sup>

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.

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<sup>8</sup> Ibid.

<sup>9</sup> Hunter Water Corporation, *Hunter Water 2006-07 Annual Report*, p 3.

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**Box 2.1 NSW Government’s announcement on new dam and Hunter/Central Coast water grid<sup>10</sup>**

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.

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As well as Tillegra Dam and the Kooragang Island recycled water scheme, Hunter Water’s *Draft H<sub>2</sub>50 Plan*<sup>11</sup> also includes ‘third pipe dual reticulation’ recycled water supply systems for some new residential development. This is in addition to existing recycled water supply agreements that Hunter Water has in place for industrial customers. The H<sub>2</sub>50 Plan also outlines the potential expansion of Hunter Water’s water efficiency programs.

Hunter Water’s current area of operations is illustrated in Figure 2.1.

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<sup>10</sup> Premier of New South Wales, News Release, “\$342 Million for New Dam and Hunter/Central Coast Water Grid”, 13 November 2006.

<sup>11</sup> Hunter Water Corporation, *Draft H<sub>2</sub>50 Plan – Securing Our Water Future*, April 2008, p 94.

**Figure 2.1 Hunter Water's area of operations**

## 2.2 Regulatory framework

IPART's is only one of the regulators that oversees Hunter Water's water industry functions. Several government regulators have responsibility for all metropolitan water agencies. Hunter Water's primary regulators are:

- ▼ **IPART**, which is responsible for setting maximum prices that can be charged by Hunter Water 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 wastewater 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 wastewater 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 Memorandum of Understanding with NSW Health recognising NSW Health as the drinking water quality regulator and facilitating effective interaction between the two organisations.
- ▼ The **Dam 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 Dam Safety Committee's main objective is to ensure that all 'prescribed dams' in NSW are in such condition 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.<sup>12</sup>

In addition to these regulators, Hunter Water is also subject to planning approvals and requirements relating to its proposed developments. For example, Tillegra Dam will be subject to approval from the **Department of Planning** which may, for example, impose requirements on its construction and operation to minimise its

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<sup>12</sup> Dams Safety Committee, *DSC1 – General Information*, April 2005, <http://www.damsafety.nsw.gov.au/FTP/PUBLICATIONS/PDF/DSC01.pdf>.

environmental impact. This would follow review of the development application from relevant stakeholders and regulators (such as DECC).<sup>13</sup>

### 2.3 Incentive regulation

IPART regulates Hunter Water by determining the maximum prices that it can charge for specific monopoly services over a determination period. It then sets out how these prices can rise or fall over that period to account for movements in general price inflation, efficiency gains, and significant changes in the operating environment (such as new environmental or customer service standards).

A critical element of IPART's price-setting process is the determination of the revenue requirement for Hunter Water. IPART determines prices with the objective of generating a required level of revenue, after taking into account all the factors specified in section 15 of the IPART Act. The calculation is based on an analysis of the efficient operating and capital costs that Hunter Water should incur in providing appropriate levels of service during the determination period.

IPART calculates Hunter Water's revenue requirement using the 'building block' revenue methodology. The costs or 'building blocks' of service provision have been outlined by COAG and can be categorised as operations costs, maintenance and administration costs, provision for the cost of asset consumption, provision for the cost of capital and externalities.

An important part of this incentive regulation is to encourage Hunter Water to achieve the efficiency targets implied in the building block approach. IPART's approach provides an incentive to Hunter Water to pursue efficiencies because it will retain in full the benefits of any efficiency gains over the determination period (through higher profits). If Hunter Water betters the efficiency target allowed in the revenue build-up, actual profits will be higher than the rate of return allowed in the revenue build-up. The converse applies if Hunter Water does not achieve the expected efficiency improvements.

In determining prices, IPART's fundamental responsibility is to meet the requirements of the Act. IPART has chosen the building block approach as a way of giving effect to these requirements.

A detailed overview of IPART's price-setting framework is included in Appendix A.

<sup>13</sup> As a major infrastructure development proposal, Tillegra Dam will require approval from the NSW Minister for Planning under Part 3A of the *Environmental Planning and Assessment Act 1979*. The Part 3A major project application process can vary, but in general it requires the submission of a formal application, preliminary assessment report, final environmental assessment report, preferred project report and statement of commitments. The H<sub>2</sub>50 Plan (at p 40) reports that work on the Tillegra Dam proposal is well underway, with the formal project application and preliminary environment assessment submitted to the Department of Planning in November 2007. Hunter Water expects to submit its Environmental Assessment Report to the Department around 2008.

## 2.4 Service quality standards

When it sets prices, IPART assumes that the existing standards of service required of Hunter Water will, at least, be maintained. Hunter Water's operating licence contains a number of service-related standards and requirements that are reviewed as part of the annual audit process. For example, Hunter Water's performance against its operating licence water supply continuity, water supply pressure and sewer overflow standards is listed in Table 2.1 below. An overview of its 2006/07 performance against all the provisions of its operating licence is presented in Appendix F.

**Table 2.1 Hunter Water's performance against sewer overflow, water supply continuity and water pressure standards<sup>14</sup>**

Indicator	Licence standard (pa)	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
No of uncontrolled sewage overflows	6,500	2,775	2,966	3,190	3,763	3,359	4,158
No of properties affected by water supply interruptions exceeding 5 hours	14,000	10,410	13,966	15,248	13,696	13,133	9,835*
No of properties that experience a pressure failure	4,800	2,461	2,461	1,655	1,656	1,663	1,655

\*Note: This figure excludes the effect of a major storm event. Including the effect of the storm event, this figure is 15,392.

Other regulatory instruments that assist in maintaining service standards include Hunter Water's Water Management Licence (administered by DWE) and its discharge licences (issued by DECC). In addition, Hunter Water is subject to requirements of NSW Health and Dam Safety Committee standards and guidelines.

In recent years, the National Water Commission (NWC) has developed a set of performance indicators to be applied across water utilities throughout Australia.<sup>15</sup> Where necessary, IPART will add to these by developing service quality and system performance indicators, which Hunter Water will be required to report against as part of its operating licence requirements.<sup>16</sup> Both the NWC's national indicators and

<sup>14</sup> Source: IPART, *Hunter Water Corporation Operational Audit 2006/07, Report to the Minister*, December 2007, pp 7-1 to 7-5.

<sup>15</sup> See Water Services Association of Australia and National Water Commission, *National Performance Report 2006-2007 urban water utilities*, 2008.

<sup>16</sup> Section 4.7.1 of Hunter Water's current operating licence states that "IPART will publish a schedule of Service Quality and System Performance Indicators." However, IPART is yet to publish this schedule, as it is reviewing the implementation of the NWC's indicators to minimise duplication and inconsistency with these indicators and to identify whether there are any 'gaps' in the current NWC list. Given the NWC's list of performance indicators, IPART does not want to impose any unnecessary or inconsistent performance indicators on Hunter Water.

any developed specifically by IPART for Hunter Water's operating licence will broaden IPART's understanding of the level of service quality that Hunter Water provides.

Generally, the amount that customers are willing to pay for a service is linked to the level of expected service quality. There is currently little product differentiation across Hunter Water's area of operations, given the nature of the services provided and the delivery systems used. However, this may change with the potential introduction of competition and the greater availability of different grades of water (such as recycled water) fit for different purposes.

Considerations for IPART in determining Hunter Water's prices include relating actual and proposed expenditure to service quality outcomes and ensuring an appropriate matching of service quality levels with customers' willingness to pay.

For this review, IPART will be seeking information from Hunter Water on the drivers of its proposed expenditure program and what its proposed expenditures will imply for service quality and performance.

IPART seeks information and explanation from Hunter Water on:

- 1 The uncertainties/risks in Hunter Water's operating environment over the upcoming determination period and beyond, including the nature of these uncertainties/risks and the likelihood of them impacting on specific costs (for example, electricity charges).
- 2 How Hunter Water has ascertained the appropriate service levels that it plans to provide over the upcoming determination period and how these service levels relate to forecast costs.

## 3 Revenue requirement

To determine Hunter Water's revenue requirement, IPART will seek detailed information on Hunter Water's operating and capital expenditure to date, projections of future expenditure and the drivers of this expenditure. IPART will also consider what the proposed expenditure will imply for overall service quality and performance.

This chapter outlines IPART's approach to determining the capital and operating expenditure requirements and the key issues that will need to be considered in doing this.

### 3.1 The 'building block' approach to determining the revenue requirement<sup>17</sup>

In defining an agency's revenue requirement, IPART assesses the future financial needs of the organisation. These financial needs must be sufficient to cover the operations, maintenance and administration expenses of the entity, plus any return of, and on, capital. This can be represented by the following formula, commonly described as the 'building block' approach:

$$R = O + M + A + C + D$$

Where R = revenue requirement

Non-capital costs: O = operations expenses

M = maintenance expenses

A = administration expenses

Capital costs: C = return on capital

D = return of capital (depreciation)

As shown in the formula above, the revenue requirement does not explicitly include capital expenditure. Rather, capital expenditure to maintain or augment the asset

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<sup>17</sup> IPART, *Rolling forward the regulatory asset bases of the electricity and gas industries, Discussion Paper*, January 1999, p 5.

base is funded from the return of capital, injections of equity, and borrowings (or other financing approaches).

Return of capital, commonly termed 'depreciation', may be more appropriately described as 'capital maintenance'. This recognises that through the provision of services to customers, a water utility's capital infrastructure will wear out, and that the cost of maintaining the capital base is a legitimate business expense. The return on capital represents IPART's assessment of the opportunity cost of capital invested in Hunter Water by its owner. It ensures that efficient investment in capital continues into the future for the maintenance and growth of the infrastructure system. It is the combination of an allowance for capital maintenance and a return on assets that ensures that the existing investment in the water business can be maintained in perpetuity.

Both return of capital and return on capital are calculated with reference to the Regulatory Asset Base (RAB). Ultimately, only capital expenditure deemed by IPART to be prudent, efficient and funded by the water utility is included in the RAB. Similarly, IPART's building block approach for determining the revenue requirement aims to only provide for the efficient operating, maintenance and administration costs incurred by a water utility in providing its monopoly services.

An additional parameter in IPART's building block approach is that its 2006 Determination and guidelines for recycled water provide that a water agency can recover 'avoided costs' associated with its recycled water schemes from its broader customer base.<sup>18</sup>

Specific issues relating to aspects of Hunter Water's revenue requirements that IPART will need to consider for this review are discussed below.

### 3.2 Review of historical and proposed future capital expenditure

IPART's approach to the review and treatment of capital expenditure for this review will be similar to that taken in the 2005 Determination. The 2005 price review adopted a two stage regulatory test process – a forward-looking *efficiency* test of proposed capital expenditure for the coming determination period and a backward-looking *prudence* test of actual capital expenditure decisions in the current determination period.<sup>19</sup> The *efficiency* test is used to determine how much of Hunter Water's proposed capital expenditure for the next determination period will go into the allowance for efficient capital expenditure. The *prudence* test is used to determine

<sup>18</sup> IPART, *Pricing Arrangements for recycled water and sewer mining*, Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council, *Water – Determinations and Report*, September 2006 (Determinations Nos 8 and 9, 2006).

<sup>19</sup> The efficiency test examines whether Hunter Water's proposed capital expenditure represents (over the life of the asset) the best way of meeting the community's need for the relevant services. By contrast, the prudence test assesses whether, in the circumstances that existed at the time, the decision to invest in the asset is one that the agency, acting prudently, would have been expected to make. The prudence test is somewhat easier to satisfy than the efficiency test.

how much of the actual capital expenditure by Hunter Water in the current determination period will go into the opening value of the RAB.

As part of the submission process, IPART seeks capital expenditure information from Hunter Water. This information should outline actual capital expenditure during the current determination period and proposed capital expenditure during the forthcoming determination period, together with actual and expected outcomes to be achieved by the capital expenditure in the current and upcoming determination periods. This information should be included in Hunter Water's submission to IPART and will therefore be available to other stakeholders to comment on when preparing their own submissions.

IPART considers sound asset management practices to be critical for maintaining long-term system performance standards in the most efficient manner. For this reason, it will continue to take a close interest in the practices and performance of regulated businesses in this area. IPART will be looking for evidence that Hunter Water has well-developed and sound asset management practices and plans in place, and that capital expenditure programs are based on a robust asset management framework. Additionally, IPART will be seeking assurance that the critical infrastructure of the businesses is not being run down.

In past determinations IPART has employed industry experts to review Hunter Water's asset management, the efficiency of proposed capital and operating expenditure, and the prudence of past expenditure. This has usually involved an examination by the consultant of the drivers of expenditure, the timing of proposed expenditure, customer demand growth and general asset management practices. This analysis, combined with cost benchmarking and general consultant experience, allows the consultant to make recommendations on the efficiency and prudence of the expenditure program. IPART intends to repeat this process in this review by engaging a consultant to review Hunter Water's asset management and capital and operating expenditure. The consultant will prepare a report that will be made available for public review. Interested stakeholders can comment on the consultant's report as part of their submission to IPART's draft report and determination.

In reviewing Hunter Water's proposed expenditure, IPART (and its consultants) will also need to take into consideration directions from the Minister for Water under section 16A of the IPART Act.

IPART seeks information and explanation from Hunter Water on:

- 3 Hunter Water's capital expenditure over the current determination period, drivers of this expenditure and service outcomes achieved.
- 4 Hunter Water's capital expenditure over the current determination period compared to expenditure allowed by IPART in the 2005 Determination, and an explanation of variances.

- 5 Hunter Water's projected capital expenditure program over the upcoming determination period, drivers of this expenditure and expected service outcomes to be achieved.
- 6 Separate identification of the capital costs covered under the section 16A direction issued by the Minister.
- 7 Hunter Water's asset management framework, and the relationship between its asset management framework and capital expenditure program.

IPART seeks comment on:

- 1 The prudence of Hunter Water's capital expenditure over the current determination period.
- 2 Hunter Water's projected capital expenditure program, including its expenditure drivers, proposed service outcomes and scope for efficiency gains, as outlined in its submission due 12 September 2008.

### 3.3 Rate of return on the RAB

There are several approaches for calculating the appropriate rate of return on the RAB. In past determinations, IPART has used the real pre-tax Weighted Average Cost of Capital (WACC) to determine an appropriate range for the rate of return. The WACC is the weighted average of the cost of debt and equity. IPART has used the Capital Asset Pricing Model (CAPM) to derive the cost of equity, and calculated the cost of debt as a margin over the risk free rate.

For this review, IPART proposes to maintain the existing approach to calculating the rate of return for the RAB and will seek to update the parameters used in calculating the WACC.

In making its finding on the WACC, IPART will take into consideration the requirements of the IPART Act, including s 15(1)(b), which deals with the protection of consumers from abuses of monopoly power, s 15(1)(c), which deals with an appropriate rate of return including payment of dividends, and s 15(1)(k), which deals with the social impact of its determination and recommendations. In doing so, it will investigate the implications of its chosen rate of return on the bills of water customers and Hunter Water's financial viability.

IPART's recent finding on the rate of return for Sydney Water's RAB over the 2008/09 to 2011/2012 determination period, and its explanation of this finding, is outlined in its Final Report on the review of Sydney Water's prices (2008 Sydney Water Determination).<sup>20</sup>

<sup>20</sup> IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Final Report, June 2008, pp 57-60 (2008 Sydney Water Determination).

IPART seeks comment on:

- 3 An appropriate rate of return to apply on Hunter Water's Regulatory Asset Base (RAB), and the means of calculating/determining this rate.

### 3.4 Return of capital

Depreciation (or 'return of capital') is largely a function of the value assigned to the investment in the agency's assets and the expected or assumed life of those assets. For this review, IPART will be considering the asset lives used to calculate the depreciation (capital maintenance) allowance.

In past determinations, IPART has generally used the straight-line depreciation method to calculate the return on capital for water businesses. This means that the total value of the RAB is recovered evenly over the assumed life of the assets. IPART believes that the straight-line depreciation method is superior to alternatives because of its simplicity, consistency and transparency.

For the 2005 Determination of metropolitan water agencies, IPART calculated depreciation assuming lives of 70 years for existing assets and 100 years for new assets.<sup>21</sup> However, Sydney Water has raised concerns that these assumptions do not accurately reflect the lives of its assets.<sup>22</sup>

In IPART's recent review of its prices, Sydney Water outlined a case for applying different asset lives to different asset classes. IPART agreed that this approach is a step forward from the approach previously applied to regulatory depreciation, because it allows a more accurate assessment of the efficient recovery of investment over the life of the asset. IPART consequently engaged a consultant to assist it in determining appropriate asset lives for Sydney Water's regulated assets, and then calculated depreciation using its assessment of appropriate asset lives for different classes of existing and new assets.<sup>23</sup>

IPART proposes to engage a consultant to assist it in assessing any proposed changes by Hunter Water to the current method of calculating depreciation and to determine appropriate asset lives for Hunter Water's regulated assets.<sup>24</sup> The consultant's report will be made available for public review. Interested stakeholders can comment on the consultant's report as part of their submission to IPART's draft report and determination.

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<sup>21</sup> For each new determination period, the assumed life of existing assets is calculated using the final year depreciation value and the final value of the RAB from the previous determination, thus factoring in the assumed lives (ie, 100 years in the 2005 Determination) of new assets constructed over the previous determination period.

<sup>22</sup> See, for example: Sydney Water, *Sydney Water Submission to IPART – Submission to the Independent Pricing and Regulatory Tribunal Review of Prices for Sydney Water Corporation*, 14 September 2007, p xii.

<sup>23</sup> IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Final Report, June 2008, Chapter 8.

<sup>24</sup> This may be for new assets, existing assets or both.

IPART seeks information and explanation from Hunter Water on:

- 8 Any changes proposed by Hunter Water for the calculation of depreciation, including asset classes and asset lives for each asset class and the methodology or assumptions used to determine these.

IPART seeks comment on:

- 4 Appropriate asset classes and lives (for each asset class) to apply in calculating Hunter Water's depreciation charge for the determination (with reference, where necessary, to Hunter Water's submission).

### 3.5 Hunter Water's ability to replace system assets in the future

IPART's approach has been to establish a RAB that represents the amount of financial capital invested by Hunter Water, which should be maintained. This RAB is then rolled forward to take account of new capital expenditure, inflation, depreciation and disposals.<sup>25</sup> The financial capital maintenance concept incorporated in this approach provides consistency in dealing with sunk costs, contributed assets and legacy issues. The prices derived from this RAB enable Hunter Water to earn a return on investments consistent with the WACC.

As Hunter Water's assets reach the end of their useful lives, IPART allows the value of any replacement assets, including the replacement cost of assets previously funded by developers or through grants, to enter the RAB. Hunter Water is then able to recoup the value of the funds outlaid on the replacement (including the opportunity cost of the funds invested) through prices over the lives of the replacement assets. The recovery of the cost of assets over the life of the assets in question is consistent with normal commercial practice.

The mechanism described above will ensure that, over time, Hunter Water receives the income to which it is entitled to support its investments in its own business undertakings.

### 3.6 Adjustments to the RAB for developer charges

Metropolitan water agencies recover their costs through a combination of developer and periodic charges. IPART's developer charges methodology enables water supply providers to recoup any additional cost they might incur, above the average cost implicit in the water agencies' RABs (and hence prices), in supplying infrastructure to service new developments.

Under IPART's price-setting approach for metropolitan water agencies, all forecast capital expenditure (for the existing system and for growth) is added to the RAB.

<sup>25</sup> IPART, *Rolling forward the regulatory asset bases of the electricity and gas industries, Discussion Paper*, January 1999.

However, as developer charges are recovered, the RAB is adjusted downwards to exclude the investments made by developers. In this way, the asset base used for calculating periodic charges only includes investments funded by Hunter Water.<sup>26</sup>

Depending on the rate of development, differences may arise between actual developer charge receipts and those forecast in the Development Service Plans (DSPs).<sup>27</sup> IPART will closely review the revenue from developer charges to ensure that these are accurately deducted from the RAB over time.

IPART notes that it is currently reviewing the method for calculating developer charges, with the final report and determination scheduled for September 2008. Hunter Water should therefore consider any changes to its expected revenue from developer charges when preparing forecasts for its submission to this review, and identify these impacts in its submission.<sup>28</sup>

### 3.7 Adjustments to the RAB for contributions from other sources

Over time, there have been occasions where the NSW or Federal Governments have contributed or transferred assets to water agencies. For example, the Federal Government, along with Hunter Water and the Central Coast Councils, has contributed to funding the recent increase in capacity of the Hunter to Central Coast water pipeline.<sup>29</sup> And, as discussed in section 4.4, there may be an argument for the Central Coast Councils to make an upfront contribution to the cost of Tillegra Dam.

As with developer-contributed assets, the value of government-contributed assets should be deducted from Hunter Water's RAB for the purposes of determining its revenue requirement and prices. Therefore, in providing information on its assets, Hunter Water should clearly identify the value and timing of any contributions from government or other sources.

IPART seeks information and explanation from Hunter Water on:

- 9 The value and timing of contributions (including contributed assets) to Hunter Water from developers, government and/or other sources.
- 10 Any changes to the expected revenue from developer charges due to the draft developer charges determination.

<sup>26</sup> As part of the above-mentioned consultant's review of asset lives, the consultant will also be required to quantify the value of developer-funded and contributed assets and assets funded by grants/subsidies in Hunter Water's financial accounts in each year from 2001 to 2007.

<sup>27</sup> Hunter Water publishes Development Service Plans (DSPs) in support of its calculation of developer charges. The DSPs include the various assumptions made in calculating the charges, including the rate of development.

<sup>28</sup> The draft report and determination for the review of developer charges will be available in July and should be used for this purpose.

<sup>29</sup> See: [http://www.nwc.gov.au/publications/project\\_info\\_nsw\\_central\\_coast.cfm](http://www.nwc.gov.au/publications/project_info_nsw_central_coast.cfm), accessed May 2008.

### 3.8 Operating expenditure

Another key component of the building block methodology is to provide sufficient revenue to meet the operation, maintenance and administration costs of the declared monopoly services provided by Hunter Water. IPART will need to determine the efficient costs that Hunter Water will incur in operating the business effectively, having regard to service quality standards.

For this review, Hunter Water will need to provide information on the past and future projected operating expenditures and the potential for future efficiency gains. It will also need to provide information about the drivers behind any projected real increases in operating expenditures during the upcoming determination period, and expected service outcomes.

#### Review of historical and proposed future operating expenditure

As in previous determinations, IPART will engage an independent consultant to review the operating expenditure, asset management and capital expenditure of Hunter Water (as discussed in section 3.2). The review will need to assess the efficiency of operations and the prudence and effectiveness of expenditure programs, given the objectives and functions of Hunter Water.

Hunter Water may incur additional costs related to specific projects or activities mandated or required by government. In these instances, Hunter Water will need to provide sufficient information to enable IPART to assess the efficient costs of these activities or projects.

IPART seeks information and explanation from Hunter Water on:

- 11 Hunter Water's operating expenditure over the current determination period, drivers of this operating expenditure and service outcomes achieved.
- 12 Hunter Water's operating expenditure over the current determination period compared to expenditure allowed by IPART when it set prices in the 2005 Determination, and an explanation of any variances.
- 13 Hunter Water's projected operating expenditure over the upcoming determination period, drivers of this expenditure, service outcomes achieved, specific efficiency programs and the potential for efficiency gains.

IPART seeks comment on:

- 5 The efficiency of Hunter Water's operating costs over the current determination period and the efficiency of its projected operating costs (to be outlined in its submission).
- 6 Whether there is scope for Hunter Water to achieve further efficiency gains over the upcoming determination period.

### 3.9 Recycled water schemes

In 2006 IPART completed a review of pricing arrangements for recycled water and sewer mining in the Sydney, Hunter and Central Coast areas.<sup>30</sup> IPART's resulting pricing framework divided recycled water projects into two groups:

- ▼ mandated schemes
- ▼ voluntary schemes.

This distinction reflects the degree of choice that customers have when connecting to recycled water schemes, which in turn influences the relative market power of recycled water suppliers and customers. A mandatory scheme requires customers to connect due to government policy, such as the Building Sustainability Index (BASIX) requirements or the NSW Government's Metropolitan Water Plan, given effect through planning or other legislation. A voluntary scheme does not require customers to connect. Customers of voluntary schemes have a substitute water product available to them (usually at a regulated price) such as potable water or river water.

In the 2006 review, IPART decided to only make a determination for mandated schemes where there is sufficient information for it to set efficient prices. On this basis, it only set recycled water prices in the Rouse Hill Development Area.<sup>31</sup> For other mandated recycled water schemes, the 2006 review established a set of pricing guidelines for water agencies to use in calculating recycled water prices.

IPART's 2006 review also:

- ▼ made a determination for Recycled Water Developer Charges
- ▼ developed pricing principles for voluntary recycled water schemes and a pricing framework for sewer mining, to help guide negotiations
- ▼ requires water agencies to ring fence from the regulated parts of their businesses the costs and revenues of recycled water schemes, where IPART has not made an explicit pricing determination
- ▼ provides that a water utility can recover 'avoided costs' attributable to its water recycling schemes from its broader customer base.

This last dot point recognises that recycled water schemes may enable a water and sewerage provider to avoid and/or defer costs. For example, this occurs where water or sewerage infrastructure upgrades to service growth or regulatory

<sup>30</sup> IPART, *Pricing Arrangements for recycled water and sewer mining, Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council, Water – Determinations and Report*, September 2006 (Determinations Nos 8 and 9, 2006).

<sup>31</sup> The Rouse Hill Development Area in Sydney's north-west includes a recycled water system owned and operated by Sydney Water. Here, wastewater is recycled and delivered to customers through a separate pipe system for toilet flushing and external uses. In its 2008 Determination of Sydney Water's prices, IPART maintained the current structure of prices for recycled water services in the Rouse Hill area, with the recycled water usage charge set at 80 per cent of the potable water usage charge and the fixed charge retained.

requirements are avoided or deferred as a result of a recycled water scheme. Allowing avoided costs to be recovered from a utility's broader water and/or sewerage customer base is therefore a fair and efficient outcome. Furthermore, it allows charges to users of the recycled water scheme to be reduced, which may encourage adoption of these schemes.

#### Hunter Water's recycled water program

Hunter Water's water recycling program includes:

- ▼ Maintenance and potential expansion of existing supply agreements with industrial, municipal and rural customers.
- ▼ Construction of a major water recycling plant for the Kooragang Industrial Water Scheme, which is for industrial customers in North Mayfield and Kooragang Industrial precincts, and is expected to replace over 3,000 ML of potable water use each year. According to Hunter Water, it is anticipated that the concept design and environmental impact assessment will be completed by late 2008 and that the scheme will be commissioned by early 2011.<sup>32</sup>
- ▼ 'Third pipe dual reticulation' schemes for new residential developments – according to Hunter Water, this is in response to local planning and BASIX requirements. Dual reticulation schemes are currently being pursued in Thornton North, Gillieston Heights, Cliffleigh and North Cooranbong. At full development, Hunter Water believes that these schemes could deliver annual potable water savings in excess of 1,000 ML. From 2009 onwards, Hunter Water is forecasting that around 16 per cent of new house connections will be supplied by a dual reticulation system.<sup>33</sup>

Hunter Water has stated that it is currently applying IPART guidelines in developing developer charges and prices for residential 'mandatory' (dual reticulation) recycling schemes at Thornton North, Gillieston Heights and Cooranbong, and that it is also applying IPART guidelines in developing prices for the Kooragang Industrial Water Scheme and the sale of treated effluent from Cessnock Wastewater Treatment Plant.<sup>34</sup>

For this review, IPART will be seeking information from Hunter Water on avoided costs attributable to its recycled water projects, taking into account future demands to be placed on these schemes. The independent consultant engaged by IPART to review Hunter Water's asset management, capital expenditure and operating expenditure will also review these avoided costs.

IPART will also be seeking information from Hunter Water on the costs and revenues of its recycled water schemes, to ensure that these are appropriately ring-fenced from the regulated parts of its business.

<sup>32</sup> Hunter Water Corporation, *Draft H<sub>2</sub>50 Plan – Securing Our Water Future*, April 2008, p 77.

<sup>33</sup> *Ibid*, pp 45.

<sup>34</sup> *Ibid*, p 79.

IPART seeks information and explanation from Hunter Water on:

- 14 The drivers (including any 'mandates') behind Hunter Water's recycled water schemes, and the forecast timing/uptake of each of these schemes.
- 15 The costs and revenues of Hunter Water's recycled water schemes over the current determination period, and forecast costs and revenues of its recycled water schemes over the upcoming determination period.
- 16 Hunter Water's actual and/or proposed means of cost recovery for each of its recycled water schemes over the current and upcoming determination periods, including its proposed approach to pricing its 'mandatory' recycled water schemes, with examples and explanations of calculated prices where possible.
- 17 Actual (over the current determination period) and forecast (over the upcoming determination period) avoided costs (capital and operating expenditure) attributable to Hunter Water's recycled water projects, taking into account future demands to be placed on these schemes.

IPART seeks comment on:

- 7 Hunter Water's recycled water schemes, including costs, avoided costs, proposed means of cost recovery, the timing/uptake of these schemes, and the drivers or 'mandates' behind the schemes.

### 3.10 Output measures

In the 2005 price review, independent consultants engaged by IPART (WS Atkins International Ltd/Cardno MBK) to assess each metropolitan water agency's operating and capital expenditure recommended that IPART specify outputs for each agency against which to measure the prudence of capital and operating expenditure in determinations. Accordingly, IPART's 2005 Determination specified a set of output measures based on each agency's proposed expenditure program.

Hunter Water's output measures, as per the 2005 Determination, are listed in Appendix C. For this review, IPART will be seeking information from Hunter Water on its performance against these output measures. Comments are also sought from other stakeholders on Hunter Water's performance and future output measures.

IPART proposes to maintain the use of output measures as a starting point for the assessment of prudent expenditure and the basis for reporting on any deviation from targets established. Consequently, IPART will be seeking from Hunter Water a list of projects or activities that it plans to undertake over the upcoming determination period and the expected outputs or outcomes of these projects. IPART proposes to revise Hunter Water's output measures to reflect the nature of this expenditure program. IPART will also include this list of revised projects in the final report accompanying the determination, and it will expect Hunter Water to monitor its expenditure on these projects and provide annual progress reports throughout the upcoming determination period. It will also expect Hunter Water to provide a

reconciliation of its expenditure and outcomes against the capital and operating expenditures allowed by IPART.

IPART seeks information and explanation from Hunter Water on:

18 Hunter Water's performance against its output measures (as specified in the 2005 Determination and Appendix C).

19 Projects or activities that Hunter Water plans to undertake over the upcoming determination period, and expected outputs or outcomes of these projects.

IPART seeks comment on:

8 The effectiveness of output measures as indicators of the prudence of capital and operating expenditure.

9 Hunter Water's progress or performance against its 2005 output measures (listed in Appendix C).

10 The development of appropriate output measures for Hunter Water for the upcoming determination period.

## 4 | Price setting

Once the efficient costs to be recovered through Hunter Water's charges are determined, the next step in IPART's process is to set prices to recover these costs. Prices are set based on an assumed level of sales and customer numbers, for each of Hunter Water's regulated services.

For this review IPART will need to:

- ▼ forecast sales and customer numbers, for each of Hunter Water's regulated services
- ▼ decide on the regulatory approach, including the length of the upcoming determination period and the rate of change of prices
- ▼ set price levels and structures for Hunter Water's monopoly services, taking into account economic efficiency principles and Hunter Water's revenue stability
- ▼ consider potential impacts on Hunter Water and its customers of its determination.

As outlined below, Tillegra Dam is a specific issue of significance for this review. IPART will need to decide how the costs of the Dam should be reflected in Hunter Water's prices over the upcoming determination period, taking into account the distribution of the Dam's beneficiaries.

### 4.1 Determining appropriate sales

Forecasting sales and customer numbers are key factors in setting prices for Hunter Water's regulated services. If sale and customer number forecasts are understated, customers will pay prices that exceed efficient levels, while unduly high forecasts may result in the water business not earning a sufficient revenue stream over any given determination period.

In past determinations, IPART has relied on detailed customer numbers provided by the water businesses, but has conducted some checks to ensure the robustness of the information.

Forecasting water sales can be more difficult and require significant analysis. This is due to the range of drivers that can impact on water demand, and the unpredictability or volatility of some of these factors. Factors that can influence

water sales include population growth, the structure and level of water prices, weather conditions, water restrictions, demand management programs and the development of additional or alternative water sources.

In the 2005 price review, IPART engaged McLennan Magasanik Associates (MMA) to conduct a review of Hunter Water's forecast water sales. MMA found that Hunter Water's forecasts were reasonable, but it did amend those estimates to reflect its assessment of the key drivers behind water sales, including the effects of demand management programs.

For this review, Hunter Water will need to provide detailed forecasts of customer numbers and sales for its regulated services, and its methodology and the assumptions underpinning these forecasts. This should include forecast water sales to the Central Coast (Central Coast Councils), as well as through the rest of its entire area of operations (including its newly acquired customers in Dungog Shire). If Hunter Water is proposing to introduce a new price structure or increase prices, the implication on consumption forecasts should be separately identified. IPART will assess the forecast sales submitted by Hunter Water and will engage an independent consultant to conduct detailed analysis to review and test the robustness of its water sale forecasts.

As part of the consultant's review of Hunter Water's sales forecasts, IPART also plans to give the consultant the added task of reviewing demand and hydrological information (eg, yield and predictions of drought frequency and intensity) to provide some advice on the extent to which Tillegra Dam will serve new development and provide security of supply to existing customers. As discussed below (section 4.4), the apportionment of benefit between existing customers and new development (on the basis of serving growth, drought needs and other factors) is likely to be important in informing IPART in its decisions on allocating costs of the Dam between existing customers (periodic charges) and new development (developer charges).

Given the inherent variability of water sales from year to year, IPART will also consider mechanisms to deal with any substantial changes in the demand forecasts. These are discussed further below.

IPART seeks information and explanation from Hunter Water on:

- 20 Hunter Water's forecast water sales, by customer type or class, over the upcoming determination period, and the methodology and assumptions used in developing these forecasts.
- 21 Hunter Water's forecast sales for its other regulated services, by customer type or class, over the upcoming determination period, and the methodology and assumptions used in developing these forecasts.

IPART seeks comment on:

- 11 Hunter Water's projected customer numbers and sales (as set out in its 12 September submission).

## 4.2 Length of price path and aggregate pricing approach

For this review, IPART will need to determine the length of the upcoming determination period. In doing so, IPART will consider incentives for efficiency improvement, the predictability and stability of the regulatory environment, the effectiveness of regulation, and the determination period of other, related water businesses (eg, the Central Coast Councils).

In general, a longer determination period provides:

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

However, a longer determination period can also:

- ▼ delay the delivery of benefits to consumers from efficiency gains
- ▼ increase risk associated with any inaccuracies in the data used to make the determination
- ▼ increase the risk that industry and technological changes (and other factors) will create disparities between costs and revenues.

Other important factors to consider when setting a determination period include:

- ▼ The confidence that IPART can place in a water agency's forecasts. If, for example, the expenditure profile can only be reliably predicted for two years, a short determination period may be more appropriate.
- ▼ The relationship between water utilities. For instance, due to increasing water transfers (and potential cost-sharing arrangements) between Hunter Water and the Central Coast Councils, there may be a strong argument for aligning the determination periods of these three water utilities.

As with the 2005 Determination, IPART's 2008 Sydney Water Determination decided that a four year determination period was appropriate, as it struck the appropriate balance between providing incentives for improving efficiency, reducing regulatory uncertainty and minimising risks that changes in the industry will affect the appropriateness of the determination.<sup>35</sup> IPART's Final Report accompanying its recent Determination of Sydney Water's prices noted that a four year determination period should also enable Sydney Water to take positive steps to improve its information collection and reporting systems, develop more comprehensive pricing

<sup>35</sup> Sydney Water's prices were recently re-set, prior to the 2009 conclusion of this original four year term. The recent 2008 determination set prices for the period 1 July 2008 to 30 June 2012. This 'early' determination was to accommodate a significant increase in Sydney Water's costs as a result of the commissioning of the desalination plant and a number of major recycled water schemes.

proposals and undertake work to correct other shortcomings identified in the review.<sup>36</sup>

Once the length of the determination period is known, IPART must decide on the aggregate pricing approach it wishes to pursue. In the 2005 Determination, IPART adopted a P-nought adjustment and glide path approach to set prices for Hunter Water. It decided that this approach should result in prices that achieve an appropriate balance between the section 15 factors (listed in Appendix B). P-nought is the price at time nought, which is the price for the first year of a given determination period. The P-nought adjustment allows prices to increase more sharply in the first year of the determination period than subsequent years, to reflect the step up in revenue requirement. Under the glide path approach, a single X-factor<sup>37</sup> was then set for subsequent years to ensure that prices changed smoothly over the remaining determination period in real terms, and that the agency's targeted revenue in the final year of the determination period equalled its notional revenue requirement for that year.

Sydney Water has previously argued against the glide path approach on the basis that it only receives its full revenue requirement in the final year of the price determination, forfeiting revenue in the intervening years.

For the 2008 Sydney Water Determination, IPART deviated from the glide path approach and set prices so that Sydney Water's revenue is equal to its notional revenue requirement in Net Present Value (NPV) terms throughout the determination period. In part, this decision reflected the significant costs Sydney Water would face throughout the determination period due to construction of the desalination plant.

For this review, IPART will consider alternative approaches to translate Hunter Water's revenue requirement into prices. In doing so, it will take into account potential incentives (positive and negative) that different approaches may give Hunter Water in terms of maximising the efficiency of its operations over time. Potential approaches include:

- ▼ **Unsmoothed revenue requirement** – where prices (and X-factors) are set to match the profile of the notional revenue requirement.
- ▼ **Smoothed revenue requirement** – where a single X-factor is set to ensure that an agency's targeted revenue equals its notional revenue requirement in NPV terms throughout a given determination period.

<sup>36</sup> IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Final Report, June 2008, Chapter 4.

<sup>37</sup> The X-factor is the rate by which prices can rise or fall over the determination period to account for efficiency gains and/or significant changes in the operating environment, such as new environmental standards or customer service standards.

- ▼ **Glide path** – where a single X-factor is set to ensure that prices change smoothly over a given determination period in real terms, and that an agency’s targeted revenue in the final year of the determination period equals its notional revenue requirement for that year.
- ▼ **P-nought adjustment and glide path** – where two X-factors are set. The first X-factor is set to deliver a P-nought adjustment to prices in the first year of a given determination period (ie, a greater increase in prices than in following years of the determination period). The second X-factor is set so that average prices increase smoothly over the rest of the determination period and the expected revenue in the final year of the period is equal to the notional revenue requirement in that year.

IPART seeks comment on:

- 12 The length of the price path that should apply for this review.
- 13 The approach that should be used to translate Hunter Water’s revenue requirement into prices over the upcoming determination period.

### 4.3 Determining appropriate prices and structure of the prices

Under Section 15 of the IPART Act, IPART is required to have regard to a range of matters when making its determinations, including how price levels and structures impact on economic efficiency, ecologically sustainable development, the regulated businesses and their customers. On occasion, this diversity of factors may require IPART to trade off or balance different impacts or outcomes, for example customer affordability against economic efficiency.

#### Postage stamp pricing

IPART has generally adopted postage stamp pricing for water and sewerage services. That is, all customers of a utility within a particular customer class (eg, residential or non-residential) pay the same retail price for a service, regardless of variations in the cost of service delivery within a utility’s geographic area of operations. A minor exception occurs with Hunter Water, where its Tier 3 customers (ie, those that consume more than 50,000 kL per annum) are charged a water usage price that varies with location.

IPART will need to consider whether these pricing arrangements should continue.

### Fixed and volumetric charges

IPART has also generally favoured a two-part approach to water and sewerage tariffs. That is, residential and non-residential customers pay for their water and sewerage services through two charges: a fixed service charge and a variable usage charge that depends on the volume of water they use.<sup>38</sup>

The benefit of a two-part tariff approach is that, through the fixed charge, it can provide the water business with some revenue stability, while through the volume-based usage charge, it can also provide a signal to consumers to use water efficiently.<sup>39</sup> The reasoning behind the two-part tariff approach to monopoly pricing, where the usage charge covers the marginal cost of supply and the fixed charge acts as a balancing item to cover the remainder of the utility's efficient costs, is outlined further in Box 4.1 below.

For this review, IPART will be considering the merits of a two-part approach to Hunter Water's water and sewerage tariffs. In doing so, it will require an estimate from Hunter Water of its Long Run Marginal Costs (LRMC) of water supply, and information on the basis on which this estimate was calculated; as well as the rationale for its proposed volumetric sewerage charges, with supporting cost information.

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<sup>38</sup> Although Hunter Water is the only agency that currently charges residential customers a usage price for sewerage.

<sup>39</sup> For a discussion on efficient pricing of monopoly services and the benefits of two-part tariffs, see IPART, *Water scarcity: Does it exist and can price help solve the problem?*, January 2008, pp 3-5.

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**Box 4.1 Efficient pricing of monopoly services<sup>40</sup>**

Economic theory suggests that an efficient price structure is one that encourages an efficient allocation of resources in the economy by the signals that it sends to consumers and producers. This is achieved by setting prices at the marginal cost of supply, where 'marginal cost' is the increase in total costs resulting from the production of one more unit of output.<sup>41</sup>

The marginal cost of water supply is largely dependent on the capacity of large, indivisible capital investments such as dams, desalination plants, treatment plants and transmission pipelines. Once a utility has incurred the cost of building the infrastructure, the marginal cost of supplying water is much lower than the average cost of supply.<sup>42</sup> This means that, if prices are set at marginal cost, the utility may not recover its costs. This will impact on the utility's incentive to invest in the business in the future.

For this reason, it is generally accepted that pricing of monopoly services is efficient if it meets the following objectives:

- ▼ it signals to consumers the costs imposed (or avoided) if they increase (or reduce) their consumption by a small amount
- ▼ it allows utilities to recover the efficient cost of service provision and recover these costs with the least harm to economic efficiency.

A two-part tariff is generally considered the most efficient price structure for monopoly services, as it comprises a single usage charge (set at the marginal cost of supply) and a fixed charge (to recover the remaining revenue requirement). A fixed charge is considered an efficient means of recovering the difference between average costs and marginal costs, because it is levied independently of usage and does not distort the pricing signal set by the usage charge.

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### Block tariff structures

Prior to the 2005 Determination, Hunter Water had a Declining Block Tariff (DBT) structure, which meant that the average price of water decreased as consumption increased above a certain threshold. In the 2005 Determination, IPART phased out the declining block tariff for most customers by increasing the Tier 2 usage charge (for customers who use more than 1,000 kL per annum) over the 2005 determination period so that it equals the Tier 1 charge (for customers who consume less than 1,000 kL per annum) by 2008/09 (the last year of that determination period). This phasing out of the DBT recognised the importance of sending an appropriate conservation and demand management signal to higher consumers of water. Hunter Water's industrial customers who consume more than 50,000 kL of water per annum are

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<sup>40</sup> IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Final Report, June 2008, Chapter 10.

<sup>41</sup> Marginal cost should include any costs or benefits accruing to third parties (ie, those external to the transaction). These costs/benefits are known as externalities.

<sup>42</sup> Marginal cost can be low for long periods of time. However, as capacity is taken up, marginal cost increases as the next augmentation approaches (and may exceed average cost).

charged Tier 3 water usage prices, which vary by geographic zone. Tier 3 prices are lower than Tier 1 and Tier 2 prices where the Tier 3 zones are located closer to the source of supply and therefore have lower supply costs.

For the 2008 Sydney Water Determination, IPART decided to replace Sydney Water's Inclining Block Tariff (IBT) with a two-part tariff comprising a fixed service charge and a single usage charge for all units of consumption. The final report on that determination noted IPART's belief that this was appropriate where there is expected to be little or no water scarcity over the next few years. The usage charge reflects IPART's estimate of the LRMC of supplying water by the end of the determination period.<sup>43</sup>

For this review, IPART will need to consider the merits of having a DBT or IBT structure for Hunter Water, relative to one per kL usage tariff, per area.

### Scarcity pricing

Scarcity pricing has been advocated as an alternative pricing structure by a number of commentators as a better means of bringing the demand for water into line with the available supply. Under such an approach, the price of water would increase during droughts when rainfall decreases and water storage levels decrease.<sup>44</sup> Conversely, lower prices would apply where water is in relative abundance, such as when water storages are at or near full storage level.

In reviewing Sydney Water's prices for the 2008 Sydney Water Determination, IPART examined the pros and cons of scarcity pricing.<sup>45</sup> It found that, while scarcity pricing may be considered more economically efficient because water is allocated to its highest value uses, water restrictions appear to have broad community acceptance and may be more effective at managing short term supply/demand imbalances. Importantly, IPART also found that, given recent water supply augmentation measures (ie, construction of the desalination plant and the development of several water recycling schemes), investment in demand management measures and recent rises in dam levels, there is likely to be a lack of water scarcity in Sydney in the short to medium-term. Due to this lack of water scarcity, IPART considered that scarcity pricing should not be implemented in Sydney at this time.<sup>46</sup>

<sup>43</sup> IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Water, Final Report, June 2008, Chapter 10.

<sup>44</sup> While the price would vary with storage levels, scarcity pricing can be structured so that it does not have an adverse impact on vulnerable customers – for example, a 'base' or non-discretionary amount of water for each customer could be made available at a low price, with the price for consumption above this level increasing as storage levels decrease.

<sup>45</sup> See: IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Final Report, June 2008, Chapter 10; and IPART, *Water scarcity: Does it exist and can price help solve the problem?*, Water – Working Paper, January 2008.

<sup>46</sup> IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Final Report, June 2008, Chapter 10.

IPART will consider the merits of scarcity pricing as part of this review. However, based on the findings mentioned above, scarcity pricing is only likely to be a viable option if water is scarce in the Hunter region over the short to medium-term; with Tillegra Dam expected to commence supplying water to the region from 2013, such scarcity appears unlikely.

IPART seeks information and explanation from Hunter Water on:

- 22 Hunter Water's proposed prices (including level and structure) for its water and sewerage services over the upcoming determination period, and the reasoning or justification behind those proposals.
- 23 if Hunter Water is proposing changes to its price structures, any perceived transitional issues that may arise.
- 24 Hunter Water's Long Run Marginal Cost (LRMC) of water supply, and the methodology and assumptions behind this estimate.
- 25 Hunter Water's water supply/demand balance over the short to medium-term, including the relative scarcity of water.

IPART seeks comment on:

- 14 The appropriate structure for Hunter Water's water and sewerage prices.
- 15 The basis on which Hunter Water's Long Run Marginal Costs (LRMC) of supply might be calculated.

#### Water sales to the Central Coast Councils

Hunter Water currently has a water trading arrangement with the Central Coast Councils. This agreement, which expires in 2026, provides for water transfers both ways and the price of these transfers.

The water supply link between the Hunter and the Central Coast Councils has been expanded from a capacity of 6 ML per day in 2005 to approximately 35 ML per day in 2008. Construction and augmentation of this link has been jointly funded by the Central Coast Councils, Hunter Water and the Federal Government's WaterSmart Program.<sup>47</sup>

The amount of water transferred between Hunter and the Central Coast Councils, and the direction of this transfer, is dependent on storage levels and operational needs in each system. For example, the Hunter/Central Coast Pipeline Agreement provides that the amount of water that can be transferred from Hunter Water to the Central Coast is reduced as Hunter Water's storages decline (and vice-versa).

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<sup>47</sup> IPART understands that of a total cost of about \$67 million for the link, the Central Coast Councils have funded approximately \$40 million, Hunter Water has funded about \$20 million and the Australian Government has contributed approximately \$7 million (Hunter Water, Pers Comm, 24 June 2008).

In recent times, the link has primarily been used to augment the Central Coast's water supplies in times of drought. Supply to the Central Coast was 2.2 GL per annum in 2005/06 and 3.6 GL per annum in 2006/07.<sup>48</sup> However, water has also been transferred in the other direction. For part of 2007, the Central Coast Councils supplied potable water to Hunter Water customers in the south-western suburbs of Lake Macquarie, and the equivalent quantity of water was 'banked' in Grahamstown Dam for later use. According to Hunter Water:

This arrangement made sense for both parties as two of the Central Coast's smaller dams were filled and it was unable to store water collected from Wyong Creek. By accepting water from the Central Coast, Hunter Water was able to keep that quantity of water within Grahamstown Dam which had surplus capacity at the time.<sup>49</sup>

The price of water transferred between Hunter Water and the Central Coast is currently the same both ways. Currently, it is a volumetric charge only, determined by agreement between the Central Coast Councils and Hunter Water and endorsed by the Treasurer, and is about 28 per cent less than Hunter Water's current Tier 1 water usage charge. IPART's 2005 determination found that:

Hunter Water can, with the concurrence of the NSW Treasurer, supply water to Gosford Council and Wyong Council at a price negotiated between the parties that is lower than the potable water prices set by the Tribunal.<sup>50</sup>

The 2005 Determination report also noted that Hunter Water had been selling water to the Central Coast Councils at the standard Tier 1 and (lower) Tier 2 usage charges, and that it had initially proposed to continue to charge the councils these prices for the current determination period. Hunter Water had mentioned that because the Central Coast Councils are at the end of the distribution system, the cost of transferring water to the Central Coast connection is higher than the Tier 1 price. However, Hunter Water had offered a lower price to the Councils, as it considered that there may be some drought management benefit to it from sharing water with the Central Coast and because it believed that the pipeline will be used to supply new developments in Hunter Water's operating area.<sup>51</sup>

The 2005 Determination report also noted that the review of the Central Coast Councils' operating and capital expenditure, undertaken by consultants (Atkins/Cardno) on behalf of IPART, concluded that purchasing water from Hunter Water was a cost effective drought management measure for the Central Coast. Indeed, this expenditure review recommended that the Councils consider increasing water transfers from Hunter Water in preference to building a desalination plant.

At the time of the 2005 Determination, there were no plans to build Tillegra Dam in the short to medium-term. This has since changed, with the NSW Government's

<sup>48</sup> Hunter Water's *Integrated Water Resource Plan*, August 2007, p 12.

<sup>49</sup> Hunter Water Corporation, *Draft H<sub>2</sub>O Plan – Securing Our Water Future*, April 2008, p 94.

<sup>50</sup> IPART, *Sydney Water Corporation, Hunter Water Corporation, Sydney Catchment Authority Prices of Water Supply, Wastewater and Stormwater Services*, Final Report, 2005, p 120.

<sup>51</sup> *Ibid.*

2006 announcement that construction of Tillegra Dam will proceed over the next five years, with the first water from the dam expected to be available in 2013.<sup>52</sup>

For this review, IPART will need to consider:

- ▼ the extent to which it should regulate prices of water transferred between Hunter Water and the two Central Coast Councils<sup>53</sup>
- ▼ depending on the answer to the previous point, the appropriate level and structure of these prices, taking into account developments since 2005.

IPART's decision making processes must consider the impacts of pricing decisions on Hunter residents and those within the Central Coast Councils' area of operations. This includes protecting consumers from inefficient and imprudent business practices and arrangements between the utilities. IPART can provide consumers this protection in a number of ways, one being the regulation of prices for water transfers between Hunter Water and the Central Coast (or in the opposite direction).

One option would be for IPART to set a price cap for the transfer of water from Hunter to the Central Coast, which equates to the usage price of water in the Hunter system plus any additional cost associated with transferring water to the Central Coast, and allow Hunter Water and the Central Coast Councils to negotiate a lower price if they see fit (and likewise for transfers of water from the Central Coast to Hunter Water).

As discussed below, a key consideration in determining the price of water transfers is likely to be how the cost of Tillegra Dam should be reflected in the price of water sold from Hunter Water to the Central Coast Councils. In turn, this price is likely to depend on the extent to which the Central Coast Councils contribute to the upfront costs of constructing the Dam. Similarly, if any water supply investments by the Central Coast Councils provide benefit to Hunter Water, consideration should be given to as how these costs are reflected in the price of water transferred to the Hunter.

IPART seeks information and explanation from Hunter Water on:

26 Hunter Water's proposed prices (including level and structure) for its transfers of water to the Central Coast over the upcoming determination period, and the reasoning or justification behind this proposal (taking into account any arrangements for sharing costs of Tillegra Dam).

IPART seeks comment on:

16 The extent to which IPART should regulate the price of water transferred between Hunter Water and the Central Coast Councils.

<sup>52</sup> Hunter Water Corporation, *Draft H<sub>2</sub>50 Plan – Securing Our Water Future*, April 2008, p 15.

<sup>53</sup> If IPART does not regulate these prices then the costs that Hunter Water and the Central Coast Councils incur in transferring water between systems will need to be ring fenced and excluded from their regulatory systems.

#### 4.4 Reflecting the costs of Tillegra Dam in prices

There are two broad issues relating to how best to reflect the costs of Tillegra Dam in prices:

- ▼ the extent to which the Central Coast Councils should also contribute to the costs of Tillegra Dam, and the form of this contribution
- ▼ the extent to which the costs of Tillegra Dam should be funded by developer charges (from new development) relative to periodic charges/prices.

##### Sharing costs of Tillegra Dam with the Central Coast Councils

A significant issue for the price determination for Hunter Water, as well as the two Central Coast Councils, is the extent to which the Councils should contribute to the costs of Tillegra Dam, and the form of this contribution – ie, the extent to which this contribution is recovered via water sales from Hunter Water to these councils compared to upfront capital contributions from the Councils.

This is likely to largely depend on the purpose for which Tillegra Dam is being constructed, the way in which it will be used, and the significance of water flows from Hunter Water to the Central Coast. If, for example, the dam is being developed to ensure that supply keeps pace with demand and provide drought security (or supply ‘insurance’) for both the Hunter and Central Coast supply areas, then it could be argued that the Central Coast Councils should contribute to the upfront cost of constructing Tillegra Dam. In turn, this may have implications for the assessment (or efficiency) of other water supply augmentation projects that may be considered or proposed by the Central Coast Councils.

On the other hand, if the Dam is being constructed primarily for the purpose of supplying water to the Hunter, with water from the Hunter only expected to be supplied to the Central Coast in exceptional circumstances – when the Hunter has surplus capacity and if the Central Coast is experiencing severe drought – then some may argue that the Central Coast Councils should only contribute to the cost of Tillegra Dam via the price of water purchases, on an ‘as needs’ basis. However, a potential counterpoint to this argument is that Hunter Water’s supply would still be acting as a ‘backstop’ form of supply (ie, an ‘insurance’ measure) for the Central Coast, and that the Central Coast Councils should therefore contribute to its costs via an appropriate capital contribution.

According to Hunter Water, Tillegra Dam will supply water for drought security and to accommodate population growth in both the Hunter and Central Coast regions.<sup>54</sup> It has also noted that:

Discussions are continuing with the Central Coast on the benefits of Tillegra Dam and options for contributing to its costs, whether through sales or capital contributions.<sup>55</sup>

<sup>54</sup> Hunter Water, *Submission to IPART’s Review of Developer Charges for Metropolitan Water Agencies*, December 2007, pp 19-20.

In their recently adopted joint long-term water supply strategy (WaterPlan 2050), the Central Coast Councils stated that Tillegra Dam will help ensure the long term security of water transfers between Hunter Water and the Central Coast, and that the two Councils will “therefore investigate possible yield and cost options with State Government to ensure that any potential benefits to the region’s water supply system can be optimised.” However, they also note that “accurate costs for the dam construction are not yet known, which means that any potential cost sharing arrangements cannot yet be determined.”<sup>56</sup>

#### Recovering costs of Tillegra Dam through periodic charges and/or developer charges

Once any cost-sharing arrangements between Hunter Water and the Central Coast Councils have been determined, IPART will need to consider what proportion of the costs of Tillegra Dam should be recovered through developer charges levied in the Hunter (and potentially the Central Coast regions) relative to costs recovered through periodic charges. This may largely depend on the extent to which Tillegra Dam is being constructed to meet future demands placed on water supplies due to new development in the region, as opposed to being developed to ensure security of water supply for existing customers. If, for example, the Dam is being constructed to meet future demand from new growth areas then it may be consistent with existing pricing policies to recover at least part of these costs through upfront developer charges.

In its December 2007 submission to IPART’s current review of developer charges for metropolitan water agencies, Hunter Water states that:

The Tillegra Dam costs to be included in developer charges would be only those related to supplying the needs of growth in the lower Hunter region. These costs would be determined by deducting any foreshadowed contribution to the dam costs from the Central Coast councils and apportioning the balance of the cost between growth and drought security.

The apportionment between growth and drought security will be based on the opportunity cost of not building Tillegra Dam for drought security purposes. If Tillegra Dam is not built, drought security would have to be provided by development of further groundwater resources and/or desalination. The present value of these alternatives will be used as a proxy for the drought security component of the Tillegra Dam capital cost. For example, if the present value of the alternative measures is equal to x% of the capital cost of Tillegra Dam (after deduction of any costs recovered from the Central Coast through sales or capital contributions), then this x% will be met by annual charges with the remaining 100 – x% allocated to developer charges for growth.<sup>57</sup>

<sup>55</sup> Ibid.

<sup>56</sup> Gosford City Council and Wyong Shire Council, *WaterPlan 2050 – A long-term water supply strategy for the Central Coast*, August 2007, p 6.

<sup>57</sup> Hunter Water submission to IPART’s Review of Developer Charges for Metropolitan Water Agencies, December 2007, pp 19-20.

IPART will have to consider and evaluate proposals advanced by Hunter Water for sharing costs between potential beneficiaries of Tillegra Dam, as well as evaluating other possible cost-sharing options, including proposals advanced by other stakeholders (such as the Central Coast Councils).

If some of the costs of Tillegra Dam are to be recovered through the periodic charge, IPART will need to consider whether the costs should be reflected in the fixed component or the usage component of Hunter Water's water charges. This is likely to depend on the extent to which costs of Tillegra Dam are 'avoidable' throughout the upcoming determination period, and hence the extent to which they should be reflected in estimates of Hunter Water's marginal cost of supply.<sup>58</sup>

- ▼ Another issue related to Tillegra Dam is the point in the upcoming determination period that its costs should begin to be reflected in water prices. One option is to allow the capital costs related to the construction of the Dam to be recovered from users prior to the Dam commencing supply. This may mean, for example, that capital costs of the Dam are included in the fixed charge to water consumers, with the operating costs of the Dam reflected in the usage charge once the Dam commences operation/supply. IPART will consider these timing issues for the Dam as part of its review.

IPART seeks comment on:

- 17 Principles that should be considered in the apportionment of Tillegra Dam's costs between its beneficiaries.
- 18 Appropriate arrangements for apportioning and sharing costs of Tillegra Dam between Hunter Water and the Central Coast.
- 19 Whether Hunter Water's costs of Tillegra Dam should be incorporated in upfront developer charges or periodic prices or a combination of both.
- 20 Appropriate arrangements for apportioning and sharing costs of Tillegra Dam between new development (developer charges) and existing customers (periodic charges).
- 21 Whether Hunter Water's costs of Tillegra Dam should be recovered through the fixed or usage component of the two-part tariff or a mix of fixed and usage components.
- 22 Whether Hunter Water's cost of Tillegra Dam should be reflected in its prices prior to the dam becoming operational.

#### **4.5 Implications of the *Water Industry Competition Act 2006***

The NSW Government has recently introduced the *Water Industry Competition Act 2006* (WICA), which provides for private sector participation and competition in the NSW water and wastewater industry in order to enhance efficiency.

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<sup>58</sup> As marginal cost is the change in total costs from supplying an additional unit of output, it can also be viewed as the avoidable cost of not producing an additional unit of output.

Once of the main implications of the WICA for Hunter Water is that third parties may seek access to its monopoly infrastructure in order to compete in the supply of 'upstream' or 'downstream' water and/or sewerage services to customers.

WICA's access regime is still in its infancy and the level of new entrants to the industry is unknown at this stage. Nevertheless, for this review IPART will need to consider how Hunter Water's retail prices might relate to potential access pricing frameworks, in terms of implications for competition and economic efficiency.

The WICA also means that new water utilities may seek to purchase water from Hunter Water. However, these purchases may be limited by section 10 of the WICA, which states that in granting a licence to a new utility the Minister must be satisfied that:

Sufficient quantities of the water supplied by the licensee will have been obtained otherwise than from a public water utility.<sup>59</sup>

IPART seeks comment on:

23 The issues that should be considered as part of this review in light of the *Water Industry Competition Act 2006*.

#### 4.6 Recycled water prices

To date, IPART has only set recycled water prices in the Rouse Hill Development Area. This is because it is a 'mandatory' scheme and there was sufficient cost information for IPART to set efficient prices. For other recycled water schemes, IPART's 2006 review and determination established pricing guidelines and principles for water agencies to use in calculating recycled water prices.<sup>60</sup>

For this review, IPART will have to consider the extent to which it should regulate prices of Hunter Water's 'mandatory' recycled water schemes.

As outlined in section 3.9 above, IPART seeks further information on Hunter Water's recycled water schemes, including information on costs, avoided costs, proposed means of cost recovery, timing/uptakes of these schemes and the drivers or 'mandates' behind the schemes.

<sup>59</sup> 'Water' refers to potable and recycled water.

<sup>60</sup> IPART, *Pricing Arrangements for recycled water and sewer mining*, Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council, Determinations and Report, September 2006 (Determinations Nos 8 and 9, 2006).

## 4.7 Charges for other services

As part of its determination for Hunter Water, IPART will need to set charges for a number of other services, including stormwater drainage services, trade waste services, environmental levies and other sewerage charges, and ancillary and miscellaneous customer services. Descriptions of these charges are outlined below. For this review, IPART will be seeking Hunter Water's proposals regarding these charges, including supporting cost information and an analysis of the impacts of these proposals on customer groups.

IPART has previously engaged independent consultants to review the trade waste charges (in 2003) and miscellaneous charges (in 2005) and to provide advice on individual charges that should be set.

IPART may engage consultants to review Hunter Water's charges for some of these other services. This is likely to depend on Hunter Water's proposed charges for these services, including the significance of any suggested changes.

As is the case with prices for its other services, any proposed change by Hunter Water must be supported by sufficient cost information and justification.

### Stormwater water drainage charges

Hunter Water levies stormwater drainage charges where it owns and operates stormwater drains. Residential and non-residential customers are currently charged a fixed service charge, based on categories of property size. At the time of the 2005 Determination, some non-residential customers were also charged an additional tariff based on the value of their property. However, in 2005, IPART decided to restructure stormwater drainage charges to progressively phase out charges based on property value by 2008/09, and to introduce stormwater drainage service charges based on property size (as a proxy for stormwater runoff). As it noted in its 2005 Determination report, IPART believes that "this new pricing structure will result in more equitable and cost reflective prices that are consistent with COAG's pricing principles."<sup>61</sup>

### Trade waste charges

Hunter Water charges trade waste fees for the receipt and treatment of waste to standards acceptable for discharge. Trade waste costs can be a function of a number of factors, including treatment plant operating and capital costs, administration costs and the load-based licensing fees that DECC charges Hunter Water for wastewater discharges. For the 2003 Determination, IPART engaged an independent consultant (GHD Ltd) to review metropolitan water agencies' trade waste submissions and

<sup>61</sup> IPART, *Sydney Water Corporation, Hunter Water Corporation, Sydney Catchment Authority, Prices of Water Supply, Wastewater and Stormwater Services*, Final Report, September 2005, pp 126-128.

advise IPART on their reasonableness. For the 2005 Determination, IPART accepted Hunter Water's proposed trade waste charges.

#### Sewer Service Access and Environmental Improvement Charges

Hunter Water provides a backlog sewer program (known as the Hunter Sewerage Project) to fringe areas in its area of operations. Under this program, capital costs are shared between the NSW Government, the owners of the unsewered property in the relevant area (who pay a Sewer Access Charge upon connection) and the community in this area (through an annual Environmental Improvement Charge).

At the 2005 Determination, Hunter Water proposed that these charges be maintained in real terms throughout the 2005 determination period, which IPART accepted. IPART noted that "these charges represent a simple and transparent way of sharing the costs of backlog projects and signalling that local communities must bear some financial responsibility for service improvement and environmental initiatives."<sup>62</sup> The Environmental Improvement Charge was set at \$33.45 in 2005/06, increasing to \$50.17 in 2006/2007 and is to remain constant in real terms through to the end of the current determination period (2008/09). The Sewer Service Access Charge was set at \$3,184.68 in 2005/06 and is to remain constant in real terms throughout the current determination period.

The Environmental Improvement Charge is scheduled to continue until 2009 for most customers (the 20 year period of the charge will extend beyond 2009 for a small number of areas that were added to the approved Hunter Sewerage Project service area after 1989). From 2009, new arrangements will be introduced to fund the provision of backlog sewer services to townships in the NSW Government's Priority Sewerage Program.

IPART's 2005 Determination noted that:

...if the Environmental Improvement Charge is discontinued in 2009 as planned, there may be difficulties in funding projects during the next determination period, if additional backlog sewer projects are included under the Priority Sewerage Program. If this occurs, it will consider the best options for recovering the costs of additional sewer projects during the 2009 price review, taking into account the transparency benefits of continuing to use the Environmental Improvement Charge and the potential customer impacts of doing so. One option is to include the capital costs of the projects in the Regulatory Asset Base and recover these costs over the life of the asset (generally 20 to 30 years) through the general water and sewerage charges. This would help spread the costs over a longer period of time and reduce the impact on customers' bills.<sup>63</sup>

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<sup>62</sup> Ibid.

<sup>63</sup> Ibid.

### Ancillary and miscellaneous charges

IPART sets miscellaneous charges for a range of ancillary services that Hunter Water provides, including special meter readings, statements of available pressure and flows, and applications for water service connection. These charges do not account for a large proportion of the total revenue earned by Hunter Water, but they can be significant for those customers who are required to pay for them.

For the 2005 Determination, IPART engaged an independent consultant (RSM Bird Cameron) to review each agency's miscellaneous charges. Subject to some minor changes, IPART accepted Hunter Water's proposed miscellaneous charges for the current determination period.

IPART seeks information and explanation from Hunter Water on:

- 27 Hunter Water's proposed prices (including level and structure) for its other services, including stormwater drainage services, trade waste services, sewer service access and environmental improvement, and ancillary and miscellaneous customer services.
- 28 Hunter Water's reasoning or justification behind these proposals, including supporting cost information.

IPART seeks comment on:

- 24 Appropriate levels and structures of charges for Hunter Water's stormwater drainage, trade waste, sewer service access and environmental improvement services, and its ancillary and miscellaneous services.

## 4.8 Assessing the impacts of pricing decisions

As part of this review, IPART will consider the potential implications of its pricing decisions on Hunter Water, its customers and the environment.

IPART will consider the potential impact of its pricing decisions on Hunter Water's residential, commercial and industrial customers. In particular, it will consider affordability of water services for high and low water users and vulnerable customers.

To assist with this task, IPART is currently conducting a household survey that, among other things, collects data on household characteristics and their utility bills in the Hunter region. A final report, which presents and analyses this survey data, is expected to be publicly available by the end of the year to assist stakeholders in responding to IPART's draft determination.

IPART will also consider the impacts of its pricing decisions on Hunter Water. In doing so, it will look at Hunter Water's cash flow, its ability to pay dividends and its credit rating.

In terms of impacts on the environment of IPART's pricing decisions, IPART proposes to maintain its approach of allowing Hunter Water to recover, through prices, the costs that it efficiently incurs in meeting its environmental obligations (as determined by government and environmental regulatory requirements).

IPART seeks information and explanation from Hunter Water on:

29 The impact of Hunter Water's proposed prices for its water, sewerage and other services on customer groups and on Hunter Water's financial performance and standing.

30 Any planned or proposed mitigation measures of Hunter Water to help customers adjust to price increases.

IPART seeks comment on:

25 The impact of Hunter Water's proposed prices (as set out in its submission, due September 12) on customer groups.

#### 4.9 Adjusting prices to deal with risk

In addition to deciding on maximum prices for monopoly services over the upcoming determination period, IPART will need to consider its regulatory framework in relation to dealing with risk. This includes, for example, potential mechanisms to address the risks associated with:

- ▼ variations between Hunter Water's forecast sales used in setting prices and its actual sales
- ▼ any unforeseen costs.

##### Consumption variation mechanism

As discussed in section 4.1, forecasts of sales by water businesses over the determination period are used to set prices to generate the determined revenue requirement.

At the 2005 metropolitan water price determination, IPART adopted a mechanism to address risk to an agency of variations between forecast and actual water sales (consumption). IPART considered several options to address the impact of consumption volatility, including:

- ▼ no adjustments for demand variation
- ▼ price adjustment in the subsequent determination period to account for variation outside a certain 'deadband'
- ▼ an annual price adjustment mechanism to account for variation outside a deadband of +/- 10 per cent, combined with a final 'wash-up' adjustment as part of the subsequent determination for all variations unrecovered/not passed through.

At the time, IPART considered that making no adjustments for demand variation may result in excessive risk borne by the water agency. It did not support the option of making annual price adjustments, as this was contrary to the objectives of price certainty and effectively allocates all risks to customers. IPART supported the option of making price adjustments in the subsequent determination where the variation was outside a deadband of +/- 10 per cent. It considered that a deadband at a level lower than 10 per cent transfers too much business risk to customers and is inappropriate in the incentive-based regime applicable to the water industry.

For this review, IPART will consider whether this adjustment mechanism should be maintained. In doing so, it will consider potential incentives for Hunter Water and implications for water prices (and hence consumer welfare). IPART notes that if an adjustment mechanism acts to guarantee revenue, it may reduce incentives for a utility to adequately plan and invest to avoid or mitigate potential supply/demand imbalances.

Notably, IPART did not incorporate a consumption adjustment mechanism in the 2008 Sydney Water Determination. IPART noted that in the 2005 Determination there was substantial uncertainty about water availability (due to the drought) and the period over which water restrictions would remain in place. However, it considered that this uncertainty has now lessened due to rising dam levels, and will lessen further in the future owing to the construction of the desalination plant.

IPART will also need to review Hunter Water's actual sales (and revenue) compared to those used in the 2005 Determination and consider whether some adjustment should occur as part of this determination. This will depend on whether the consumption variation is outside the defined deadband of the 2005 Determination.

IPART seeks information and explanation from Hunter Water on:

31 Actual sales and revenue over the current determination period compared to forecast sales and revenue used for setting prices in the 2005 Determination.

IPART seeks comment on:

26 The need for, and form of, a revenue volatility adjustment mechanism for Hunter Water over the upcoming determination period.

#### Cost pass-through mechanisms

At the 2005 Determination IPART considered whether to introduce a mechanism to deal with material changes in costs due to non-controllable external events, such as those relating to regulatory, licence or government policy obligations. IPART decided against introducing such a mechanism.

The primary reason for this decision was that the IPART Act does not allow IPART to review costs for the water sector during a determination period without making a new determination. If this were permitted, the costs associated with the pass-through event would be passed through without being subject to scrutiny by IPART. This would be inconsistent with the cost pass-through mechanisms that IPART has adopted in the electricity sector and with IPART's general approach to regulation.

IPART seeks comment on:

27 The need for, and form of, other mechanisms to deal with risk throughout the upcoming determination period.



**Appendices**



## A Overview of IPART's regulatory framework

IPART currently adopts a CPI+X incentive regulation framework for setting metropolitan water prices. IPART regulates monopoly water, sewerage, stormwater and recycled water services by determining maximum charges.<sup>64</sup> In making determinations under the IPART Act, IPART is required to have regard to the matters listed in section 15 of the Act (see Appendix B).

To give effect to this requirement of the Act, IPART's approach to setting maximum prices involves the following steps:

1. Determining the water agency's notional revenue requirement based on an analysis of the efficient operating and capital costs they should incur in providing appropriate levels of service during the determination period.
2. Identifying appropriate forecast metered water sales and customer numbers.
3. Identifying the broad pricing approaches that could feasibly be applied for the agency to translate the revenue requirement into prices, and assessing the impact of each approach on customers and the water business. The approaches considered will include:
  - i) unsmoothed revenue requirement – where prices (and X factors) are set to match the profile of the notional revenue requirement
  - ii) smoothed revenue requirement – where a single X-factor is set to ensure that an agency's targeted revenue equals its notional revenue requirement in NPV terms throughout the determination period
  - iii) glide path – where a single X-factor is set to ensure that prices change smoothly over the determination period in real terms, and that an agency's targeted revenue in the final year of the determination period equals its notional revenue requirement for that year
  - iv) P-nought adjustment and glide path – where two X-factors are set. The first X factor is set to deliver a P-nought adjustment to prices in the first year of the determination period. The second X-factor is set so that average prices increase smoothly over the rest of the determination period and the expected revenue in the final year of the period is equal to the notional revenue requirement in that year.

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<sup>64</sup> In regards to the pricing of recycled water and developer charges, IPART has issued guidelines for establishing these charges. The exception to this is recycled water to Rouse Hill, where IPART sets a maximum charge to apply in this area. This is because this is a mandated, rather than voluntary, recycled water scheme to customers.

4. Identifying feasible pricing structures and calculating actual prices for all or a selection of the pricing options identified in Step 3, then assessing the implications of these prices in the context of the factors prescribed in section 15 of the IPART Act. Specifically, this includes considering the impact of prices on customers and the agency's financial viability as follows:
  - i) in considering customer impact, typical analysis would consider the magnitude of real price increases in 2009/10 compared to 2008/09, and over the whole determination period, the effect of these increases on average bills, and relative bill size compared with other NSW agencies and other jurisdictions
  - ii) in considering financial viability and sustainability, examining the agency's forecast credit rating, taking into account its existing cash/debt levels and its ability to pay dividends; and the 'benchmark financial structure' consistent with the WACC parameter assumptions made by IPART for the purposes of the review
  - iii) in considering economic efficiency, examining the signals sent to customers and cost reflectivity.
5. Deciding on the pricing structure and level for the determination to take account of the interests of the agencies, customers and other stakeholders, recognising that the balancing of these different interests could mean that the target revenue derived by prices is less than IPART's determined notional revenue requirement.

For the purposes of this review, IPART proposes to maintain the general approach to setting prices adopted in past metropolitan determinations. This involves setting a maximum price for individual services, including miscellaneous and trade waste charges.

## B Matters to be considered by IPART under section 15 of the IPART Act

In making determinations, IPART is required by Section 15 of 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).

## C Hunter Water's output measures, as per the 2005 Determination

**Table C.1 Output measures for water services**

<b>Output (or activity) measure</b>	<b>Output</b>
Length of critical trunk mains undergoing condition assessment	65km
Length of trunk mains for renewal/upgrade	13km
Length of distribution mains for renewal/upgrade	55km
Pump stations constructed or upgraded to increase capacity for growth	Talleen Road, Cameron Park, Belmont high level system and Whitebridge, Cessnock, Wallsend, Aberdare, Mt View Rd, John Street Telarah, Irrawang St Raymond Terrace, Minmi
New reservoirs constructed to provide capacity for growth	
▼ Commence	Lookout, Harpers Hill
▼ Substantially complete	Wyee
▼ Complete	Cameron Park, Boat Harbour, North Wallarah
Water treatment upgrades	
Commence	Automation of Tomago No 1 Water Treatment Plant
Complete	Upgrade Dungog water treatment process – organic containment removal (PAC)

**Table C.2 Output measures for wastewater services**

<b>Output (or activity) measure</b>	<b>Output</b>
Length of critical sewers renewed/refurbished	32km
Length of non-critical sewers renewed/refurbished	23km
Priority Sewer Program for Fern Bay, Kitchener and Lochinvar (number of properties able to connect)	550 ET
Priority Sewer Program for Millfield and Ellalong (substantial completion)	840 ET
Major wastewater transport system upgrades (substantial completion)	Lake Macquarie, Newcastle, Dudley-Charlestown, Cessnock, Cardiff, Dora Creek, Beresfield/Morpeth
Upgrades to wastewater treatment plants	
▼ Commence	Farley
▼ Substantially complete	Dora Creek, Raymond Terrace, Boulder Bay, Edgeworth (inlet works), Branxton
▼ Complete	Cessnock, Belmont

**Table C.3 Output measures for stormwater services**

<b>Output (or activity) measure</b>	<b>Output</b>
Stormwater drainage channel rehabilitations	Newcastle & Cessnock systems

**Table C.4 Output measures for corporate**

<b>Output (or activity) measure</b>	<b>Output</b>
Complete new Head Office and office relocation	FY 06
Replace customer meters 20mm	34,000
Replace customer meters > 20mm	2,000
Information technology & communication	
▼ Complete MIMS platform upgrade	FY 06
▼ Complete SCADA upgrade	FY 06
▼ Establish remote disaster recovery facility	FY 06

## D Information that IPART will be seeking from Hunter Water

To enable IPART to review Hunter Water's prices, it will be seeking the following information from Hunter Water (as listed and discussed at relevant sections throughout this Paper).

- 1 The uncertainties/risks in Hunter Water's operating environment over the upcoming determination period and beyond, including the nature of these uncertainties/risks and the likelihood of them impacting on specific costs (for example, electricity charges). 19
- 2 How Hunter Water has ascertained the appropriate service levels that it plans to provide over the upcoming determination period and how these service levels relate to forecast costs. 19
- 3 Hunter Water's capital expenditure over the current determination period, drivers of this expenditure and service outcomes achieved. 22
- 4 Hunter Water's capital expenditure over the current determination period compared to expenditure allowed by IPART in the 2005 Determination, and an explanation of variances. 22
- 5 Hunter Water's projected capital expenditure program over the upcoming determination period, drivers of this expenditure and expected service outcomes to be achieved. 23
- 6 Separate identification of the capital costs covered under the section 16A direction issued by the Minister. 23
- 7 Hunter Water's asset management framework, and the relationship between its asset management framework and capital expenditure program. 23
- 8 Any changes proposed by Hunter Water for the calculation of depreciation, including asset classes and asset lives for each asset class and the methodology or assumptions used to determine these. 25
- 9 The value and timing of contributions (including contributed assets) to Hunter Water from developers, government and/or other sources. 26
- 10 Any changes to the expected revenue from developer charges due to the draft developer charges determination. 26

11 Hunter Water’s operating expenditure over the current determination period, drivers of this operating expenditure and service outcomes achieved.	27
12 Hunter Water’s operating expenditure over the current determination period compared to expenditure allowed by IPART when it set prices in the 2005 Determination, and an explanation of any variances.	27
13 Hunter Water’s projected operating expenditure over the upcoming determination period, drivers of this expenditure, service outcomes achieved, specific efficiency programs and the potential for efficiency gains.	27
14 The drivers (including any ‘mandates’) behind Hunter Water’s recycled water schemes, and the forecast timing/uptake of each of these schemes.	30
15 The costs and revenues of Hunter Water’s recycled water schemes over the current determination period, and forecast costs and revenues of its recycled water schemes over the upcoming determination period.	30
16 Hunter Water’s actual and/or proposed means of cost recovery for each of its recycled water schemes over the current and upcoming determination periods, including its proposed approach to pricing its ‘mandatory’ recycled water schemes, with examples and explanations of calculated prices where possible.	30
17 Actual (over the current determination period) and forecast (over the upcoming determination period) avoided costs (capital and operating expenditure) attributable to Hunter Water’s recycled water projects, taking into account future demands to be placed on these schemes.	30
18 Hunter Water’s performance against its output measures (as specified in the 2005 Determination and Appendix C).	31
19 Projects or activities that Hunter Water plans to undertake over the upcoming determination period, and expected outputs or outcomes of these projects.	31
20 Hunter Water’s forecast water sales, by customer type or class, over the upcoming determination period, and the methodology and assumptions used in developing these forecasts.	33
21 Hunter Water’s forecast sales for its other regulated services, by customer type or class, over the upcoming determination period, and the methodology and assumptions used in developing these forecasts.	33
22 Hunter Water’s proposed prices (including level and structure) for its water and sewerage services over the upcoming determination period, and the reasoning or justification behind those proposals.	40
23 if Hunter Water is proposing changes to its price structures, any perceived transitional issues that may arise.	40
24 Hunter Water’s Long Run Marginal Cost (LRMC) of water supply, and the methodology and assumptions behind this estimate.	40

25 Hunter Water’s water supply/demand balance over the short to medium-term, including the relative scarcity of water.	40
26 Hunter Water’s proposed prices (including level and structure) for its transfers of water to the Central Coast over the upcoming determination period, and the reasoning or justification behind this proposal (taking into account any arrangements for sharing costs of Tillegra Dam).	42
27 Hunter Water’s proposed prices (including level and structure) for its other services, including stormwater drainage services, trade waste services, sewer service access and environmental improvement, and ancillary and miscellaneous customer services.	49
28 Hunter Water’s reasoning or justification behind these proposals, including supporting cost information.	49
29 The impact of Hunter Water’s proposed prices for its water, sewerage and other services on customer groups and on Hunter Water’s financial performance and standing.	50
30 Any planned or proposed mitigation measures of Hunter Water to help customers adjust to price increases.	50
31 Actual sales and revenue over the current determination period compared to forecast sales and revenue used for setting prices in the 2005 Determination.	51

IPART is also interested in receiving Hunter Water’s response to the broader range of issues raised throughout this Paper (and listed in section 1.4.1), as well as Hunter Water’s views on any other issues that it believes are relevant to the review.

## E Hunter Water's prices compared to other NSW metropolitan water utilities

**Table E.1 Residential water charges for 2008/09<sup>a</sup>**

	Hunter Water	Sydney Water	Gosford Council	Wyong Council
Fixed charge (\$)	41.46	75.70	88.48 <sup>b</sup>	112.16 <sup>b</sup>
Usage charge (\$/kL)	1.27	Tier 1: 1.61 Tier 2: 1.83	1.67	1.668

<sup>a</sup> For individually metered properties.

<sup>b</sup> For a 20mm meter.

**Sources:** Hunter Water: [www.hunterwater.com.au/files/Customer\\_Charge\\_Hunter\\_-\\_Brochure\\_2008.pdf](http://www.hunterwater.com.au/files/Customer_Charge_Hunter_-_Brochure_2008.pdf)

IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Determination and Final Report, June 2008 (Determination No 1, 2008) (2008 Sydney Water Determination).

Gosford Council: New South Wales Government Gazette No 76 (27 June 2008) pp 6488-6489 and [www.gosford.nsw.gov.au](http://www.gosford.nsw.gov.au)

Wyong Council: New South Wales Government Gazette No 79 (30 June 2008).

**Table E.2 Residential sewerage charges for 2008/09**

	Hunter Water	Sydney Water	Gosford Council	Wyong Council
Fixed charge (\$)	321.17 <sup>c</sup>	480.31	399.40	412.67
Usage charge (\$/kL)	0.47 <sup>d</sup>	-	-	-

<sup>c</sup> Standalone dwelling with a 20mm meter.

<sup>d</sup> For half of the metered water usage.

**Sources:** Hunter Water: [www.hunterwater.com.au/files/Customer\\_Charge\\_Hunter\\_-\\_Brochure\\_2008.pdf](http://www.hunterwater.com.au/files/Customer_Charge_Hunter_-_Brochure_2008.pdf)

IPART, *Review of prices for Sydney Water Corporation's water, sewerage, stormwater and other services from 1 July 2008*, Determination and Final Report, June 2008 (Determination No 1, 2008) (2008 Sydney Water Determination).

Gosford Council: New South Wales Government Gazette No 76 (27 June 2008) pp 6488-6489 and [www.gosford.nsw.gov.au](http://www.gosford.nsw.gov.au)

Wyong Council: New South Wales Government Gazette No 79 (30 June 2008).

**Table E.3 Example residential bills for 2008/09<sup>e</sup>**

	Hunter Water	Sydney Water	Gosford Council	Wyong Council
Total residential bill <sup>f</sup>	779.99	923.04	882.70	858.43

<sup>e</sup> Assumes 200 kL water consumption per annum.

<sup>f</sup> Includes water, sewerage and stormwater (where applicable).

## F Hunter Water's compliance with its operating licence over 2006/07<sup>65</sup>

Overall, the auditor found that Hunter Water achieved predominately Full Compliance with its operating licence over 2006/07.

More specifically:

- ▼ Hunter Water achieved Full Compliance with the majority of relevant obligations related to customer and consumer rights and its Ministerial Requirement related to this area.
- ▼ Hunter Water achieved mainly Full Compliance with its obligations related to water quality. The quality of drinking water supplied by Hunter Water was very high to excellent.
- ▼ System Performance Standard obligations were marked as Full to High Compliance and Hunter Water achieved Full Compliance with the Ministerial Requirements in this area.
- ▼ Hunter Water has attained Full Compliance for making the Integrated Water Resources Plan available and achieving water conservation targets. Full compliance was achieved for relevant clauses relating to water demand and supply indicators.
- ▼ Hunter Water achieved Full Compliance with all its obligations related to environmental indicators, environmental plans and High Compliance with its catchment management obligations.
- ▼ Hunter Water achieved High Compliance with its complaint and dispute handling obligations. While it has an effective complaint handling system in place, the introduction of a new billing system contributed to an increased number of contacts, a higher number of abandoned calls and reduced speed in answering calls.
- ▼ Hunter Water's implementation of its MoU with NSW Health was assessed as High Compliance. The auditor noted that there was evidence of continued exchange between the two agencies regarding water quality management, monitoring and improvement plans and improvements in Hunter Water's tracking and management issues.

The full report on the 2006/07 audit of Hunter Water's performance against its operating licence is available at IPART's website: [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

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<sup>65</sup> IPART, *Hunter Water Corporation Operational Audit 2006/07, Report to the Minister*, December 2007, pp 1-2.

## Glossary

2003 Determination	IPART, <i>Hunter Water Corporation – Prices of Water Supply, Wastewater and Stormwater Services, From 1 July 2003 to 30 June 2005, Determination, May 2003 (Determination No 3, 2003).</i>
2005 Determination	IPART, <i>Sydney Water Corporation, Hunter Water Corporation, Sydney Catchment Authority – Prices of Water Supply, Wastewater and Stormwater Services, Final Determination and Report, September 2005 (Determination Nos 5, 6 and 7, 2005).</i>
2008 Sydney Water Determination	IPART, <i>Review of prices for Sydney Water Corporation’s water, sewerage, stormwater and other services from 1 July 2008, Determination and Final Report, June 2008 (Determination No 1, 2008).</i>
BASIX	Building Sustainability Index
Central Coast Councils	Gosford City Council and Wyong Shire Council
COAG	Council of Australian Governments
current determination period	The period from 1 November 2005 to 30 June 2009, as set in the 2005 Determination.
CPI	Consumer Price Index
DECC	Department of Environment and Climate Change
DBT	Declining Block Tariff structure – where price decreases as consumption increases above a certain threshold(s).
determination	Price limits (maximum prices) set by IPART for a given period (determination period).
DWE	Department of Water and Energy
GL	gigalitre

Hunter Water	Hunter Water Corporation
IBT	Inclining Block Tariff structure – where price increases as consumption increases above a certain threshold(s).
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act	<i>Independent Pricing and Regulatory Tribunal Act 1992</i>
kL	kilolitre
LRMC	Long Run Marginal Cost
Minister	Minister for Water Utilities
ML	megalitre
MMA	McLennan Magasanik Associates
NWC	National Water Commission
P-nought adjustment	A pricing adjustment that allows prices to increase more sharply in the first year of the determination period than in subsequent years, to reflect a step up in revenue requirement. P-nought is the price at time nought, which is for the first year of the determination period.
RAB	Regulatory Asset Base
SCA	Sydney Catchment Authority
Sydney Water	Sydney Water Corporation
upcoming determination period	the period commencing 1 July 2009
WICA	<i>Water Industry Competition Act 2006</i>
WACC	Weighted Average Cost of Capital
X-factor	The rate by which prices can rise or fall over a determination period to account for efficiency gains and/or significant changes in the operating environment, such as new environmental standards or customer service standards.