

# **Review of Metropolitan Water Agency Prices**

## **Issues Paper**

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL  
OF NEW SOUTH WALES**



# Review of Metropolitan Water Agency Prices

## Issues Paper

**Discussion Paper DP75**

**July 2004**

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Submissions must be made in writing and should be sent to the postal address, fax number or email address below. Where possible submissions should be provided in a computer readable format (eg, word processor, PDF or spreadsheet) either on disk or by email.

Submissions from water agencies should be received by 30<sup>th</sup> September 2004

Submissions from other stakeholders should be received by 30<sup>th</sup> November 2004

Submissions should be sent to:

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Independent Pricing and Regulatory Tribunal  
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### **Confidentiality**

Special reference must be made to any issues in submissions for which confidential treatment is sought and all confidential parts of submissions must be clearly marked. *However, it is important to note that confidentiality cannot be guaranteed as the Freedom of Information Act and section 22A of the Independent Pricing and Regulatory Tribunal Act provide measures for possible public access to certain documents.*

### **Public Information about the Tribunal's activities**

Information about the role and current activities of the Tribunal, including copies of latest reports and submissions can be found on the Tribunal's website at [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

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# 1 THE REVIEW

The Independent Pricing and Regulatory Tribunal (the Tribunal) is conducting a price review for the Sydney Catchment Authority and the four metropolitan water supply agencies.

Current price paths for the five water businesses expire at 30 June 2005. This review will set the maximum charges to apply from 1 July 2005 for the Sydney Catchment Authority (SCA), Sydney Water Corporation (Sydney Water), Hunter Water Corporation (Hunter Water), Gosford City Council (Gosford Council) and Wyong Shire Council (Wyong Council). The review is being conducted under Section 11 of the *Independent Pricing and Regulatory Tribunal Act 1992* (the IPART Act).

## 1.1 Submissions

This Issues Paper is intended to help the water agencies and interested parties prepare submissions to this price review. The issues raised in this paper are those the Tribunal considers to be relevant for assessing potential water, wastewater and stormwater charges. However, the Tribunal also welcomes submissions on any issues relevant to pricing that interested parties believe should be addressed.

## 1.2 Matters to be considered

When setting prices for water businesses the Tribunal addresses broad social concerns and specific agency matters, as required by Section 15 of the IPART Act (see Appendix 1 for more detail).

The broader issues include:

- **consumer protection** – protecting consumers from abuses of monopoly power; standards of quality, reliability and safety of the services concerned; social impact of decisions; effect on inflation
- **economic efficiency** – greater efficiency in the supply of services; the need to promote competition; effect of functions being carried out by another body
- **financial viability** – rate of return on public sector assets including dividend requirements; impact on pricing of borrowing, capital and dividend requirements of agencies
- **environmental protection** – promotion of ecologically sustainable development via appropriate pricing policies; considerations of demand management and least cost planning.

Key agency matters for the Tribunal to consider are:

- the efficiency of water agencies' operating costs and the scope for further efficiency gains over the next price determination period
- the capital expenditure requirements of the water agencies and the outcomes that will be achieved by proposed capital expenditure
- the appropriate rate of return for these agencies

- the forecast demand assumptions the Tribunal should adopt for setting prices
- the adoption of new price structures for water prices
- the efficiency and effectiveness of Sydney Catchment Authority's management of the Sydney Catchment and the optimum level of revenue required by the SCA for its activities, particularly catchment management activities.

### 1.3 Supply levels

Drought continues to affect around three quarters of New South Wales,<sup>1</sup> placing pressure on water supply. Population growth continues to place pressure on water demand. The potential for water demand to exceed sustainable water supply over time has focused attention on both demand management and supply augmentation.

Sydney and the Central Coast continue to face a significant water supply shortfall with demand outstripping available supply. Water restrictions have been introduced for Sydney Water customers and residents of Gosford and Wyong Councils. In recent months the supply/demand situation has worsened rather than improved with storage levels continuing to fall in the absence of significant rainfall in the catchments. Table 1.1 shows recent information on the bulk water supply available to the metropolitan water businesses.

**Table 1.1 Dam levels of the metropolitan water agencies**

	Dam level	Date
Sydney Catchment Authority	48.4%	17 June 2004
Hunter Water Corporation	79.2%	14 June 2004
Gosford/Wyong Councils	27.8%	21 June 2004

Source: Sydney Catchment Authority, Hunter Water, and Gosford-Wyong Council websites.

It is important to distinguish this immediate drought induced problem, which may be resolved by good rains, from the longer term supply/demand imbalance. Even if storages were to be filled in the short term, the longer term trend of extractions, combined with ongoing population growth points to a growing supply/demand imbalance at least in the Sydney Water, Gosford Council and Wyong Council supply areas.

Water pricing is one of the tools available as part of any total demand management strategy for water businesses. The imbalance between water supply and demand is likely to have significant implications for prices in both the short and longer term.

### 1.4 Context

The 2005 price review takes place at a time of broader Government consideration of, and consultation on, strategies to manage the growing supply/demand imbalance.

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<sup>1</sup> *Sartor Buckets Rural Water Use*, Sydney Morning Herald, 7 May 2004, p 6.



The Government established the Hawkesbury-Nepean River Management Forum to make recommendations on environmental flow releases to the Hawkesbury-Nepean system. By placing further demands on the water supply, additional environmental releases will reduce the volume of water from existing sources to service Sydney residents. The group released its final report and recommendations in May 2004.<sup>2</sup>

The Government also established an Expert Water Panel<sup>3</sup> to advise on the supply/demand imbalance in Sydney. The group's initial task is to prepare a detailed report outlining a sustainable water balance strategy for Sydney, and recommend actions the Government should take to promote the better management of water for the Sydney metropolitan area. This group is yet to provide Government with its recommendations.

The Tribunal recognises that the Government is also working towards announcing a metropolitan water strategy in October 2004. It is anticipated that this strategy will include detailed proposals for addressing Sydney's water supply and demand imbalance.<sup>4</sup> It will provide a more definitive context for both the Tribunal's water pricing and licensing reviews by addressing issues including those raised by the Hawkesbury-Nepean River Management Forum and the Expert Water Panel.

The Tribunal is currently reviewing Sydney Water and Sydney Catchment Authority's operating licences. This involves examining the role and scope of the operating licences in light of relevant statutory requirements and customer expectations. A significant proportion of this review relates to managing the supply/demand imbalance, along with system operational standards and customer service standards.

Prior to the release of the Government's metropolitan water strategy there remains a degree of uncertainty surrounding the resolution of supply and demand issues. The Tribunal is not, therefore, in a position to speculate on what impact broader Government decisions might have on the revenue requirements of businesses, nor on the specific implications for prices in the future. However, the Tribunal recognises that managing the supply/demand imbalance and enabling environmental flows may generate additional cost pressures for the water businesses. Required increases in operating and capital expenditure to manage this issue may put upward pressure on future prices.

### ***Review of Price Structures to Reduce the Demand for Water in the Sydney Basin***

The Tribunal will shortly be releasing its review of pricing structures to reduce the demand for water in the Sydney Basin.<sup>5</sup> This will be a significant input to considering the price structures adopted in this review for Sydney Water, Sydney Catchment Authority and potentially the other water businesses. The review examines options for retail price structures for Sydney Water customers and considers the wholesale price structure charged by the SCA.

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<sup>2</sup> Hawkesbury-Nepean River Management Forum, *Water and Sydney's Future*, March 2004, available on [www.dipnr.nsw.gov.au](http://www.dipnr.nsw.gov.au).

<sup>3</sup> The Expert Water Panel was established in March 2003 to provide expert advice to government on non engineering and engineering priorities in the delivery of a sustainable water balance for Sydney.

<sup>4</sup> *Pump up the dams, says minister, and combine the basins*, Sydney Morning Herald, 14 April 2004.

<sup>5</sup> IPART, *Investigation into Price Structures to Reduce the Demand for Water in the Sydney Basin – Issues Paper*, December 2003.

The price structure review issues paper highlighted the challenges in pricing water to produce water savings and the effects on customer affordability. The final report will incorporate data from a household survey the Tribunal conducted in 2003. The survey collected detailed information on household water consumption and other household characteristics such as household size, income, appliance ownership, payment of usage charges and water uses.<sup>6</sup> The Tribunal is aware of and concerned about potential pricing impacts on vulnerable customer groups, such as pensioners, low-income households and large households.

The price structure review process has also highlighted the importance of understanding long run marginal costs in determining prices. Specifically, there is a need for work to be done to generate reliable estimates of the long run marginal cost of water for each of the businesses. Whilst not determinative, estimates of long run marginal cost would inform the Tribunal's setting of prices as well as provide valuable information to the water businesses.

Upon its release, stakeholders are invited to comment on recommendations from the price structure review report in their submissions.

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<sup>6</sup> IPART, *Residential Water Use in Sydney, the Blue Mountains and Illawarra – Results from the 2003 Household Survey*, April 2004.

## 2 REVIEW PROCESS

As part of its public consultation process, the Tribunal invites submissions from the water businesses and other interested parties. Submissions should address issues raised in this paper, including forecast operating expenditure, forecast capital expenditure, price structures and consumption assumptions, or related matters. The Tribunal will hold a public hearing concerning the issues raised, and will make submissions and other materials publicly available on their website.

The Tribunal will also engage consultants to provide expert analysis and advice on proposed capital expenditure, asset management and operating expenditure programs across water, wastewater and stormwater businesses. If considered necessary, the Tribunal may release a draft determination followed by a final determination setting prices for each agency. This may delay the release of the final reports beyond the proposed dates in the timetable below.

The proposed timetable for the price path review is:

<b>Action</b>	<b>Timetable</b>
Release of issues paper	July 2004
Water agency submissions due	30 September 2004
Public submissions due	30 November 2004
Public hearings	February 2005
Release of final reports	May 2005

Please note that the above dates are indicative and may be subject to change.

At the conclusion of this review the Tribunal will make price determinations for the Sydney Catchment Authority, Sydney Water, Hunter Water, Gosford and Wyong Councils in accordance with Section 11 of the IPART Act. The Tribunal will determine the length of the price path based on agency and stakeholder inputs, forward projections and the adequacy of available information.

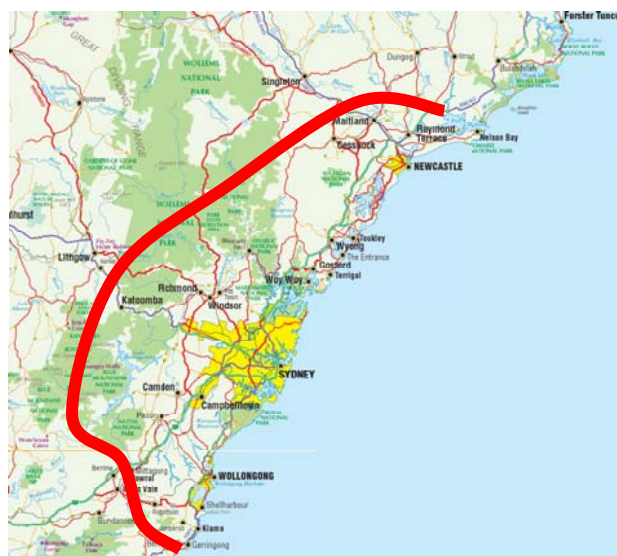
### 3 INDUSTRY STRUCTURE

This chapter briefly outlines each of the water businesses the Tribunal will be regulating in this price review.

#### 3.1 Industry overview

The four metropolitan retail water agencies and the Sydney Catchment Authority are responsible for providing water, sewerage and some drainage services to almost 5 million people. They service a region that stretches from south of Wollongong to north of Newcastle.

The size of operation of the four metropolitan water suppliers varies significantly (see Table 3.1). The asset values presented in this table are the values quoted in the agencies' financial accounts. These are distinguished from the values used for pricing purposes included in the table as the *regulatory asset base*.<sup>7</sup>



Approximate area of retail water supply for Sydney Water, Hunter Water, Gosford and Wyong Councils.

**Table 3.1 Customer profile and revenue base (\$m), 2002/03**

	Sydney Water	Hunter Water	Gosford	Wyong
Operating area (sq km)	13,000	5,400	1,028	827
Estimated population with water supply service	4,197,527	489,272	147,462	145,000
No. of properties with water supply service (including vacant properties)	1,665,072	212,201	64,932	57,187
Total regulated income (\$m)	1,310.1	127.2	40.7	34.2
Asset value (written down replacement cost \$m)	13,582.2	2,092.2	505.8	519.6
Regulatory asset base (\$m)	7,005.3	964.1	246.3	224.9

Source: 2003 IPART annual information returns from water agencies. Regulatory Asset Base forecasts from 2003 determination reports (excluding working capital).

<sup>7</sup> See page 12 for further information on the regulatory asset base.

### 3.1.1 Sydney Catchment Authority

The Sydney Catchment Authority (SCA) was established in 1998 to manage the water catchment areas and infrastructure within its jurisdiction to improve water quality, protect public health and protect the environment. It also has primary responsibility for supplying bulk water to Sydney Water and several smaller customers. The SCA draws bulk water from the catchments of four major river systems – the Warragamba, Upper Nepean, Woronora and Shoalhaven.<sup>8</sup>

### 3.1.2 Sydney Water Corporation

Sydney Water is the largest water agency regulated by the Tribunal and provides services to a population of around 4 million in Sydney, the Blue Mountains and Illawarra regions. Sydney Water does not manage its own bulk water supplies, but purchases bulk water from the SCA.

Sydney Water distributes over 1.7 billion litres of water per day to customers via an extensive network of 264 service reservoirs, 144 pumping stations and 20,774 km of water mains. It collects and treats more than 1.3 billion litres of wastewater each day through its 22,868 km of sewer pipes in 27 separate sewerage systems with 30 sewerage treatment plants. Sydney Water also provides stormwater drainage facilities to over 440,000 properties through 486 km of stormwater channels.<sup>9,10</sup>

### 3.1.3 Hunter Water Corporation

Hunter Water provides water, sewerage and some stormwater drainage services for close to half a million people within the local government areas of Newcastle, Lake Macquarie, Maitland, Cessnock and Port Stephens. Hunter Water also supplies bulk water to the majority of Dungog Shire and to small areas in Singleton and the Great Lakes.

Three major water sources supply around 200 million litres of water per day to Hunter Water – Chichester and Grahamstown Dams and the Tomago Sandbeds. Hunter Water is also able to access other ground water sources at Anna Bay and Lemon Tree Passage if required.

Hunter Water manages a significant water supply, wastewater and stormwater system. Its water supply system consists of 4,400 km of pipes, 73 reservoirs and 77 pumping stations. Its wastewater transportation system comprises 4,870 km of sewer main pipes, 17 treatment works and 366 pumping stations. Hunter Water also provides close to 100 km of stormwater channels.<sup>11,12</sup>

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<sup>8</sup> For further information on the Sydney Catchment Authority see *Review of Metropolitan Water Agency Prices – Issues Paper*, June 2002, pp 7-8, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

<sup>9</sup> Sydney Water Corporation, *Annual Report 2002/03*, p 10.

<sup>10</sup> For further information on Sydney Water see *Review of Metropolitan Water Agency Prices – Issues Paper*, June 2002, pp 6-7, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

<sup>11</sup> IPART, *Hunter Water Corporation Operational Audit 2002/03*, p 1.

<sup>12</sup> For further information on Hunter Water see *Review of Metropolitan Water Agency Prices – Issues Paper*, June 2002, p 8, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

### 3.1.4 Gosford City Council and Wyong Shire Council

Gosford City Council and Wyong Shire Council are responsible for the supply of water and provision of wastewater services within their own local government areas, but share bulk water sources. Since the early 1970's, Wyong Council and Gosford Council have jointly developed water supply headworks to supply both councils. In 1997, the joint committee established by the councils was renamed the Gosford/Wyong Councils' Water Authority and its charter was widened to address regional water supply and sewerage issues.

The Authority and its member councils manage the third largest water supply system in New South Wales. The water supply system consists of three major dams - Mooney and Mangrove Creek Dams in Gosford Council's area and Mardi Dam in Wyong Shire - four weirs, two water treatment plants, 40 reservoirs and almost 2,000 km of piping.<sup>13,14</sup>

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<sup>13</sup> Water Authority Joint Water Supply Scheme, *Development of Further Options for the Gosford-Wyong Joint Water Supply Scheme - Summary Brochure*, July 2003.

<sup>14</sup> For further information on Gosford and Wyong Councils see *Review of Metropolitan Water Agency Prices - Issues Paper*, June 2002, p 9, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

## 4 REGULATORY FRAMEWORK

In the absence of competitive markets, the water businesses are regulated to achieve the joint aims of economic efficiency and social and environmental objectives. This chapter outlines the different regulatory players in the water industry, the incentive regulation methodology adopted by the Tribunal, and other factors affecting the Tribunal's pricing decisions, such as levels of service quality and customer impacts.

### 4.1 Regulators

The Tribunal's role as economic regulator is only one component of each agency's broad regulatory environment. Sydney Water and Hunter Water are governed by their own Acts and their operating licences, Gosford and Wyong Councils are subject to the *Local Government Act 1993* and the *Water Management Act 2000*, and Sydney Catchment Authority is governed by the *Sydney Water Catchment Management Act 1998* and its operating licence. Additionally, a number of primary government regulators have responsibility for all the metropolitan water agencies:

- **Independent Pricing and Regulatory Tribunal (the Tribunal)** is responsible for setting maximum prices that can be charged by the metropolitan water agencies for monopoly services. In the case of Sydney Water, Hunter Water and the Sydney Catchment Authority, the Tribunal is responsible for monitoring and reporting compliance with their operating licences.
- **Department of Infrastructure, Planning and Natural Resources (DIPNR)** has primary responsibility for the management of water resources throughout NSW. DIPNR issues Water Management Licences to water authorities, which regulate water extractions, environmental flow requirements in natural waterways and other resource management issues.
- **Department of Environment and Conservation (DEC)**. In the context of water and wastewater businesses, the primary focus of DEC's activities is in licensing sewage treatment facilities and ensuring that effluent discharges do not harm receiving waters.
- **NSW Health** is responsible for ensuring the quality and safety of drinking water.

### 4.2 Incentive regulation

The Tribunal's preferred approach to regulation is CPI±X incentive regulation. The Tribunal regulates the water businesses by determining the maximum prices the regulated businesses can charge for specific services. The Tribunal then sets out how these prices can rise or fall over the determination period to account for movements in general inflation, efficiency gains, and significant changes in the operating environment, such as new environmental standards or customer service standards.

A critical element of the price setting process is the determination of the revenue requirement of the regulated businesses. The Tribunal determines prices with the objective of generating the required level of revenue. The calculation is based on analysis of the efficient operating and capital costs each business should incur to provide appropriate levels of service during the price path period.

The Tribunal calculates the businesses revenue requirement using the building block revenue methodology.<sup>15</sup> The costs or 'building blocks' of service provision have been outlined by the Council of Australian Governments<sup>16</sup> and can be categorised as operations costs, maintenance and administration costs, provisions for the cost of asset consumption, provisions for the cost of capital, and externalities.

An important part of regulation, however, is to encourage the water businesses to achieve the efficiency targets implied in the building block approach. The CPI±X approach provides an incentive to the business to pursue efficiencies because for the regulatory period they retain the benefits in full (through higher profits) of any efficiency gains. If the agency 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 reverse applies if the agency does not achieve the expected efficiency improvements.

### 4.3 Service quality standards

The Tribunal is conscious of ensuring that the drive for efficiency does not come at the cost of service standards. When the Tribunal sets prices for water services it assumes that existing standards of service will at least be maintained. Other regulatory instruments assist in maintaining service standards by prescribing minimum standards that must be met, such as Sydney and Hunter Water's operating licences<sup>17</sup> and discharge standards set by the DEC.

Generally what customers are willing to pay for a service is linked to the level of expected service quality. Therefore, a consideration for the Tribunal is how to ensure appropriate matching of service quality levels with customers' willingness to pay.

The 2003 price determination indicated the Tribunal would seek to develop "a robust and auditable suite of service level and environmental indicators". Since then the Tribunal has been working with the water agencies, other stakeholders and other regulators to develop a standardised, reliable set of service quality indicators across the water businesses. These indicators will broaden the Tribunal's understanding of the level of service quality the businesses provide. However, at this stage, the Tribunal does not intend to introduce direct price adjustments or a system of financial penalties/rewards based on these measures.

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<sup>15</sup> The building block methodology is the main method used by economic regulators in Australia and abroad for determining prices for monopoly services. The building block methodology was used at each of the previous metropolitan water reviews conducted by the Tribunal. For information on the building block methodology see *Sydney Water Corporation – Prices of Water Supply, Wastewater and Stormwater Services – From 1 July 2003 to 30 June 2005*, May 2003, Appendix 4, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

<sup>16</sup> COAG, *Compendium of National Competition Policy Agreements*, Second Edition, 1998, p 112.

<sup>17</sup> Service standards in Operating Licences for Hunter Water and Sydney Water address water quality, pressure, continuity, and sewage overflows to private land.



#### **4.4 Sydney Catchment Authority's catchment management functions**

The primary function of the Sydney Catchment Authority is to protect the quality of water within the catchment areas in order to provide safe drinking water to people in the Greater Sydney region.

The 2003 mid-term review indicated the Tribunal would seek information on the efficiency and effectiveness of the SCA's catchment management activities. This will be assisted by the completion of the Regional Environmental Plan (REP), included as part of the Regional Plan for Sydney's drinking water catchments.<sup>18</sup> The REP will guide the SCA's catchment management activities and the outcomes achieved by setting water quality objectives, requiring rectification action plans, requiring councils to develop local environment plans and setting requirements for assessing and approving new developments and activities in the catchments.

In this price review, the Tribunal will consider the development of the SCA's catchment management functions and the appropriate level of revenue needed to support these activities in an efficient and effective manner.

#### **4.5 Customer impacts**

The Tribunal is particularly concerned about the potential impacts of pricing decisions on customer groups. Particularly vulnerable customer groups include pensioners, low-income households and large households.

In this review, the Tribunal has the benefit of results from the household survey it conducted of Sydney Water customers in the Sydney, Blue Mountains and Illawarra regions in 2003.<sup>19</sup> The household survey provides detailed information on water consumption and household characteristics such as household size, income, appliance ownership, payment of usage charges and water uses. When used in conjunction with information provided by the water businesses, it will enable the Tribunal to undertake a more comprehensive analysis of the potential customer impacts from pricing decisions.

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<sup>18</sup> DIPNR and SCA, *Sustaining the Catchments – the Regional Plan for the drinking water catchments of Sydney and adjacent regional centres – Draft*, March 2004.

<sup>19</sup> IPART, *Residential Water Use in Sydney, the Blue Mountains and Illawarra – Results from the 2003 Household Survey*, April 2004.

## 5 REVENUE REQUIREMENTS

The water businesses' projections of required operating and capital expenditure for the determination period will form part of the assessment of each one's revenue needs. The Tribunal will seek detailed information on the performance of each water business in these areas and projections of future requirements. The Tribunal will consider what the proposed expenditures will imply for overall service quality and performance.

As in previous determinations, the Tribunal intends to engage an independent consultant to review the operating expenditure, asset management and capital expenditure programs of the water agencies. The review will assess the efficiency of operations, and the prudence and effectiveness of capital expenditure programs.

### 5.1 Operating expenditure

Operating expenditure refers to the operation, maintenance and administration costs of the core business of the water agencies.

The Tribunal is seeking to determine the costs that an efficiently operating business would incur in operating the business effectively, without compromising service quality. Therefore, the Tribunal will ask the agencies to provide information on the potential for future efficiency gains, and will engage a consultant to assist in reviewing each agency's operating expenditure projections. The Tribunal will also be asking agencies to inform them of the drivers behind any projected real increases in operating expenditure during the determination period.

The consultant's advice and the agency's expenditure and outcomes information will be used with the Tribunal's own analysis to determine appropriate levels of future operating expenditure for each agency to be included in the revenue requirement.

### 5.2 Capital expenditure

Capital expenditure impacts on the business's revenue requirements when it is included in the regulatory asset base (RAB). Capital expenditure is included in the RAB if the Tribunal decides it is prudent and meets the efficiency criteria.

The building block approach to calculating the revenue requirements of the businesses allows them to earn a rate of return<sup>20</sup> on the RAB and funds an allowance for capital maintenance (depreciation). The RAB in effect, represents the value a market might place on the business if it was to be sold, given its potential to earn revenue and profits under existing

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<sup>20</sup> The Tribunal's preferred approach for calculating the rate of return on capital is to use the weighted average cost of capital (WACC) to determine an appropriate range for the rate of return. For information on WACC see IPART, *NSW Electricity Distribution Pricing 2004/05 to 2008/09 – Final Report*, Appendix 7, June 2004.

prices.<sup>21</sup> The allowance for capital maintenance recognises the cost of capital infrastructure wearing out during the provision of services to customers.<sup>22</sup>

The Tribunal's approach to the review and treatment of capital expenditure for the 2005 water review will be similar to the 2003 determination. The 2003 review adopted a two stage regulatory test process – a forward-looking efficiency test of proposed capital expenditure for the coming regulatory period and a backward-looking prudence test of actual capital expenditure decisions in the current regulatory period. The prudence test is used to determine how much of the actual capital expenditure by the business in the current period will go into the opening value of the RAB. The efficiency test is used to determine how much of the business's proposed capital expenditure for the next period will go into the allowance for efficient capital expenditure.

As part of the submission process, the Tribunal seeks capital expenditure program information from the water businesses. This information should outline actual capital expenditure during the current regulatory period, proposed capital expenditure programs during the forthcoming regulatory period, together with actual and expected outcomes of capital expenditure in the current and upcoming regulatory periods.

The Tribunal considers sound asset management practices to be critical for maintaining long term system performance standards in the most efficient manner and, for this reason, will continue to take a close interest in the practices and performance of regulated businesses in this area. The Tribunal will be looking for evidence that the agencies have 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, the Tribunal will be seeking assurance that the critical infrastructure of the businesses is not being run down.

In past price determinations the Tribunal has employed industry experts to review the business' asset management, the efficiency of proposed capital expenditure and the prudence of past capital expenditure. This has usually involved an examination by the consultant of the drivers for capital 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 capital expenditure program. The Tribunal intends to repeat this process in the 2005 determination by engaging a consultant to review asset management and proposed capital expenditure programs.

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<sup>21</sup> For information on the regulatory asset base see *Sydney Water Corporation – Prices of Water Supply, Wastewater and Stormwater Services – From 1 July 2003 to 30 June 2005*, May 2003, Appendix 6, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

<sup>22</sup> For information on capital maintenance see *Sydney Water Corporation – Prices of Water Supply, Wastewater and Stormwater Services – From 1 July 2003 to 30 June 2005*, May 2003, Appendices 4 and 5, available on [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au).

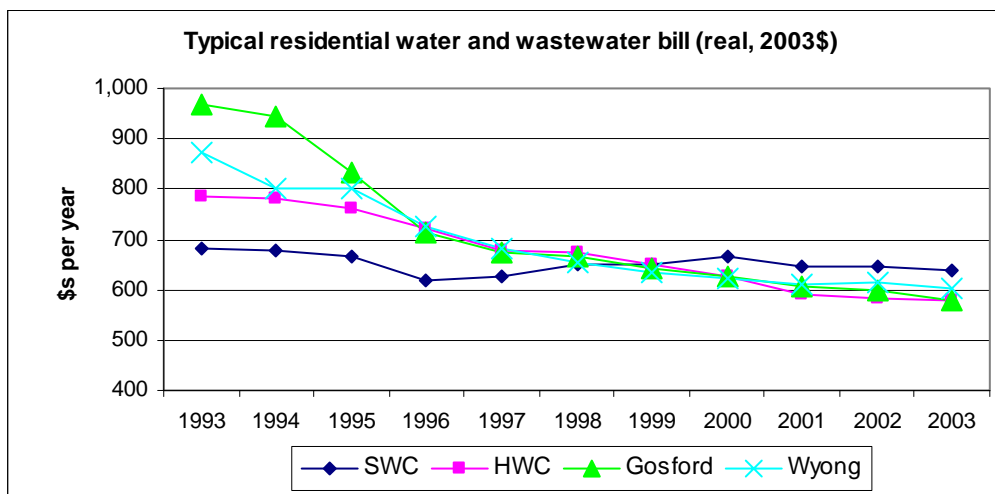
### 5.3 Cost pressures

The Tribunal recognises that additional cost pressures are likely to be generated for the water businesses as a consequence of current environmental conditions and Government decisions. In general, cost pressures will arise from strategies to deal with the long term supply/demand imbalance, Government decisions regarding appropriate levels of environmental flows, and changes to the handling and transport of wastewater.

Managing the supply/demand imbalance may require increased demand management expenditure and capital expenditure for water supply infrastructure, putting upward pressure on future prices. Additionally, changes to increase and/or improve environmental flows may require significant capital expenditure to modify existing supply infrastructure. The cost of wastewater treatment and transport may be influenced by new standards for wastewater transport and handling that are currently being developed by the Department of Environment and Conservation.

Over the last decade, the real value of water bills has generally been in decline. With the above factors influencing prices, this downward trend may not continue in the future. For some of the services provided by some of these businesses, real price increases are a possibility.

**Figure 5.1 Residential water and wastewater bills (250kL consumption)**



Source: 2003 IPART annual information returns from water agencies.

## 6 PRICE SETTING

Water prices and price structures need to balance competing interests and pressures, such as economic efficiency, the environment and equity issues. This section outlines price structure and price setting issues the Tribunal considers important in the 2005 determination.

### 6.1 Price structure and transition

The Tribunal will shortly complete a review of water price structures for the Sydney Basin<sup>23</sup> which analyses whether changes to the current wholesale and retail price structure could help reduce the demand for water. Importantly it also seeks to articulate the balance between water savings and customer impacts and affordability. Conclusions from this report will inform the price structures adopted for Sydney Water and the Sydney Catchment Authority in this price review.

The extent to which retail price structures may be revised for Hunter Water, Gosford and Wyong Councils will require investigation and evaluation by the Tribunal, including the analysis of agency input. The Tribunal invites agencies to address potential changes to existing price structures in their pricing proposals, along with analysis of the impact of, and justification for, any proposed changes.

A key transitional issue associated with introducing any new price structure is how quickly changes are introduced. If a new price structure is to be implemented, there is a balance to find between obtaining the maximum behavioural response from a change in price, and allowing a reasonable adjustment period. A quick transition to a new water price structure, rather than a series of minor price changes, might be useful in sending a strong signal to customers about the need to conserve water. However, it could create a price 'shock' for customers, especially if customers have not had fair warning about new prices so that they can alter their behaviour. The Tribunal invites agencies to comment on perceived transitional issues that may arise from any possible price structure changes.

### 6.2 Consumption forecasting and revenue volatility

Medium term price setting in the current environment of continued drought and water restrictions is a complex task. Assumptions on the level of water sales for each business are used to set prices which generate the determined revenue requirement. Water consumption forecasts, which may be influenced by a variety of different factors, are therefore a critical input of the price setting process.

Historically the Tribunal has relied on forecasts of water sales provided by the businesses. However, in the 2003 determination the Tribunal decided to use revised forecasts based on long term historical trends with adjustments for other factors likely to affect underlying demand.

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<sup>23</sup> IPART, *Investigation into Price Structures to Reduce the Demand for Water in the Sydney Basin – Issues Paper*, December 2003, available from [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)

For the 2005 determination, the Tribunal's preferred approach is to seek detailed forecasts from the businesses. This is likely to imply that each agency will provide a range of forecast outcomes reflecting different assumptions about the duration of water restrictions. It will then employ an independent consultant to review each agency's modelling and forecast assumptions.

Significant price structure change may increase forecast uncertainty. Variations between forecast demand and actual consumption can have significant impacts on revenue outcomes. The Tribunal has been considering the need for a mechanism to address forecast risk and revenue volatility of the water businesses. The need for such a mechanism is largely dependent on who is best placed to bear forecast risk – the water businesses or customers – and the degree to which this risk should be shared.

There may be a number of regulatory approaches possible to address this issue, although not all will be suited to the water industry. One option is a subsequent period revenue adjustment mechanism which would adjust the businesses revenue, through retail prices in the next regulatory period, for a component of any excess/shortfall arising due to differences between forecast and actual consumption over the previous determination. This approach shares the risk of forecasting errors between businesses and customers, and reduces the incentive for the businesses to maximise profits by selling more water.

Whilst any adoption of this or any other approach to address this issue will inform future price setting, the Tribunal does not anticipate compensation or recovery from businesses for variations between forecast consumption at the 2003 determination and actual consumption. The Tribunal invites comment on the need for, and form of, possible revenue volatility adjustment mechanisms.

### **6.3 Stormwater**

Sydney Water, Hunter Water and Gosford and Wyong Councils each have some responsibility for providing stormwater services in their areas of operation.

The 2003 determination raised concerns about the funding arrangements for Gosford and Wyong Council's stormwater services. The Tribunal needs to be able to establish a clear relationship between the revenue raised by charges levied to fund drainage costs – such as Gosford's stormwater drainage levy – and the expenditure of this revenue. Any misalignment between the ownership and operation of stormwater assets within the Councils makes this particularly difficult.

The Tribunal is currently in consultation with Gosford and Wyong Councils on solutions to most appropriately address the Tribunal's concerns for the 2005 determination.

Ownership and responsibility for stormwater in the Sydney and Hunter regions is split between local government and the water agencies. The Tribunal has been concerned for some time about the allocation of responsibilities for stormwater within the Sydney region, which it believes has led to less than ideal stormwater management. It understands the Government is currently reviewing the most appropriate institutional arrangements for the management of stormwater. However it is not clear whether these matters will be resolved in time to allow a revised charging structure to be incorporated in this determination.

Once revised arrangements are settled, the appropriate level and mechanisms for funding stormwater costs will need to be further reviewed, as in some areas the level of expenditure on stormwater assets by water businesses has been at a low level. This has reflected in part the uncertainty around the institutional arrangements for stormwater in Sydney.

## 6.4 Miscellaneous charges

Following the 2003 price determination the Tribunal has been considering the form of regulation for minor, miscellaneous and trade waste charges. At this stage, the Tribunal has decided to continue with the current direct price setting approach for each charge. The Tribunal will continue working with the retail water businesses to maximise the level of commonality between the agencies for these charges and services.

The Tribunal is working towards developing a set of pricing principles for the businesses to use in justifying to the Tribunal how they have set their proposed minor, miscellaneous and trade waste charges. These focus on cost reflectivity, efficiency, managing customer impacts, monitoring and compliance, and simplicity and auditability.

## 6.5 Customer consultation

In the 2003 determination the Tribunal noted that Sydney Water needed to develop an appropriate customer preference approach to justify its discretionary<sup>24</sup> capital expenditure projects. The Tribunal found that the agency provided insufficient information on project benefits to the environment and to customers, and on customer willingness to pay in relation to these benefits. Where water businesses want to propose capital expenditure to meet performance standards in excess of those required by regulators they will need to clearly demonstrate that their customers are willing to pay for the enhancement of standards.

## 6.6 Exempt properties

At the 2003 determination, the Tribunal did not set maximum usage and fixed or service charges for exempt properties under the *Water Management Act 2000* for Gosford and Wyong Councils. Exempt property provisions in legislation precluded the Tribunal setting prices for these properties as sought by the Councils, with a resulting loss of revenue. The Councils have indicated that, in the absence of legislative change, they may seek to recover forward lost revenue from these properties from the balance of the customer base. The Tribunal will assess any proposed recovery when making its determination and consider any changes to legislation which occur prior to finalisation of new prices.

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<sup>24</sup> A standard that is developed by the agency itself that is not externally enforceable and including but not limited to a level of service higher than the level enforceable under a mandatory standard.

## **6.7 Fire service charges**

Gosford and Wyong Councils currently levy charges for connections for fire services. Fire service charges are no longer levied as separate charges by Sydney Water or Hunter Water.

The fire water service connection is charged as a fixed access charge and calculated at 50 per cent of the appropriate non-residential water service charge. However, arrangements for calculating the service charges depend on whether properties have separate services for normal non-residential service and fire service, or whether properties have a combined service, where a single pipe enters the property and then splits into a non-residential service and a fire service.

The Tribunal will be considering whether to continue to set fire service charges for the councils and requests the Councils to fully explain their proposed methodology and rationale for seeking fire service charges for the 2005 determination.

## **6.8 Recycled water pricing principles and sewer mining**

The Tribunal wishes to encourage water businesses to promote and expand the use of recycled water. In the 2003 determination for Sydney Water, the Tribunal adopted a light-handed approach to regulating recycled water, to facilitate its increased use by Sydney Water customers.

The use of recycled water for lower grade purposes can be an important part of the total demand management strategy of water businesses. Increasing the use of recycled water as a substitute for potable water will benefit all customers by reducing the impact of urban development on the environment and freeing up potable water for other uses. For this reason, where indicated as part of a least cost framework for addressing supply/demand imbalances, spreading some of the cost of recycled water schemes across the broader customer base may be warranted.

In previous determinations, the Tribunal has set a zero sewer mining fee and required Sydney Water to provide access to the sewer for extractive purposes on a full cost recovery basis. In the 2003 determination the Tribunal set a recycled water price only for customers within the Rouse Hill Development Area. Otherwise, the previous determinations have been silent on the pricing of recycled water, allowing Sydney Water to develop its own approach. The Tribunal seeks comment on future regulation of recycled water prices.

The 2003 determination required Sydney Water to develop pricing principles for recycled water and submit these to the Tribunal for approval at the 2005 determination. The Tribunal will consider these and proposals for other water agencies in determining its approach to recycled water pricing.



## APPENDIX 1 SECTION 15 REQUIREMENTS

In making determinations the Tribunal is required by the IPART Act (1992) to have regard to the following matters (in addition to any other matters the Tribunal considers relevant):

- a) the cost of providing the services concerned
- b) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services
- c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales
- d) the effect on general price inflation over the medium term
- e) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers
- f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the *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).

## APPENDIX 2 WATER INDUSTRY OVERVIEW

### A2.1 Background

The Independent Pricing and Regulatory Tribunal (the Tribunal) has a regulatory responsibility for the five major water agencies in New South Wales, Sydney Water Corporation (Sydney Water), Hunter Water Corporation (Hunter Water), Gosford City Council (Gosford), Wyong Shire Council (Wyong) and the Sydney Catchment Authority (SCA). The water agencies provide water, wastewater and stormwater services within their respective areas of operation to an estimated population of nearly 5 million people.

The Tribunal has a dual role in regulating State Government owned water agencies in NSW. The Tribunal determines the maximum prices charged by the agencies for their services. Sydney Water, Hunter Water and SCA operate under licences issued by the State Government. The Tribunal also acts as the licence regulator of these licences. Gosford and Wyong Councils do not have operating licences but are required by the Local Government Act to develop management plans which incorporate performance targets.

The Licence regulator's role is to audit and report on the licensed agencies' performance against their respective operating licences. The Operating Licences require the agencies to meet certain performance obligations, standards and targets addressing customer service, system performance and environmental protection.

Each year the Tribunal publishes information on the performance of the water agencies. The aim is to provide information on their performance from the time the Tribunal was established in 1992 up to the time of currently available information (30 June 2003). The first section of the Overview focuses on the Tribunal's role in regulating prices for the water agencies and is followed by a section looking at service performance.

The SCA's role is to sell bulk water to Sydney Water and to maintain the catchment areas and dams that provide the bulk water. Because it is a wholesaler of water only it is not appropriate to analyse its performance in tandem with the other four water agencies. Consequently, analysis of the SCA is reported separately in this Overview.

### A2.2 Pricing

#### A2.2.1 Financial performance of metropolitan water agencies

##### *Information characteristics*

The water agencies are primarily monopoly suppliers of water, wastewater and stormwater services and the Overview concentrates on those elements of their business.

The information in the financial performance sections of the Overview is sourced from Annual Information Returns that the agencies complete for the Tribunal. While the information in the Overview is historic, the water businesses must also supply forecast data in those years when the Tribunal determines new prices.

The performance of agencies can vary, however comparing the performance of different agencies directly is not always appropriate. Some variances can be influenced by differences in individual characteristics (Table A2.1) and it is often better to assess the performance of an individual agency over time rather than by comparison with another agency.

**Table A2.1 Retail water agency characteristics (for 2002/03)**

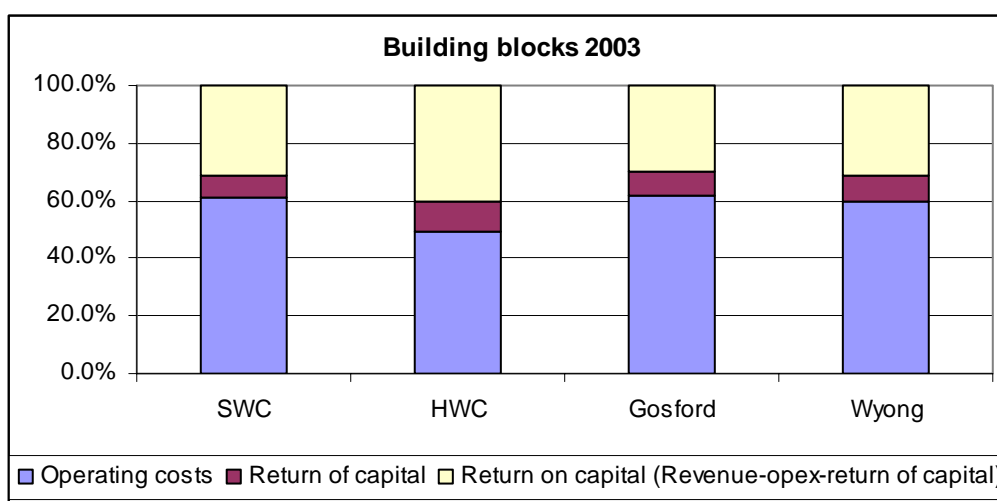
	Gosford Council	Hunter Water	Sydney Water	Wyong Council
Number of residential customers/properties	61,697	199,192	1,549,157	53,645
Number of employees (regulated business)	127	424	3,482	160
Metered consumption (GLs)	15	65	550	14
Total regulated revenue (\$million, excluding cap cons)	40,749	127,164	1,310,110	34,170
Dividend/tax payments?	No	Yes	Yes	No
Operating licence?	No	Yes	Yes	No

**Pricing regulation**

When setting prices the Tribunal uses the addition of three 'building blocks' (operating expenditure, return of capital and return on capital – Figure A2.1) to determine the revenue needed by a water agency. The Tribunal’s aim is to provide revenues that keep prices to a minimum while enabling agencies to provide services to required standards and to remain financially viable. The Tribunal uses financial models to calculate prices and then tests the impact on financial viability by analysis of financial ratios.

Before finally determining prices, the Tribunal is required under section 15 to consider the potential impact of the prices on matters including: the social impact of the determinations and recommendations; standards of quality, reliability and safety of the services concerned; considerations of demand management and least cost planning; the need for greater efficiency in the supply of services.

**Figure A2.1 Building blocks**



Note: The return on capital is calculated from a reporting perspective and as revenue less operating expenditure and return of capital.

**Pricing**

Figure A2.2 shows how the Tribunal’s pricing determinations, which set price levels and pricing structures, have affected the size of the bill of a residential customer consuming 250kL per year. The greatest impact has been the move away from property value based charges in the early part of the review period to charges based on access and usage of systems. In view of the current water shortages, the Tribunal is investigating ways to encourage water conservation and this may result in further changes to pricing structures.

**Figure A2.2 Residential water and wastewater bills (250kL consumption)**

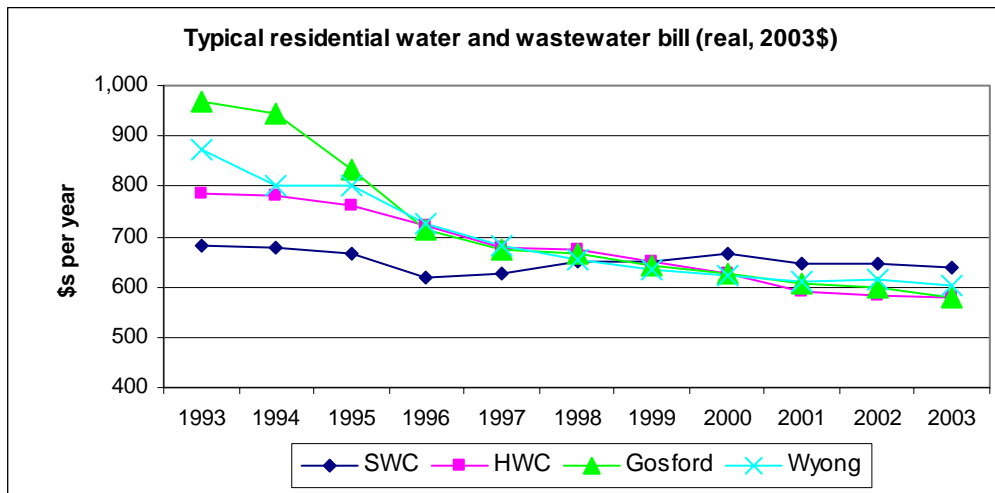
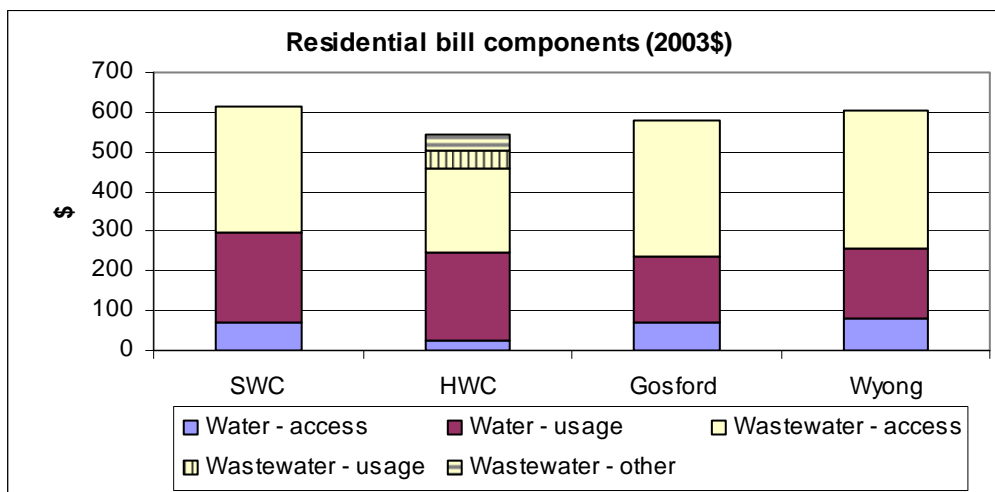


Figure A2.3 illustrates the pricing components of a 250kL residential bill and how the usage component of the water portion significantly exceeds the access component.

**Figure A2.3 Components of a 250kL residential bill for 2003**



Note: HWC levies a charge for the Hunter Sewerage Project recorded in Figure A2.3 as 'Wastewater-other'.

**Consumption**

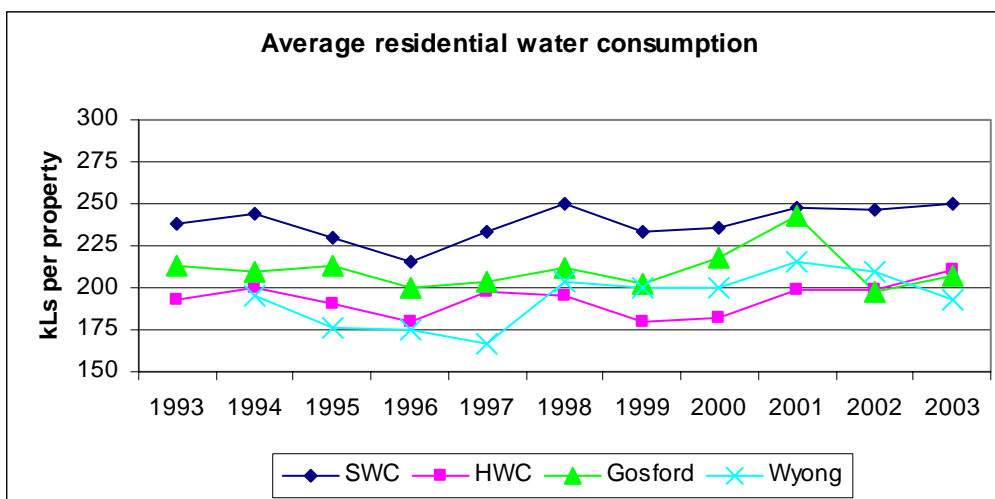
Table A2.2 shows the changes in total metered water consumption since 1993.

**Table A2.2 Total metered water consumption (GL)**

Y/e 30 June	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Sydney Water	477	495	472	447	480	516	495	508	537	535	550
Hunter Water	60	63	62	61	64	66	62	60	62	61	65
Gosford Council	14	14	15	14	15	16	15	16	17	14	15
Wyong Council	na	12	12	12	11	13	14	14	15	15	14

Variations in average metered consumption (Figure A2.4) are influenced by climatic conditions and the introduction of water restrictions, but some of the decline up to 1996/1997 is due to the introduction of usage pricing. Current mandatory water restrictions were introduced in the Gosford and Wyong areas in early 2002 and in the Sydney Water area in October 2003.

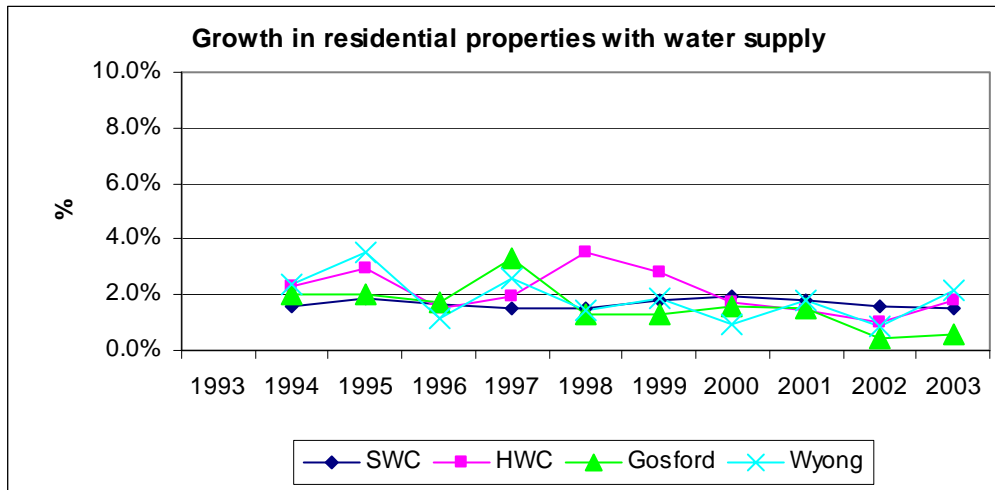
**Figure A2.4 Average metered residential water consumption (kL/property)**



**Property growth**

Figure A2.5 shows the annual growth in residential properties connecting to water systems.

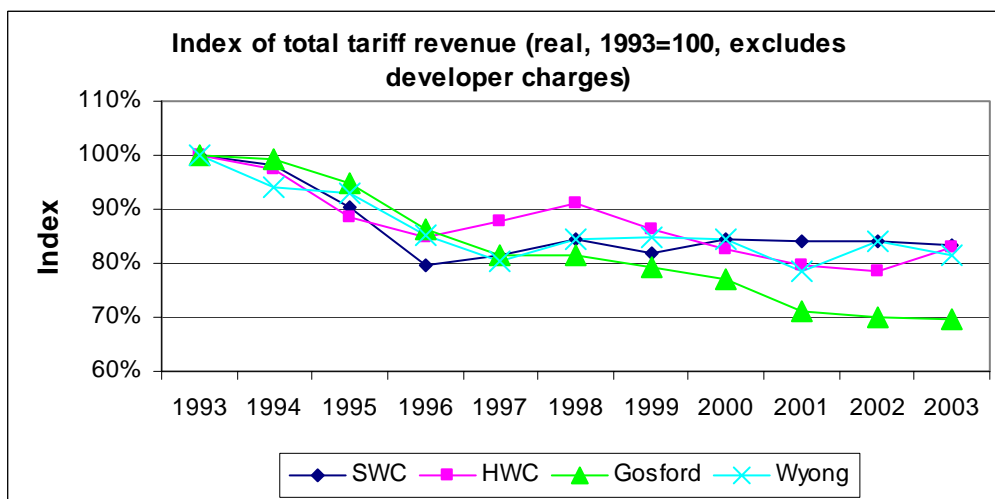
**Figure A2.5 Growth of residential water properties**



**Revenue**

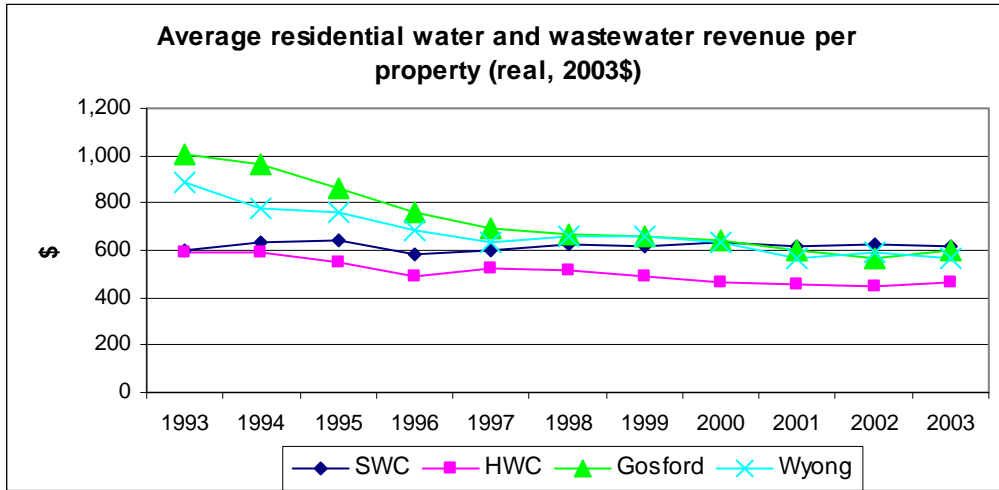
Revenue is a product of the level of charges, customer numbers and water consumption. Although property numbers and water consumption have increased, Figure A2.6 shows total tariff revenue has declined.

**Figure A2.6 Change in total tariff revenue (1993 as the base year)**



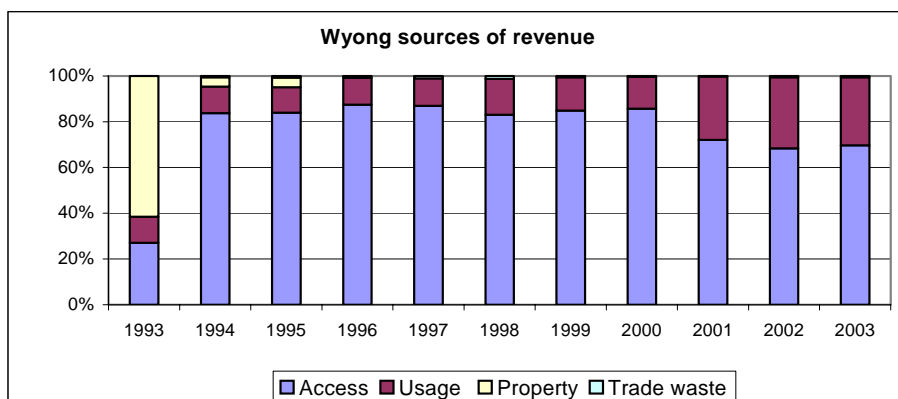
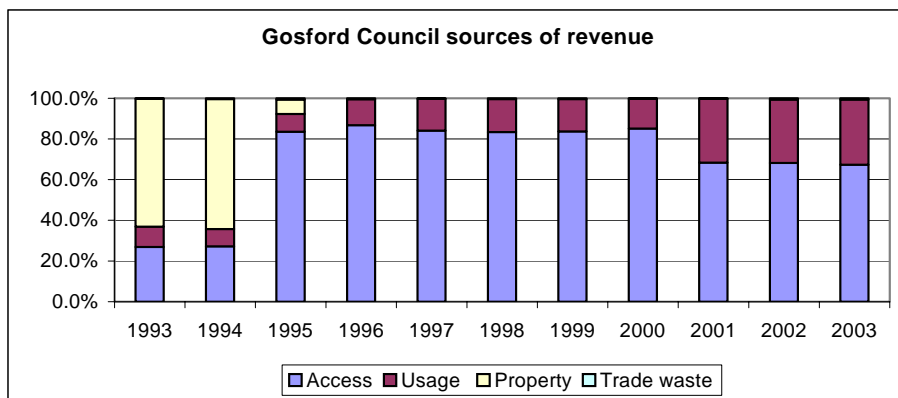
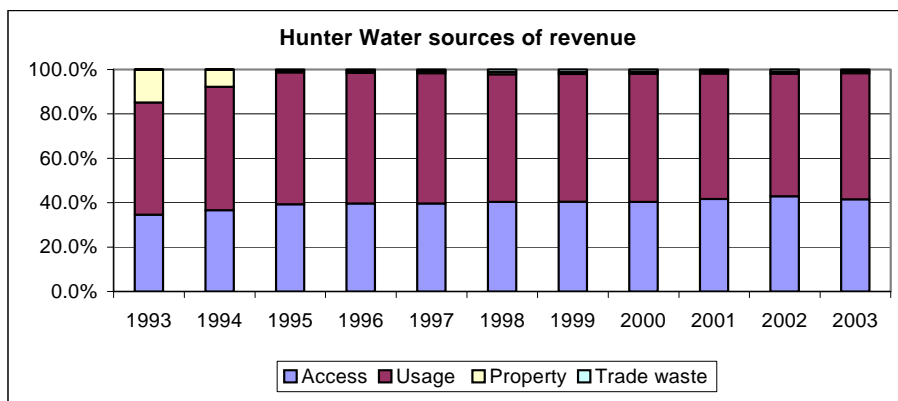
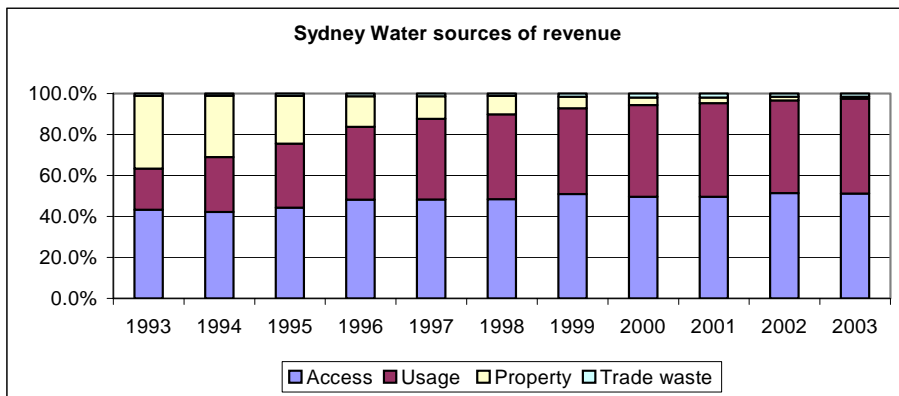
Trends in average residential revenue on a property basis (Figure A2.7) are similar to the trend in total revenue. Average residential water and wastewater revenue per property for Sydney Water has remained steady and has fallen for Hunter Water, Gosford and Wyong.

**Figure A2.7 Average residential water and wastewater tariff revenue per property (real, 2003\$)**



One of the Tribunal’s objectives for pricing is to signal to customers that the size of their bills will vary with the use of services and particularly water consumption. Property value based charging has been replaced by an access and usage based pricing structure and this is reflected in Figure A2.8. Gosford and Wyong Council had an additional price restructure in 2001 with the removal of pre-paid water allowances. This further emphasised the move to charging based on usage.

Figure A2.8 Sources of revenue (water and wastewater)

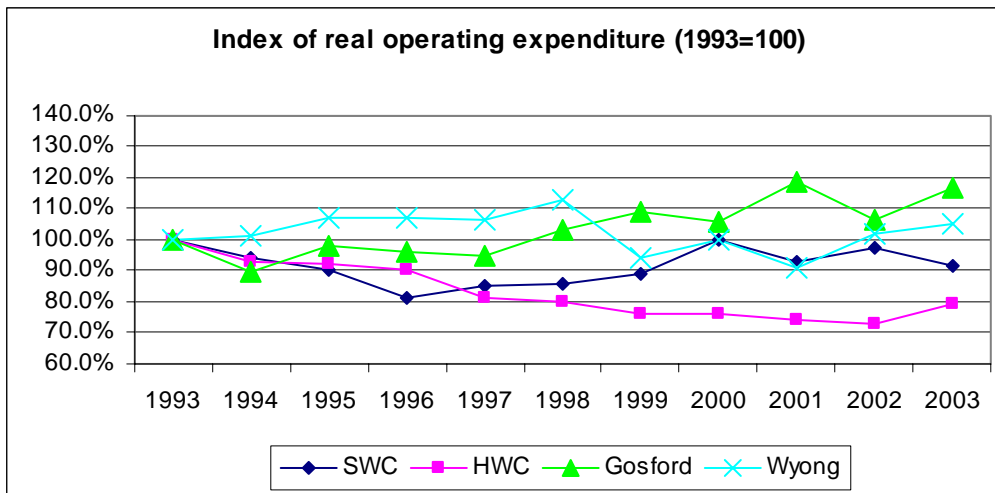




**Operating expenditure**

The building block mechanism allows the Tribunal to provide incentives for agencies to increase their efficiency. Figure A2.9 shows the trend in operating expenditure in real terms.

**Figure A2.9 Index of operating expenditure<sup>25,26</sup> (real, 1993 as base year)**



A way of examining operating expenditure trends for different classes of assets is to measure operating expenditure on a per kilolitre of water sold (Figure A2.10) and on a kilolitre of wastewater collected (Figure A2.11).

<sup>25</sup> The Tribunal has excluded some operating expenditure for pricing purposes. To ensure compatibility between agencies, all graphs reflect the underlying operating expenditure resulting after those exclusions. In particular the Tribunal has excluded:

- SWC’s write-off in 2003 of approximately \$51 million for a customer information billing system and approximately \$71 million for a large increase in superannuation provisions.
- Gosford’s recording as an expense approximately \$2.5 million in both 2002 and 2003 for a payment to the General Fund of Council for drainage expenses.
- Wyong’s recording as an expense in 2003 of a transfer to the Council’s General Fund of approximately \$6.2 million for stormwater expenses and a repayment of a loan to the General Fund of approximately \$1.9 million.

<sup>26</sup> In 2000, SCA took ownership of all the large water assets supplying SWC customers, capital expenditure on those assets is recorded as bulk water costs and hence operating expenditure in SWC’s books.

Figure A2.10 Operating costs per volume sold (real, 2003 \$/kL)

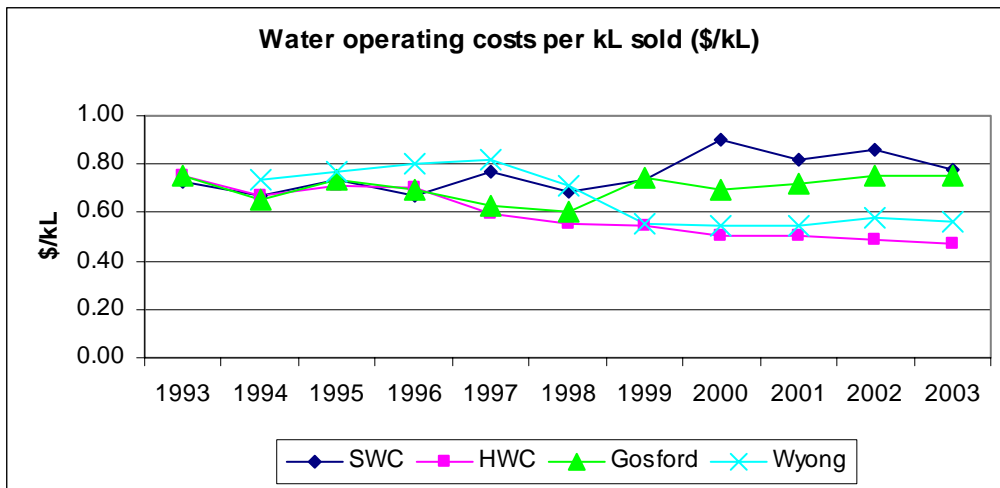
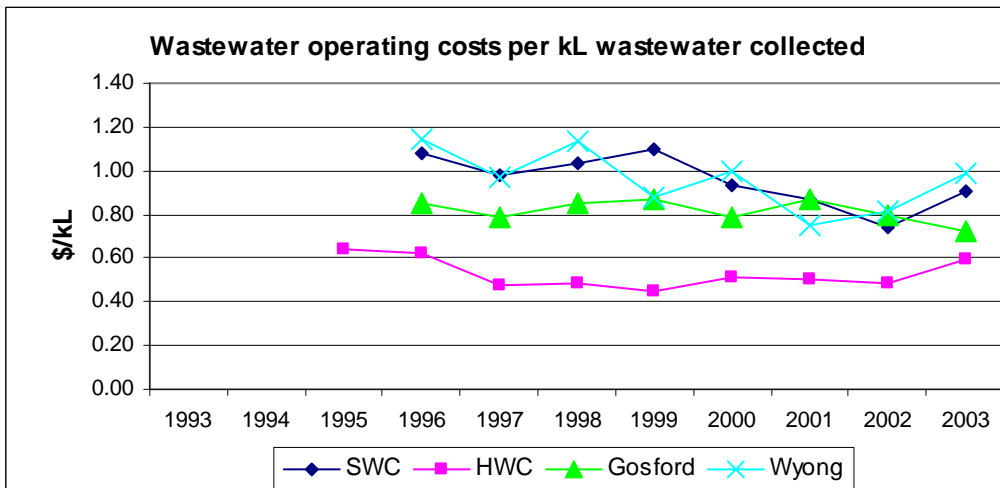
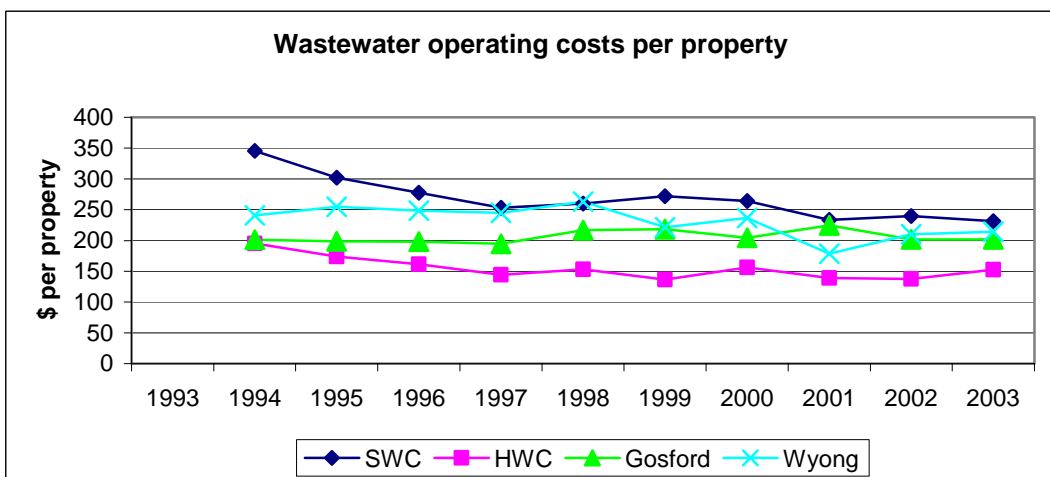
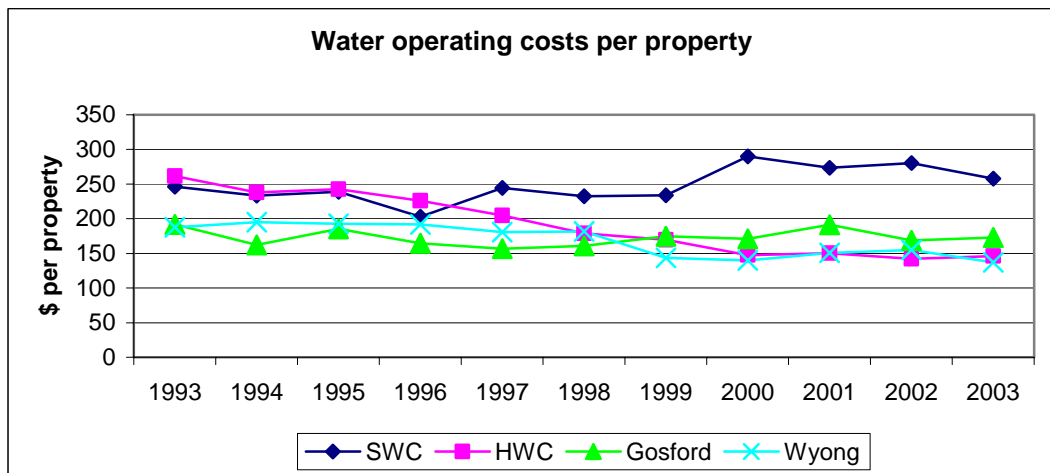
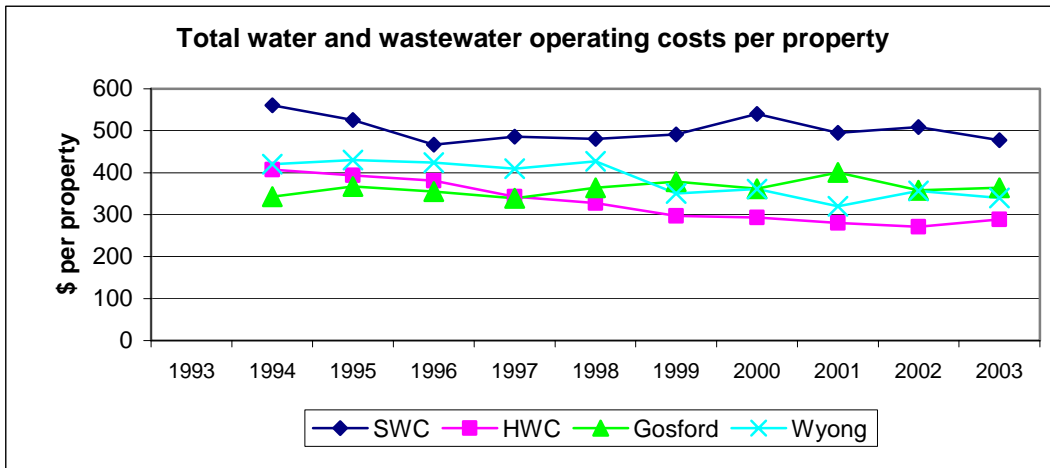


Figure A2.11 Wastewater operating costs per kL wastewater collected (real, 2003\$)



Operating expenditure on a per property basis shows trends without the impact of changes in customer numbers (Figure A2.12).

Figure A2.12 Water and wastewater operating expenditure per property (real, 2003\$)



**Capital expenditure**

The Tribunal uses a regulatory asset base (RAB) to ensure that an appropriate rate of return is given to the shareholders' investments in the water businesses and to ensure that efficient investment is made in the refurbishment and enhancement of existing assets. The initial RAB was established in 2000 and is rolled forward by adding new, prudent capital expenditure to the closing value of the previous year. The RAB is modified to account for inflation, disposal of assets and depreciation.

**Figure A2.13 Index of capital expenditure<sup>27</sup> (real, 1997 as base year)**

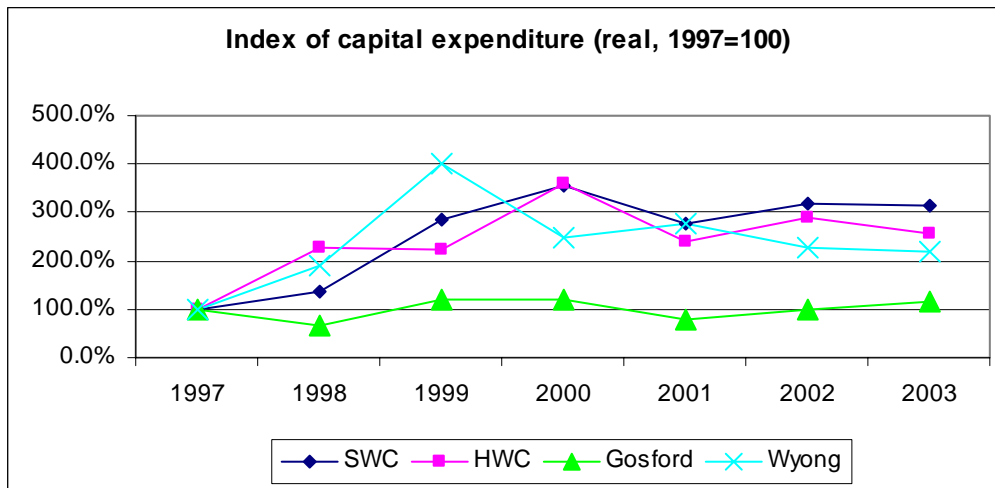
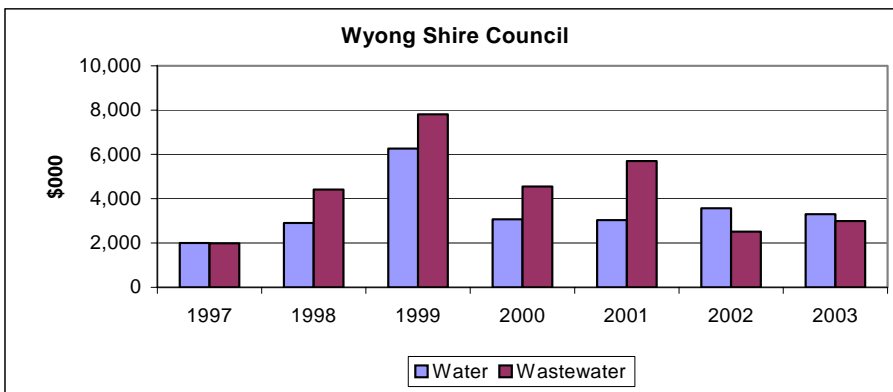
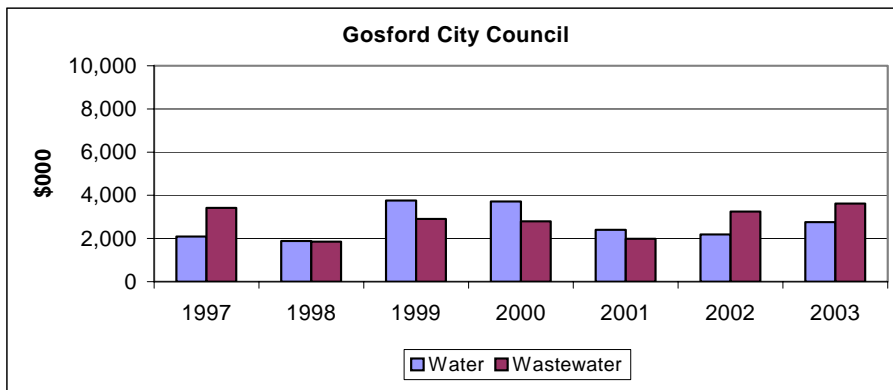
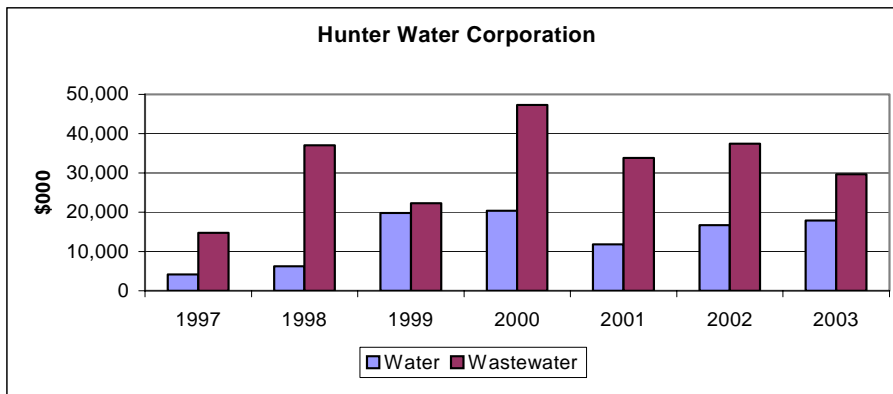
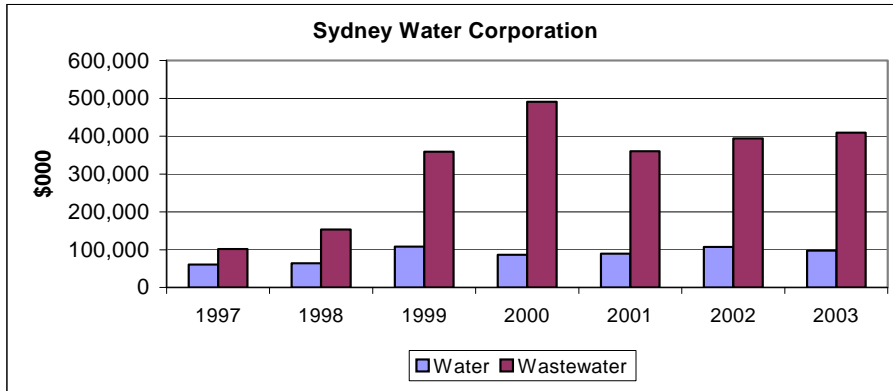


Figure A2.14 shows how agencies have directed their capital expenditure towards water assets and wastewater assets. Sydney Water has proportionally higher wastewater expenditure than the other agencies and this trend has been further influenced by the establishment of the Sydney Catchment Authority. Because the SCA now owns and operates all the large water assets for supplying Sydney customers, any capital expenditure on these assets will be passed on to Sydney Water as higher bulk water prices. Consequently Sydney Water will not record this expenditure as capital expenditure but as operating expenditure.

<sup>27</sup> The Tribunal has excluded some capital expenditure for pricing purposes. To ensure compatibility between agencies, all graphs reflect the underlying capital expenditure resulting after those exclusions. In particular the Tribunal has excluded:

- Capital expenditure of approximately \$61 million recorded by SWC in 2002 for a customer information billing system.

Figure A2.14 Water and wastewater capital expenditure (real, 2003\$)



### ***Financial viability***

The Tribunal has to ensure that the prices it determines are sufficient to enable water agencies to fulfil their financial commitments. The Tribunal models the impact of proposed prices and then examines how these affect measures of financial performance called financial indicators.

Financial indicators are ratios derived from financial statements and each ratio is compared to what has been decided is the norm for that industry. For example dividing the total debt by the cash flow for one year will show how many years it would take to pay back the debt. If the industry norm is for example five years, then any result less than that would earn a higher rating. For ease of analysis, the results are expressed in alphabetical form 'C' to 'AAA' with AAA indicating the highest level of financial strength.

The Tribunal uses ratios based on cash flow because they are not subject to distortions caused by measurement problems (eg asset value and depreciation). The ratios used by the Tribunal are:

- ***EBITDA<sup>28</sup> interest cover***

This ratio measures an organisation's ability to pay its interest expense from cash flows.

- ***Funds flow net debt payback***

This ratio shows the number of years needed to repay debt from cash flows.

- ***Debt gearing***

This ratio compares the level of debt to the level of equity ie the two sources of external funding for an organisation.

- ***Internal financing ratio***

This ratio shows the organisation's ability to fund its capital program from internal cash flows rather than external sources such as debt.

Table A2.3 shows the water agencies' performance for the period from 2001 to 2003. There is also an overall judgment of an agencies' financial strength.

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<sup>28</sup> EBITDA = Earnings before interest, tax, depreciation and amortisation.

Table A2.3 Financial indicators

	2001	2002	2003
<b>Sydney Water Corporation</b>			
<b>EBITDA interest cover</b>	3.3	3.4	3.8
NSW Treasury rating	A+	A+	AA
<b>Funds flow net debt payback</b>	3.2	3.4	3.6
NSW Treasury rating	AA+	AA+	AA
<b>Debt gearing</b>	0.3	0.3	0.3
NSW Treasury rating	AA+	AA+	AA+
<b>Internal financing ratio</b>	0.4	0.1	0.4
NSW Treasury rating	B+	B	B
<b>NSW Treasury total score for the combined business (0 - 10)</b>			
Total weighted score	6.5	6.3	6.3
Overall rating	A	A	A
<b>Hunter Water Corporation</b>			
<b>EBITDA interest cover</b>	14.4	11.5	10.1
NSW Treasury rating	AAA	AAA	AAA
<b>Funds flow net debt payback</b>	0.6	0.9	1.0
NSW Treasury rating	AA+	AA+	AA+
<b>Debt gearing</b>	0.1	0.1	0.1
NSW Treasury rating	AA+	AA+	AA+
<b>Internal financing ratio</b>	0.4	-0.1	-0.4
NSW Treasury rating	B	<B	<B
<b>NSW Treasury total score for the combined business (0 - 10)</b>			
Total weighted score	7.0	7.0	7.0
Overall rating	A+	A+	A+
<b>Gosford City Council</b>			
<b>EBITDA interest cover</b>	11.4	85.4	-14.9
NSW Treasury rating	AAA	AAA	AAA
<b>Funds flow net debt payback</b>	0.6	-0.5	-1.4
NSW Treasury rating	AA+	AAA	AAA
<b>Debt gearing</b>	0.0	0.0	-0.1
NSW Treasury rating	AA+	AAA	AAA
<b>Internal financing ratio</b>	8.1	6.7	5.6
NSW Treasury rating	AAA	AAA	AAA
<b>NSW Treasury total score for the combined business (0 - 10)</b>			
Total weighted score	9.5	10.0	10.0
Overall rating	AA+	AAA	AAA
<b>Wyong Shire Council</b>			
<b>EBITDA interest cover</b>	19.2	15.7	42.8
NSW Treasury rating	AAA	AAA	AAA
<b>Funds flow net debt payback</b>	0.4	0.1	-0.2
NSW Treasury rating	AA+	AA+	AAA
<b>Debt gearing</b>	0.0	0.0	0.0
NSW Treasury rating	AA+	AA+	AAA
<b>Internal financing ratio</b>	1.7	2.2	3.8
NSW Treasury rating	AAA	AAA	AAA
<b>NSW Treasury total score for the combined business (0 - 10)</b>			
Total weighted score	9.5	9.5	10.0
Overall rating	AA+	AA+	AAA

Note: Ratios are calculated from information provided by agencies in the AIRs.

### **A2.2.2 Financial performance of the Sydney Catchment Authority**

Because of its dissimilar responsibilities it is difficult to present the performance of the Sydney Catchment Authority in the same format as the other four water agencies. The Sydney Catchment Authority's purpose is to manage and protect the water catchment areas and infrastructure under its control and to supply bulk water to Sydney Water Corporation and several smaller customers.

The SCA is a wholesaler of water to Sydney Water. Hunter Water, Gosford Council and Wyong Council are retailers of water and sewerage services and also control their own bulk water supplies. Therefore the performance of SCA is reported separately in this section.

The SCA was established in 1999 and consequently the Tribunal does not have the same spread of information available to it as it does for the other water businesses. Trend analysis information therefore is not as extensive and conclusions on performance must take this into account.

#### ***Pricing***

The Tribunal determined prices for SCA in 2000 for the following five years. In 2003 the Tribunal conducted a mid-term review of the determination and decided that the prices that it had set until 2005 were still appropriate and should carry forward.

The Tribunal uses the same building block process to determine revenue and hence prices for SCA as it does for the water retailers. However, SCA has few customers when compared to the other water agencies and its major customer, Sydney Water, accounts for over 99.5 per cent of bulk water supplied.

The pricing structure determined for SCA to apply to its customer Sydney Water is of the same form as that applied by the retailers to their customers ie a fixed access charge and a usage charge levied on the volume of water purchased. The current price structure is under review by the Tribunal however in light of water shortage issues in the Sydney basin.

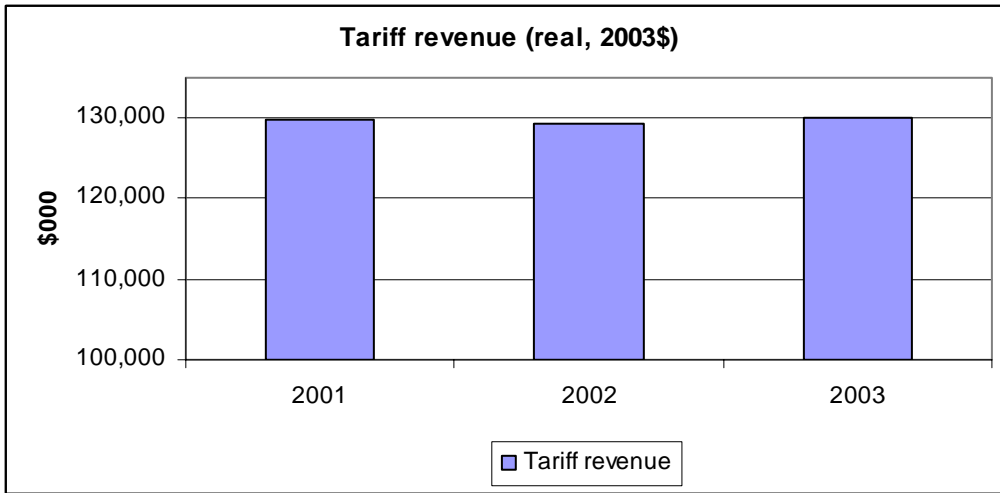
#### ***Revenue***

When the Tribunal set prices for SCA in 2000 it acknowledged that the SCA was then only recently formed and there was uncertainty over funding requirements during its 'start up' phase. The Tribunal was also concerned about the uncertainty of revenue needed to address the significant catchment management issues identified by the Sydney Water Inquiry. The determined prices were forecast to generate revenues and rates of return proportionately higher than those of the other metropolitan water agencies.

Figure A2.15 shows the trend in tariff revenue for SCA.

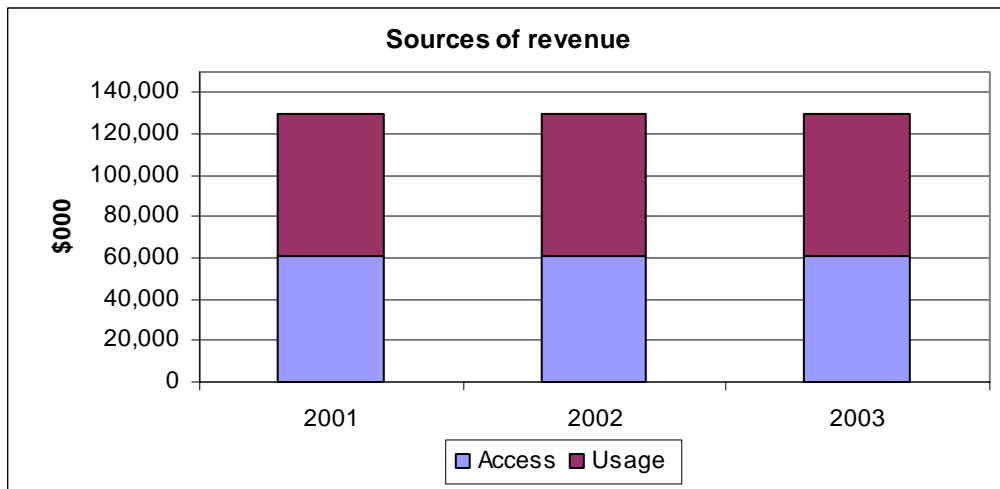


**Figure A2.15 Tariff revenue (real, 2003\$)**



When determining the pricing structure for SCA in 2000, the Tribunal forecast that revenue would be funded by access and usage charges on an approximately 50:50 basis. Figure A2.16 shows the actual proportions of revenue.

**Figure A2.16 Sources of revenue**

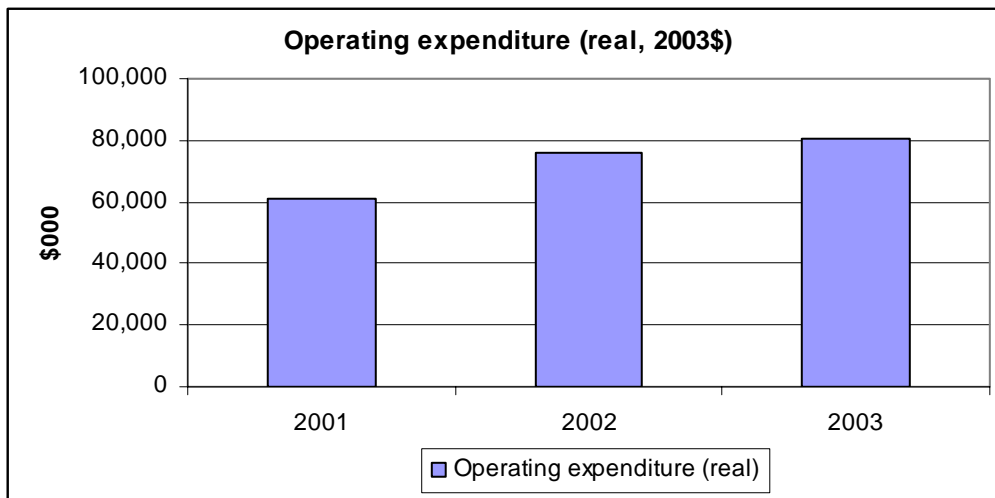


**Operating expenditure**

At the 2003 mid term review of the SCA, the Tribunal noted that the SCA’s operating expenditures for 2001 and 2002 were higher than the Tribunal’s estimates made at the 2000 determination review. The Tribunal found that the variances up to that time were reasonable because of the uncertainties of the SCA’s establishment phase, but stated that it also expected that the SCA would achieve efficiency gains from then on to ensure that its actual spending did not exceed projections.

Figure A2.17 shows the current trend in operating expenditure.

Figure A2.17 Operating expenditure (real, 2003\$)

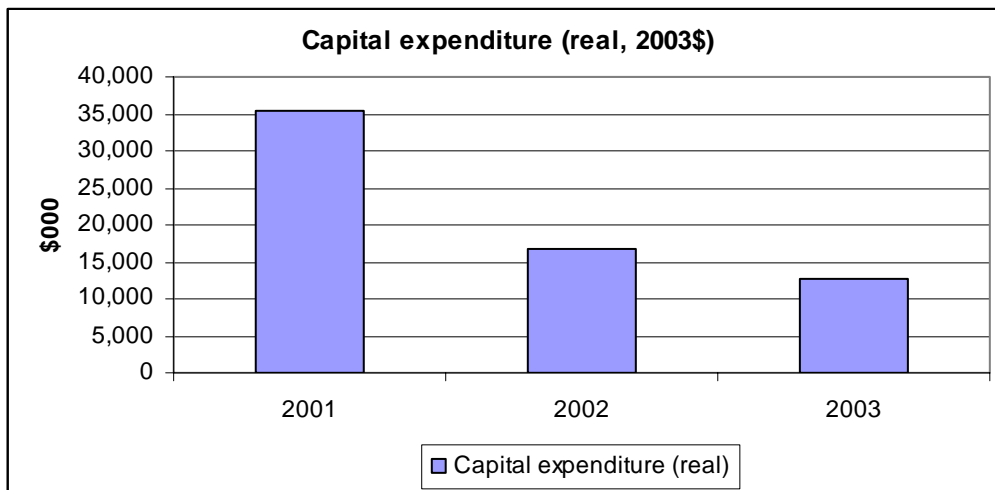


**Capital expenditure**

The 2003 mid term review noted that SCA had significantly lower capital expenditure in 2000/01 and 2001/02 than forecast in 2000. However the Tribunal believed that because of various uncertainties surrounding the capital works program it would be inappropriate to apply efficiencies to the 2003/04 and 2004/05 years. The uncertainties included the outcomes of the Hawkesbury-Nepean Management Forum, the outcomes of the NSW Government's security upgrades to key community assets, and potential refurbishment of the Upper Canal which delivers water from the Nepean and Avon storages to Prospect Water Filtration Plant.

Figure A2.18 shows the trend in capital expenditure for the SCA.

Figure A2.18 Capital expenditure (real, 2003\$)



### Financial viability

Table A2.4 shows the financial strength of SCA through financial ratios. The ratings are developed by benchmarking against the industry norm and use a graded scale with AAA being the highest score that an agency can achieve.

**Table A2.4 Financial indicators**

	2001	2002	2003
<b>EBITDA interest cover</b>	6.7	4.7	4.2
NSW Treasury rating	AAA	AAA	AA+
<b>Funds flow net debt payback</b>	7.0	5.2	4.9
NSW Treasury rating	BBB	A	A+
<b>Debt gearing</b>	0.2	0.2	0.2
NSW Treasury rating	AA+	AA+	AA+
<b>Internal financing ratio</b>	0.6	0.0	0.8
NSW Treasury rating	BBB+	B	AA
<b>NSW Treasury total score for the combined business (0 - 10)</b>			
Total weighted score	7.0	6.3	8.3
Overall rating	A+	A	AA

Note: Ratios are calculated from information provided by agencies in the AIRs.

## A2.3 Service performance

As a result of amendments to the *Independent Pricing and Regulatory Tribunal Act 1992* in November 2000, the Tribunal became the Licence Regulator for Sydney Water, Hunter Water and the SCA. The role of the Licence Regulator is to conduct audits of the respective agencies' operating licences and report on their compliance against these instruments.

The Councils do not have operating licences but are required by the *Local Government Act 1993* to develop management plans which incorporate performance targets.

### A2.3.1 Service performance of metropolitan water agencies

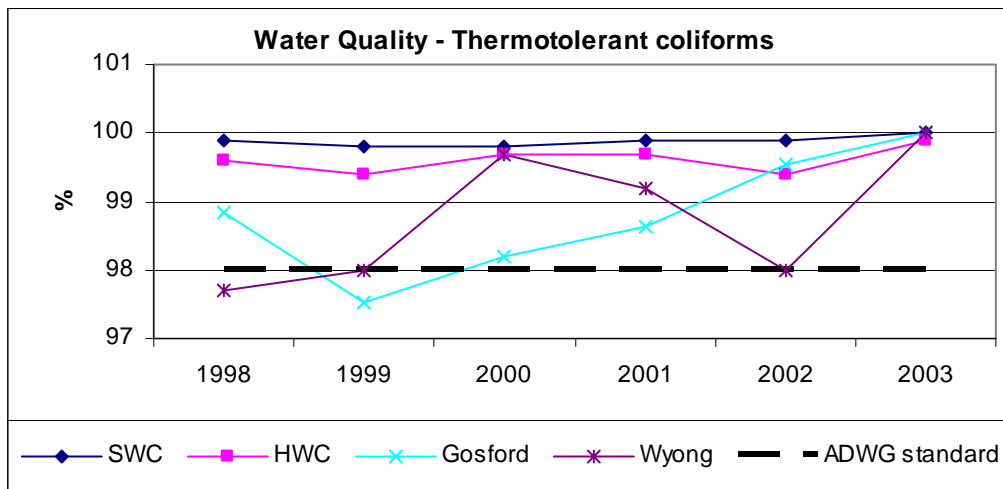
#### Water quality

Provision of high quality drinking water is the primary function of the metropolitan water agencies. As the public health regulator, NSW Health has primary responsibility for setting drinking water quality standards. Water businesses are required to test drinking water against a variety of physical, chemical and microbiological parameters.

The key microbiological parameter involves testing for thermotolerant (faecal) coliforms which are indicative of the presence of sewage contamination.

As illustrated by the graphs below, Sydney Water, Hunter Water have performed very strongly against the guideline value for thermotolerant coliforms as set out in the 1996 Australian Drinking Water Guidelines (ADWG). Performance by Gosford and Wyong Councils has been more variable, although Figure A2.19 shows that they have met the guideline value in most years.

**Figure A2.19 Water quality measured by % of samples not containing thermotolerant coliforms**



**System performance standards**

System performance standards are important regulatory and customer service mechanisms. They help ensure that a water utility delivers satisfactory service levels to customers, and makes appropriate investment in its assets to maintain robust systems. As such, system performance standards fulfil two roles - to provide an overall measure of system performance, and to ensure adequate service levels for customers.

The operating licences for Sydney and Hunter Water Corporations prescribe minimum standards for water continuity, water pressure and sewage overflows. Both utilities are potentially liable for substantial monetary fines and even loss of licence in the event of these standards being breached.

Gosford and Wyong Councils do not have operating licences and as such, lack the same legal obligations with respect to operational performance. Instead, system performance is measured against internal reporting criteria and in the case of Gosford Council, performance against a range of parameters is benchmarked and publicly reported in the *WSAAfacts* publication produced by the Water Services Association of Australia. Where relevant comparisons are able to be made, this data is reported below.

**Water continuity**

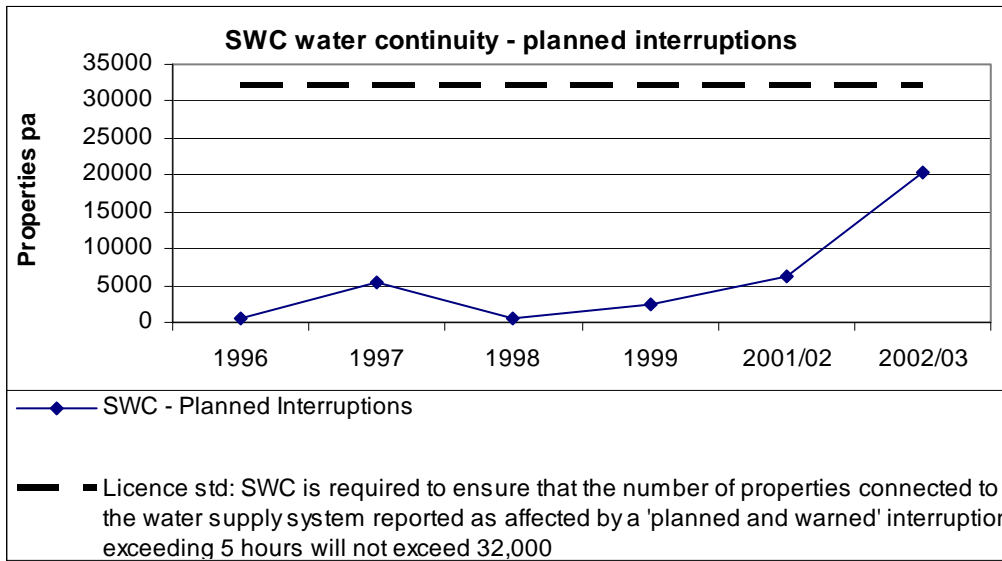
Water continuity standards and indicators are an attempt to measure the level of interruptions to customers' water supply. Given the importance of water services, the level of interruptions may also be indicative of the extent of customer inconvenience.

**Sydney Water water continuity performance standards:**

- Sydney Water's operating licence requires it to ensure that the number of properties connected to the water supply system affected by a 'planned and warned' interruption exceeding 5 hours will not exceed 32,000.
- Sydney Water is also required to ensure that unplanned interruptions exceeding 5 hours do not affected more than 35,000 properties in any financial year.

To date, Sydney Water has performed strongly against both performance measures.

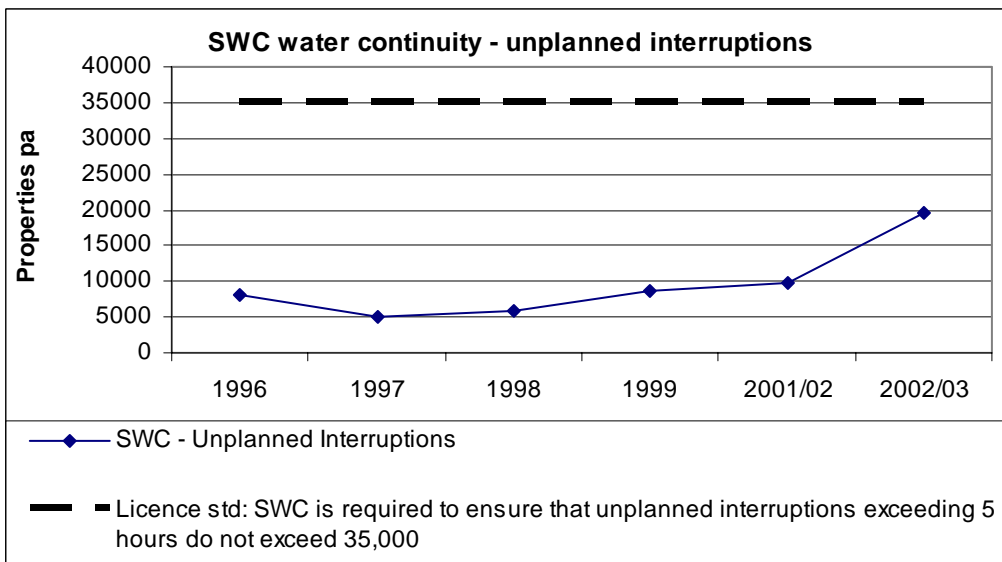
**Figure A2.20 SWC water continuity measured by the number of planned interruptions**



Notes:

1. Data for calendar years 1995 to 1999 is estimated based on an earlier performance standard.
2. Data for 2000 was not reported by SWC.
3. Licence data for SWC was reported on a calendar year basis until 1999 and on a financial year basis thereafter.

**Figure A2.21 SWC water continuity measured by the number of unplanned interruptions**



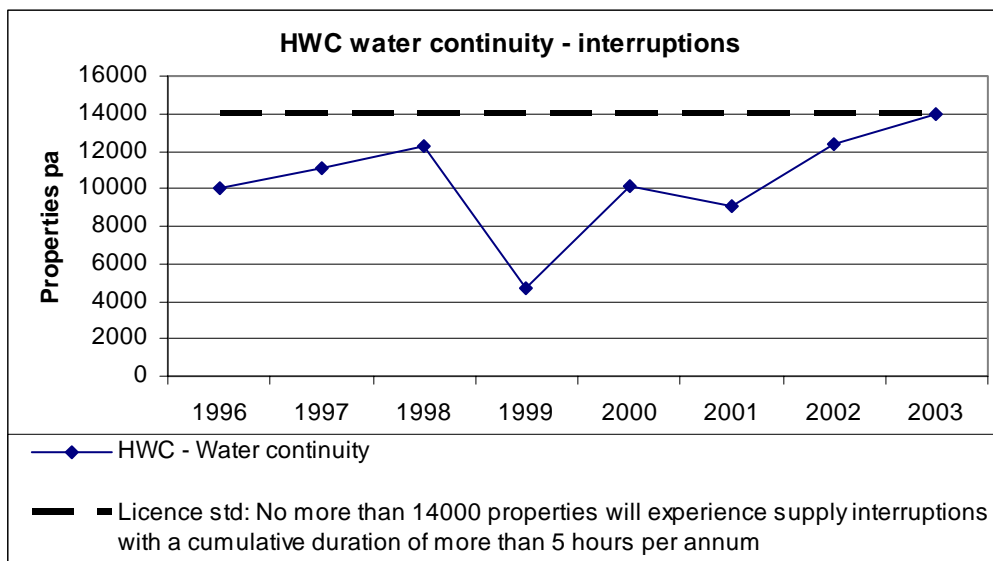
Notes:

1. Data for calendar years 1995 to 1999 is estimated based on an earlier performance standard.
2. Data for 2000 was not reported by SWC.
3. Licence data for SWC was reported on a calendar year basis until 1999 and on a financial year basis thereafter.

Hunter Water water continuity performance standard – Hunter Water’s operating licence also contains a performance standard for water continuity, namely, that no more than 14,000 properties will experience supply interruptions with a cumulative duration of more than 5 hours per annum.

In 2002/03, Hunter Water came close to breaching the water continuity standard with 13,966 properties experiencing one or more water supply interruptions with a cumulative duration exceeding 5 hours. Hunter Water attributed this result to higher than normal levels of planned interruptions due to both maintenance and the need to connect new housing developments to Hunter Water’s system. Hunter Water have initiated a range of actions, including the use of new technologies to minimise planned interruptions in future.

**Figure A2.22 HWC water continuity measured by the number of interruptions**



Note: data for years 1995/96 to 01/02 is estimated based on an earlier performance standard.

**Water pressure**

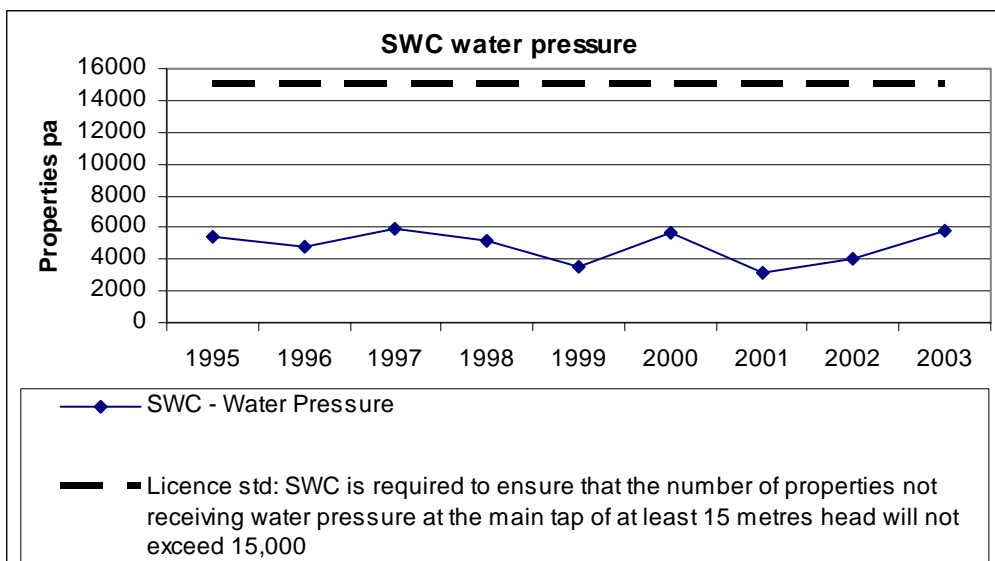
Water pressure is another area of system performance where both Sydney Water and Hunter Water have strong historical performance. This is particularly true in the case of Hunter Water, whose operating licence standard requires compliance to be assessed against 20 metres head of pressure as opposed to 15 metres head for Sydney Water.

Sydney Water water pressure performance standard – Sydney Water is required to ensure that the number of properties not receiving water pressure of at least 15 metres per head will not exceed 15,000.

Hunter Water water pressure performance standard – no more than 4,800 properties served by Hunter Water will experience an incident where pressure falls below 20 metres head.

As shown below, both Sydney Water and Hunter Water have comfortably met their licence requirements.

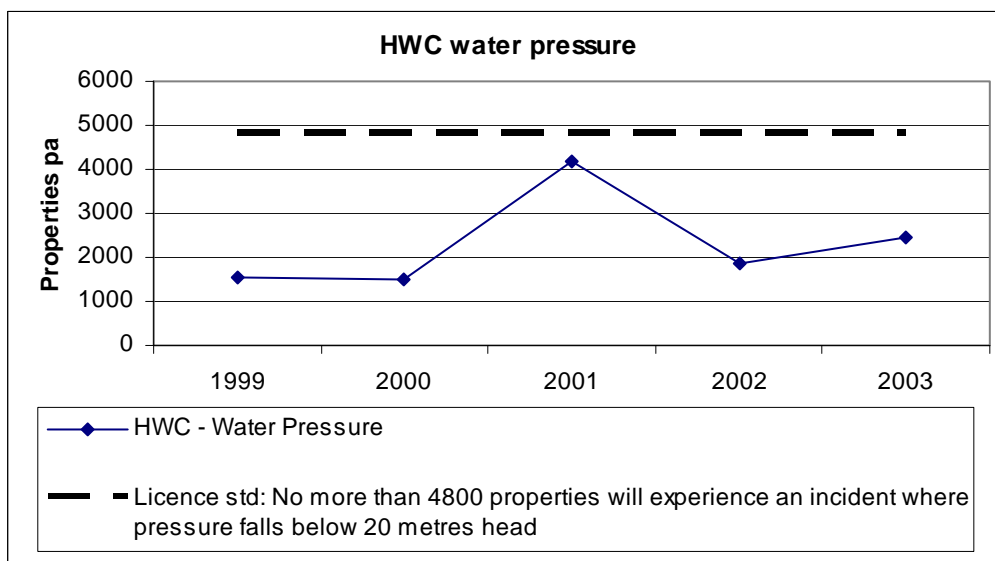
Figure A2.23 SWC water pressure



Notes:

1. Data for calendar years 1995 to 1999 is estimated based on an earlier performance standard.
2. Licence data for SWC was reported on a calendar year basis until 1999 and on a financial year basis thereafter.

Figure A2.24 HWC water pressure



Note: data for years 1998/99 to 01/02 is estimated based on an earlier performance standard.

### Sewer overflows

The operating licences for both Sydney Water and Hunter Water contain performance standards which seek to limit the impact of sewer overflows affecting private property.

**Sydney Water sewer overflow performance standard** – Sydney Water is required to ensure that the number of private properties affected by dry weather uncontrolled sewage overflows will not exceed 25,000.

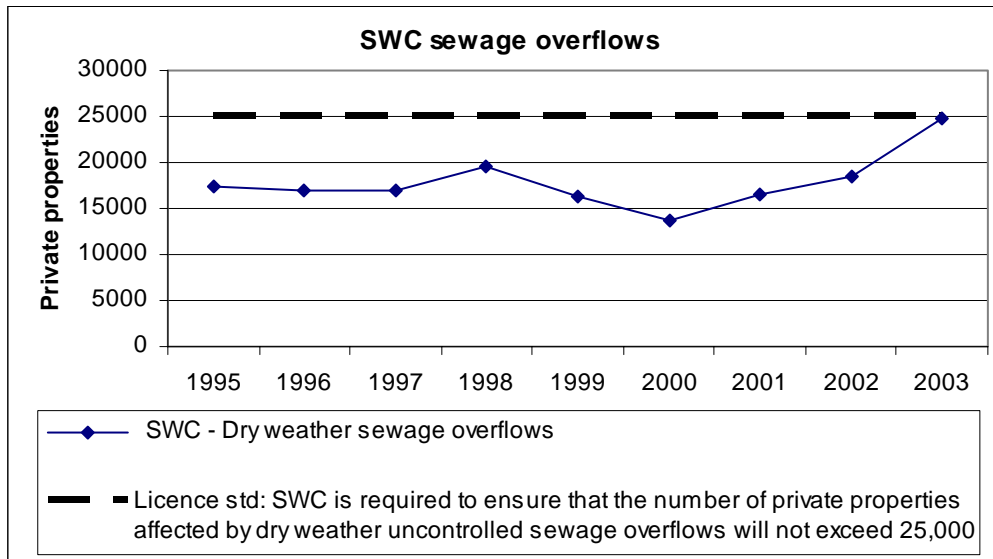
Hunter Water sewer overflow performance standard – Hunter Water must ensure that the number of uncontrolled sewage overflows on private land will not exceed 6,500 properties in a financial year.

Whilst, Hunter Water has performed strongly against this licence obligation, the number of properties affected by sewer overflows in Sydney Water’s area of operations has increased over the past 3 years.

In 2002/03, Sydney Water reported 24,767 private properties as being affected by a dry weather uncontrolled sewage overflows. Sydney Water attributed much of this result to tree root infiltration into sewers caused by the dry weather conditions experienced over the year. Whilst performance against the standard is influenced by climatic conditions, the number of sewage overflows has increased each year since 1999/2000.

In response to these concerns, Sydney Water has undertaken to review the underlying causes of the upward trend in sewage overflows and to develop strategies to address these factors.

**Figure A2.25 SWC sewage overflows**

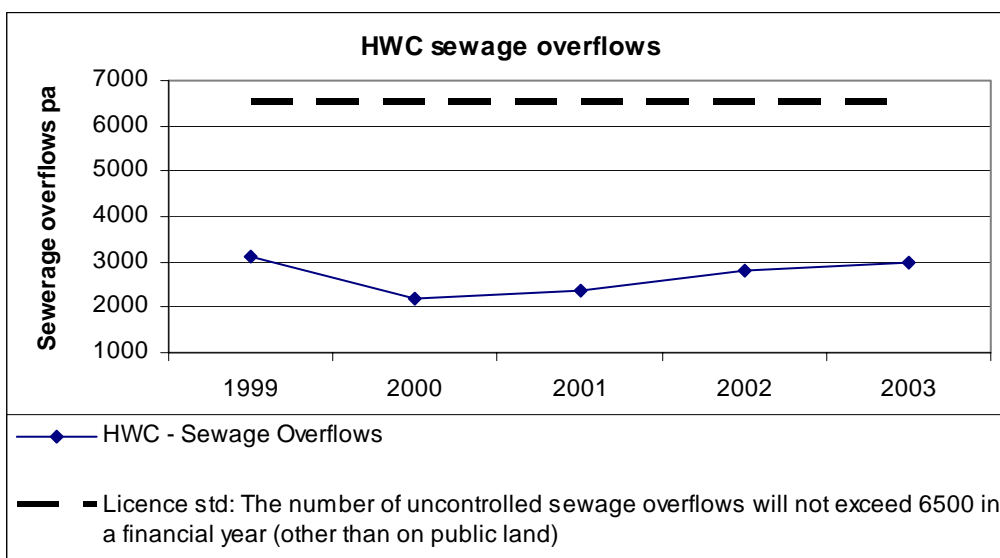


Notes:

1. Data for calendar years 1995 to 1999 is estimated based on an earlier performance standard.
2. Licence data for SWC was reported on a calendar year basis until 1999 and on a financial year basis thereafter.



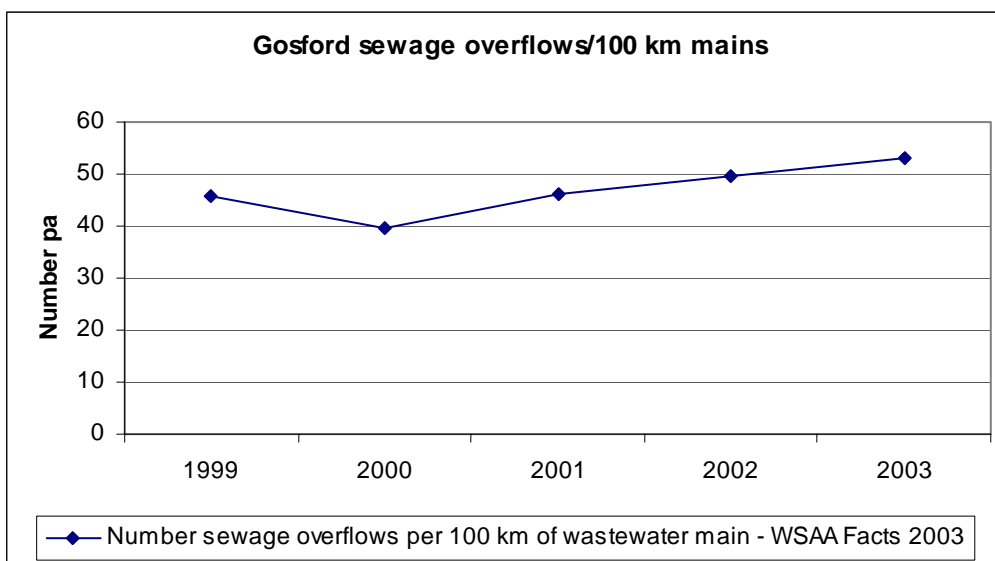
Figure A2.26 HWC sewage overflows



Note: data for years 1998/99 to 01/02 is estimated based on an earlier performance standard.

In 2002/03, Gosford Council experienced 52.9 sewage overflows per 100 km of sewerage main. The incident of sewage overflows was above the average of 32.3 sewage overflows per 100 km of sewerage main reported for the Australian urban water industry in 2002/03.<sup>29</sup>

Figure A2.27 Gosford Council sewage overflows per 100 km mains



Wyong Council does not contribute to the Water Services Association of Australia yearbook<sup>30</sup> report so the Tribunal does not have any comparable data for sewage overflows for Wyong.

<sup>29</sup> Water Services Association of Australia, *WSAAfacts 2003*.

<sup>30</sup> Water Services Association of Australia, *WSAAfacts 2003*.

### **A2.3.2 Service performance of the Sydney Catchment Authority**

In common with both Sydney Water and Hunter Water, the Sydney Catchment Authority is required to comply and be audited against an Operating Licence issued by the NSW Government. The Licence sets standards and obligations for aspects of the Authority's operations, such as, bulk water quality, catchment management, customer service and management of catchment infrastructure.

#### ***Water quality obligations***

The SCA's primary obligations with respect to its bulk water functions are to:

- meet certain health guideline values contained in the Australian Drinking Water Guidelines
- meet certain site specific standards for bulk water contained in its Bulk Water Supply Agreement with Sydney Water (these only relate to aesthetic characteristics such as turbidity, colour, hardness and alkalinity)
- prepare a 5-year Risk Management Plan that will identify and assess sources of pollution and reduce or remove the pollution.<sup>31</sup>

The recent 2002/03 Audit of the Catchment Authority's operating licence found that the SCA had shown strong compliance with its bulk water quality obligations in the licence. In particular, the Audit reported that the Authority fully complied with the health guideline values set out in Schedule 4 of the operating licence.

The Auditors also reported that 98 per cent of all bulk water supplied<sup>32</sup> met the aesthetic requirements contained in the Bulk Water Supply Agreement. The Auditors found that the reported exceedances did not cause significant difficulties for water treatment processes.

In 2000 a Pollution Source Risk Management Plan was developed to comply with the Operating Licence. The purpose of this plan was to identify and manage risks to water quality associated with pollution sources within the catchment. During the 2002/03 audit period, the Authority undertook the development of a more comprehensive risk management plan. The auditors reported that the Authority's efforts in developing the plan are directed at improving the understanding of the main pollution sources in the catchment and the risks to water quality posed by these sources has continued to develop.

The Auditors recommended that the Authority expedite the completion of the Risk Management Plan and ensure that the completed Plan provides, *"a good overview of the relative importance of the various risk issues in each catchment, and where its catchment management efforts should be focused."*

#### ***Catchment management and protection***

The 2002/03 audit found that the SCA had continued to apply its resources in a targeted manner to ensure that catchment management outcomes are achieved. Increased integration across programs is occurring so higher risk environmental issues, such as pollution sources, are being identified and targeted. The Audit noted that the Authority's enforcement activities under the *Sydney Water Catchment (Environmental Protection) Regulation* and *Sydney*

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<sup>31</sup> Sydney Catchment Authority, *Operating Licence*, 19 April 2000, clauses 6.2, 6.3 and 6.7.

<sup>32</sup> Flow weighted average of all parameters. IPART, *Sydney Catchment Authority Operational Audit 2002/03*, pp 6-16.

*Water Catchment Management (General) Regulation* had increased over 2002/03 compared to previous years.

The draft Regional Plan for the drinking water catchments of Sydney and adjacent regional centres – *Sustaining the Catchments* is currently on public exhibition until 30 July 2004.

