

# **SYDNEY WATER CORPORATION**

## **PRICES OF WATER SUPPLY, SEWERAGE AND DRAINAGE SERVICES**

**Medium-term price path from 1 October 2000**

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

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

**REPORT TO THE PREMIER ON THE DETERMINATION OF MAXIMUM PRICES UNDER  
SECTION 11 (1) OF THE INDEPENDENT PRICING AND REGULATORY TRIBUNAL ACT,  
1992**

**Reference No:** 99/175

**Report:** No 8, 2000

**Agency:** Sydney Water Corporation

**Declaration of government monopoly services under Section 4 of the Act.**

The Government monopoly services were declared by the Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997, made on 5 February 1997 and published in Gazette No. 18 dated 14 February 1997 at page 558.



## 1 INTRODUCTION

The Independent Pricing and Regulatory Tribunal of New South Wales (the Tribunal) regulates the charges that Sydney Water Corporation (Sydney Water) can levy for the water, sewerage and drainage services it supplies to residential and non-residential customers. Its role is to set the maximum prices Sydney Water can charge for these services, in accordance with section 11(1) of the *Independent Pricing and Regulatory Tribunal Act, 1992* (IPART Act).

This determination covers the period 1 October 2000 to 30 June 2003. Although the 1996 determination expired on 30 June 2000, the Tribunal decided to delay its decision on new prices for Sydney Water until October to align with its determination for the Sydney Catchment Authority (Catchment Authority).<sup>1</sup> The Catchment Authority, which used to be an integrated part of Sydney Water, was established as a separate organisation in July 1999. As a result, Sydney Water must now purchase bulk water from the Catchment Authority, and the Tribunal's determination on the price of this water will affect Sydney Water's charges. The Tribunal therefore made a short-term determination which maintained Sydney Water's existing charges from 1 July to 30 September 2000,<sup>2</sup> when its pricing responsibility for the Sydney Catchment Authority began.

For the current determination, the Tribunal has decided to reduce the water service charge for residential customers by \$5 to \$75<sup>3</sup> per annum throughout the determination period, and allow a slight increase in the water usage charge for all customers in 2000/01. The usage charge is to be adjusted by CPI-2% in 2001/02 and 20002/03. The Tribunal believes that these decisions will improve the balance between the water service and usage charges.

The Tribunal has decided to increase the sewerage service and usage charges in real terms to fund Sydney Water's expanded capital expenditure program to improve service standards for the sewerage system. To minimise the impacts on customers, the Tribunal has decided to progressively reduce the property-value charge over the next three years.

In terms of stormwater charges, the Tribunal decided to moderately increase the service charge and to progressively reduce the property-value charge over three years. The Tribunal has provided more revenue than requested by Sydney Water for the provision of stormwater services, and recommends that Sydney Water consult with the Environment Protection Authority (EPA) on how to best spend this additional revenue on projects under the current stormwater management plans.

The overall impact of the Tribunal's determination on residential customers is likely to be a small real increase in their total bills. For an average<sup>4</sup> residential customer, the real increase will be 1.1 per cent over the next three years. The reduction in the property-based charges will mean a significant real reduction in the bills for the majority of non-residential customers.

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<sup>1</sup> The Sydney Catchment Authority is responsible for supplying bulk water and for managing and protecting the catchments utilised for the harvesting and storage of bulk water. It was established in July 1999 in response to recommendations of the Sydney Water Inquiry.

<sup>2</sup> Independent Pricing and Regulatory Tribunal, *Sydney Water Corporation: Prices of Water Supply, Sewerage and Drainage Services from 1 July 2000*, June 2000.

<sup>3</sup> For a customer with a 20mm service connection. The service charge for other customers varies in proportion to the cross-sectional area of the connection.

<sup>4</sup> The water consumption for an average residential customer is 240kL per year.

The determination was based on detailed financial analysis of Sydney Water's revenue needs and the standards of service it is expected to achieve. This analysis indicates that the prices the Tribunal has set will generate sufficient revenue for Sydney Water to achieve these standards and maintain a sound financial position.

This report outlines the determination and the Tribunal's rationale in more detail. It sets out:

- the review process and regulatory framework
- the implications for service standards
- the financial analysis that underpins the determination
- the prices set for each service and the implications for Sydney Water's customers
- the implications for the environment.

The complete determination, which lists the maximum prices Sydney Water can charge for all water, sewerage and stormwater (drainage) services, follows this report.

## 2 REVIEW PROCESS AND REGULATORY FRAMEWORK

### 2.1 What was the review process?

The Tribunal reached its determination after an extensive investigation and review process. The Tribunal released two issues papers,<sup>5</sup> and Sydney Water responded by submitting proposals for the maximum prices it believes it needs to charge for supplying water, sewerage and stormwater services.

The Tribunal also invited the public and interested parties to make submissions on these proposals and other issues relating to the pricing of these services (Attachment 1 provides a list of submissions received). It also held a public hearing, where interested parties presented their views (Attachment 2 provides a list of presenters).

In addition, the Tribunal commissioned a consultant, Halcrow Management Sciences Ltd (Halcrow), to analyse the projected capital expenditure and operating costs of Sydney Water and the three other metropolitan water agencies under its jurisdiction.<sup>6</sup> Finally, it conducted its own analysis into the impacts of alternative pricing levels on Sydney Water, its customers and the environment, in line with Section 15 of the IPART Act.

The Tribunal made its determination, taking into account all the information and analysis obtained through the process outlined above. The Tribunal members who considered this determination are Dr Thomas Parry (Chairman), Mr James Cox (Full-time Member), and Ms Cristina Cifuentes (Member).

Copies of all submissions, a transcript of the public hearing, and Halcrow's report can be viewed on the Tribunal's website at [www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au) and are available for inspection at the Tribunal's office.

### 2.2 What pricing principles did the Tribunal follow?

In determining prices under the IPART Act, the Tribunal must have regard for a range of economic, social and environmental issues, listed in Section 15 of the Act. The Tribunal aims to achieve the following objectives in setting prices:

- economic efficiency
- financial sustainability
- promoting competition
- equity
- environmental sustainability
- simplicity and transparency
- certainty and control of the costs of regulation.

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<sup>5</sup> The Issues Papers were released in October 1999 and June 2000.

<sup>6</sup> Hunter Water Corporation, Gosford City Council and Wyong Shire Council.

These pricing principles are consistent with the requirements in Section 15. In making this determination, the Tribunal has had regard to the requirements in Section 15. The extent to which the Tribunal has had regard to these Section 15 requirements is outlined in Attachment 3.

### 2.3 What form does the price regulation take?

This determination takes the form of a price cap applicable over a period from 1 October 2000 to 30 June 2003. It sets specific prices for all services in 2000/01. For 2001/02 and 2002/03, Sydney Water will be able to vary these prices in line with inflation using a CPI-X formula.

In deciding on the price capping approach, the Tribunal took into consideration Sydney Water's preference for prices to be set in real terms<sup>7</sup> and the support of the Public Interest Advocacy Centre (PIAC) for price cap regulation for water and sewerage supply agencies.<sup>8</sup>

A medium term price path has several advantages over a one-year price path, including:

- providing the agency with an incentive to improve its efficiency and certainty about the basis on which its revenue can be obtained
- providing customers with certainty about what they will be charged
- reducing the regulatory burden imposed on the agency, thus enabling it to focus on running its business rather than on making new pricing proposals each year.

Although the Tribunal had suggested in its Issues Paper<sup>9</sup> that a longer determination period might be appropriate, it decided on a shorter period for several reasons, including:

- uncertainty about Sydney Water's capital expenditure program beyond 2002/03
- the need to assess whether Sydney Water is on target to meet the 2004/05 demand management target in the Operating Licence
- the need for more work on large customer tariffs.

In addition, the Tribunal will be able to align its mid-term review of the Catchment Authority with the end of Sydney Water's determination period, and to align the price path for Sydney Water with those of the other water agencies. This will allow the Tribunal to review the water agencies' operating and capital expenditure programs at the same time.

Given the relatively short regulatory period, the Tribunal does not envisage holding a mid-term review of this determination.

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<sup>7</sup> Sydney Water submission, December 1999, p 45.

<sup>8</sup> PIAC submission, March 2000, p 4.

<sup>9</sup> Independent Pricing and Regulatory Tribunal, *Pricing of Water, Sewerage and Stormwater Services: Sydney Water Corporation, Hunter Water Corporation, Gosford City Council, Wyong Shire Council, Sydney Catchment Authority: Issues Paper*, October 1999, p 1.

## 2.4 Revenue requirement

One of the many matters that the Tribunal considered in making this determination was how much revenue Sydney Water needs over the period of the price path. To estimate this amount, the Tribunal uses a building block approach.<sup>10</sup> This approach sets the base revenue requirement as the sum of the estimated efficient operating costs and capital costs. Although capital expenditure does not explicitly appear in the building block formula, it is accounted for through additions to the asset base and reflected in its capital costs.

Sydney Water had proposed a variation on this approach which involves separate rates of return for current and future assets.<sup>11</sup> Its suggested approach uses a Line in the Sand building block consisting of:

- gross operating surplus from existing Line in the Sand assets
- operating costs
- return of, and return on, all new capital
- renewals offset
- developer charges adjustment.

Sydney Water argues that such an approach will ensure that it achieves full cost recovery on new assets while maintaining its gross operating surplus on existing assets. Thus customers would be quarantined from price increases merely to improve returns on existing assets. It believes this approach ultimately provides agencies with commercial returns without impacting on existing customers.<sup>12</sup>

The Tribunal has not accepted this approach for a number of reasons. First, it believes the approach is too complex. Although British Gas proposed this approach some years ago, it is not currently used.<sup>13</sup> Second, it is inconsistent with the approach used for the other water agencies. Third, Sydney Water's approach implies that the benefits of growth (ie economies of scale) that result from serving more customers with the existing (or slightly augmented) infrastructure should go to Sydney Water and its owners. The Tribunal believes it is fairer to split the benefits of growth between owners and customers, which is what occurs using the Tribunal's approach.

The Tribunal believes its building block approach<sup>14</sup> is an effective method for estimating the revenue needs of the agencies it regulates. It notes PIAC's view that its use will establish consistency between regulated industries (eg electricity and gas), and that it offers greater transparency and accountability to consumers.<sup>15</sup> However, there is a risk that relying solely on the outcomes of the building block approach could lead to a procedure-bound methodology in which key decisions on major components of the revenue requirement are made in isolation. To avoid this risk, the Tribunal also has considered the overall implication of the resulting price paths. This involved analysing a range of financial

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<sup>10</sup> This approach is discussed in the Tribunal's Discussion Paper, *Rolling Forward the Asset Base, 1999*.

<sup>11</sup> Sydney Water submission, December 1999, pp 15-19.

<sup>12</sup> Sydney Water submission, 10 August 2000.

<sup>13</sup> British Gas proposed the approach in its submission to the Monopolies and Merger Commission (MMC). See MMC, *Gas and British Gas plc, Volume 2 of reports under the Gas and Fair Trading Acts*, September 1993.

<sup>14</sup> For a more detailed description of this approach, see IPART, *Pricing for Electricity Networks and Retail Supply*, June 1999.

<sup>15</sup> PIAC submission, March 2000, p 2.

indicators to ensure that its determination would not adversely affect Sydney Water's financial capacity or credit rating.

### 3 IMPLICATIONS FOR STANDARDS OF SERVICE

The standards of service an agency is required to achieve are a critical consideration when setting prices. The Tribunal needs to ensure that any cost cutting the agency achieves is not at the expense of its service standards, as there are trade-offs between the costs of supply and these standards. In addition, it must ensure that customers receive the level of service they pay for. Section 15 of the IPART Act requires that in setting prices the Tribunal is to consider standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

The Tribunal believes that price regulation is most effective when standards are clearly defined in terms of quantifiable and objective measures of performance. But as there are currently no quantifiable performance indicators in place for Sydney Water, the Tribunal has relied on the standards set out in various licences<sup>16</sup> (such as the Operating Licence and EPA licences) and an assessment of the outcomes Sydney Water has achieved in respect to these standards over the 1996 determination period. It has also outlined the outcomes that it expects Sydney Water to achieve by the end of the current determination period.

#### 3.1 Current service standards expected of Sydney Water

The Tribunal has considered standards of service for Sydney Water related to the quality of drinking water, operating performance, demand management targets and the quality of discharges from sewerage treatment systems. These standards are determined by Government, through a number of sources including:

- *Sydney Water Act, 1994*, for example, section 27 on re-use of sewage effluent
- Sydney Water's Operating Licence (2000)
- Waterplan 21, part of the Government's Waterways Package released in 1997
- EPA licensing under the *Protection of the Environment Operations Act, 1997*.

##### *Sydney Water's Operating Licence*

The terms of Sydney Water's Operating Licence include requirements related to:

- drinking water quality
- performance standards, including water continuity, water pressure, sewage overflows
- demand management targets
- recognition of the rights of customers, including a customer contract
- establishment of a dispute resolution procedures
- an audit of performance against targets.

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<sup>16</sup> In the past, the Tribunal has had no role in setting Sydney Water's standards, which have been determined by Government. Recently, however, the Tribunal has begun to be involved in this area—for example, it recommended to Government the terms of the current Sydney Water Operating Licence. Its role in setting standards is expected to increase in the future.

In its recent review, Halcrow<sup>17</sup> found that service standards and performance targets among the NSW water agencies varied significantly, and concluded that service levels appear to have been chosen to reflect the capability of the system rather than following consideration of customer expectations. For example, the drinking water pressure standard in Sydney Water's Operating Licence excludes a number of low-pressure areas.<sup>18</sup> Attachment 4 provides a more detailed comparison of Sydney Water's service standards with those of other metropolitan water agencies. Further, the performance standards in the current Operating Licence are to be reviewed by April 2001.

Recent amendments to the IPART Act<sup>19</sup> (and other related legislation) means that the Tribunal is to be the Licence Regulator for Sydney Water, Hunter Water Corporation and the Catchment Authority. As part of this function, the Tribunal will be responsible for conducting Operating Licence audits. It is to review Sydney Water's Operating Licence at mid-term and end of term.<sup>20</sup>

### *Waterplan 21*

Waterplan 21 is Sydney Water's 20-year strategy for wastewater management across the Sydney region. It was adopted by the NSW Government in 1997 as part of the Clean Waterways Package. Waterplan 21 covers four key areas: protecting the rivers; protecting the beaches and ocean; recycling water and biosolids; and reducing wet weather sewage overflows to protect the rivers, harbour and ocean. Table 3.1 outlines its key goals.

### *EPA licences*

The EPA has recently revised the licensing system that applies to sewerage authorities. In May 2000, it issued 27 sewage treatment system<sup>21</sup> licences to Sydney Water. However, Sydney Water has lodged an appeal in the Land and Environment Court against conditions contained in these licences.<sup>22</sup>

The EPA licences now cover other infrastructure in the sewerage system (in addition to sewage treatment works) such as pumping stations, sewage overflow structures and the reticulation system. Attached to the EPA licences are Pollution Reduction Programs which are works to be undertaken by Sydney Water in the immediate future.

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<sup>17</sup> Halcrow Management Services Ltd, *New South Wales Water Agencies' Review - Summary*, December 1999.

<sup>18</sup> These low pressure areas are: urban areas adjacent to reservoirs in the Blue Mountains and non-urban areas in Bayview, West Camden, Llandilo, Berkshire Park, Castlereagh, North Richmond, Oakville, Riverstone, Schofields and the Blue Mountains.

<sup>19</sup> *Independent Pricing and Regulatory Tribunal and Other Legislation Amendment Act, 2000*.

<sup>20</sup> The Sydney Water Operating Licence (2000) defines IPART as the Licence Review Body for the mid-term and end-of-term reviews. The mid-term review must be completed by 30 June 2002.

<sup>21</sup> A sewerage treatment system is defined as the reticulation system and the sewage treatment plant used for the transport, treatment and discharge of effluent and sewage.

<sup>22</sup> Sydney Water's appeal against the EPA licences was lodged in the Land and Environment Court in June 2000. The appeal consists of seven issues and includes the Pollution Reduction Programs requiring Sydney Water to reduce dry weather sewage overflows from specified catchments.

**Table 3.1 Key goals of Waterplan 21**

Time	Goal
By 2000	<ul style="list-style-type: none"> <li>• Water quality in Sydney Harbour improved with 90 per cent reduction in wet weather sewage overflows from Lane Cove, Quakers Hat Bay, Tunks Park and Scotts Creek.</li> <li>• Continue recycling over 90 per cent of biosolids.</li> <li>• Construction of Water Factory.</li> <li>• Hawkesbury Sewage Treatment Plant (STP) phosphorus discharge reduced by 35 per cent compared to 1995 levels, improved disinfection.</li> <li>• Sydney and Cronulla beaches safe for swimming.</li> </ul>
By 2002	<ul style="list-style-type: none"> <li>• Elimination of sewage related algal blooms in the Hawkesbury-Nepean river.</li> <li>• Waste water treatment and transport capacity expanded in Georges river area.</li> <li>• Illawarra beaches safe for swimming.</li> </ul>
By 2005 to 2010	<ul style="list-style-type: none"> <li>• Treatment levels doubled and improved reliability at major ocean plants</li> <li>• No grease on Sydney beaches from STP discharge.</li> <li>• Recycling pipeline from Georges River STPs to industrial customers for re-use, reducing flow to Malabar STP by 25 per cent.</li> <li>• Significant progress to reducing wet weather sewage overflows by 80-90 per cent.</li> </ul>

Source: Sydney Water Corporation, *Waterplan 21*, 1997.

### **3.2 Sydney Water's achievement of outputs specified in the 1996 determination**

At the mid-term review of the 1996 determination, the Tribunal noted a number of major projects and outcomes that Sydney Water was expected to achieve over the four-year period.<sup>23</sup> As part of this review, the Tribunal sought advice on the status of each of these matters.

Table 3.2 provides a summary of the projects, their expected completion dates and what has been achieved.<sup>24</sup> The Tribunal is concerned that some outputs provided for in the 1996 determination have not yet been delivered by Sydney Water. In particular, several projects for which capital expenditure was provided appear to have been delayed:

- Potable re-use plant at Quakers Hill was deferred due to community opposition.
- Construction work at North Head, Bondi and Malabar STPs has been deferred. The project is not required by EPA licence conditions. The North Head STP is the first to be upgraded in 2004.
- Containment of dry weather overflows project is two years (or \$53 million) behind schedule as set out in the 5-Year Infiltration/Exfiltration Program, submitted to the EPA in 1996.<sup>25</sup>

<sup>23</sup> IPART, *Sydney Water Corporation – Prices of water supply, sewerage and drainage services – Medium Term Price path from 1 July 1996*, Determination No 6, 1996, pp 27-28.

<sup>24</sup> Sydney Water submission, 10 August 2000.

<sup>25</sup> EPA submission, 18 February 2000, p 34. The initial cost of the 5 year Infiltration/Exfiltration Program was \$112 million. The remediation involves sealing cracks and joints in the sewer system and preventing stormwater from entering the sewer system.

Further, the EPA is concerned that the following projects have been subject to significant delays in recent years:<sup>26</sup>

- Cronulla STP upgrade
- Diamond Bay/Vaucluse diversion scheme
- Parts of the Priority Sewerage (backlog) Program
- Illawarra Wastewater Strategy.<sup>27</sup>

The Tribunal is concerned also that Sydney Water may not be spending money on maintaining its water and sewer infrastructure. For example in a recent Land and Environment Court Case,<sup>28</sup> Sydney Water was fined \$40,000 for an offence against the *Environmental Offences and Penalties Act, 1989* for polluting waters with sewage. The judge commented that Sydney Water's sewer overflow performance record has worsened, particularly relating to blockages in the system (for example, tree roots in pipes).

The Tribunal considers that it increased Sydney Water's water and sewerage charges in the previous determination on the basis that certain outcomes would be achieved. It is clear from Table 3.2 that not all these outcomes have been achieved. The Tribunal recognises that priorities can change, and that projects can be delayed due, for example, to meeting Environmental Impact Statement requirements. However, the Tribunal must ensure that customers do not pay for a project through increased charges more than once.

In setting prices, the Tribunal has to assess how it should account for this kind of variation from the projected capital expenditure. The Tribunal acknowledges that much of the capital expenditure originally provided for the projects mentioned above was diverted to the Northside Storage Tunnel.<sup>29</sup> However, it also considered this lower expenditure when analysing Sydney Water's capital expenditure projections over the next three years (see section 4.3.1).

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<sup>26</sup> EPA submission 18 February 2000, p 39 and correspondence of 9 September 2000.

<sup>27</sup> Correspondence from EPA 3 March 2000, p 1. The EPA notes that Sydney Water's capital expenditure program omits works to upgrade the Bombo sewage treatment plant. The proposal for Bombo was originally included in Sydney Water's Illawarra Wastewater Strategy.

<sup>28</sup> Environment Protection Authority v Sydney Water Corporation [2000] NSWLEC 156.

<sup>29</sup> See discussion later in this report at Section 4.3.2.

**Table 3.2 Review of projects and outputs specified by Sydney Water at the 1996 determination**

Project	Standard to be achieved	Proposed completion date	Actual Completion date	Comment
Existing STPs discharging to the Hawkesbury-Nepean system.	<ul style="list-style-type: none"> <li>Nitrogen levels to fall to 7mg/litre (50<sup>th</sup> percentile quartile)</li> <li>Phosphorus levels to fall to 0.15 mg/litre (50<sup>th</sup> percentile quartile)</li> </ul>		<ul style="list-style-type: none"> <li>upgrades 1996 to 1999</li> </ul>	<p>Completed upgrades to Mt Victoria, South Creek St Marys, Quakers Hill and Penrith STPs.</p> <p>Nutrient removal has significantly improved at all STPs. Nitrogen levels are not being met at Mt Victoria &amp; St Marys.</p>
North Head, Malabar and Bondi Ocean STPs	<ul style="list-style-type: none"> <li>Engineering design completed and construction commenced</li> <li>To eliminate floatable and settleable solids</li> </ul>	<ul style="list-style-type: none"> <li>By 2001</li> </ul>	<ul style="list-style-type: none"> <li>Design studies completed 1997 to 1998.</li> </ul>	<p>Project not driven by EPA licence conditions.</p> <p>Plant upgrades to maintain and improve reliability are expected over next 10 years. North Head plant first to be upgraded in 2004.</p>
Warriewood and Cronulla STPs	<ul style="list-style-type: none"> <li>Meet ANZECC standards on bathing water &gt; 90% of time</li> </ul>	<ul style="list-style-type: none"> <li>By 2001/02</li> </ul>	<ul style="list-style-type: none"> <li>Warriewood May 2000, Cronulla April 2001</li> </ul>	<p>Warriewood &amp; Cronulla plants have been designed to achieve EPA and ANZECC guidelines.</p>
Illawarra STP	<ul style="list-style-type: none"> <li>Beaches near Wollongong, Shellharbour and Bombo to meet ANZECC standards on bathing water &gt; 90% of time</li> </ul>	<ul style="list-style-type: none"> <li>2000</li> </ul>	<ul style="list-style-type: none"> <li>Dec 1996 disinfection facilities at Bellambi &amp; Port Kembla STPs</li> </ul>	<p>Beaches near Wollongong, Shellharbour and Bombo are meeting ANZECC and EPA standards.</p> <p>EIS completed on upgrading Wollongong, Bellambi &amp; Port Kembla STPs.</p>
Sewage treatment plants	<ul style="list-style-type: none"> <li>Pollution reductions programs in EPA licences</li> </ul>	Ongoing		
Potable re-use plant	<ul style="list-style-type: none"> <li>Plant will be constructed and operating</li> </ul>	<ul style="list-style-type: none"> <li>2000</li> </ul>	Project deferred	<p>Community is opposed to potable recycling. Sydney Water to consider other water efficiency initiatives.</p>
Installation and operation of water filtration plants	<ul style="list-style-type: none"> <li>NHMRC's 1987 drinking water guidelines will be met.</li> </ul>	<ul style="list-style-type: none"> <li>2000</li> </ul>	Achieved	<p>Achieved 1996 NHMRC AMRCANZ Australian Drinking Water guidelines.</p>
Sewer overflows	<ul style="list-style-type: none"> <li>Containment of dry weather discharges from cracked pipes – \$63m over four years</li> <li>Meet EPA wet weather overflow requirements</li> </ul>	<ul style="list-style-type: none"> <li>2000</li> </ul>	<ul style="list-style-type: none"> <li>Project behind schedule</li> <li>EPA issued wet weather overflow requirements May 2000.</li> </ul>	<p>Dry weather overflow project is two years behind schedule. Underspend was \$53m (or 50 per cent ) at December 1999.</p> <p>Construction of the Northside Storage Tunnel – original estimate \$300m, final cost \$451m.</p>

Source: IPART, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services, Medium term price path from 1 July 1996*, June 1996, p 27. Correspondence from Sydney Water of 10 August 2000 and EPA submission, 18 February 2000.

### 3.3 Expected outputs over the regulatory period

In this determination, the Tribunal has accepted a substantial capital expenditure program (see Section 4.3). The Tribunal therefore expects that this capital expenditure will translate into significant improvements in the quality of service for Sydney Water's customers and environmental performance. In particular, the Tribunal expects to see substantial progress on the capital programs to maintain the water supply and sewerage systems, upgrades of sewage treatment plants, sewer overflow abatement, stormwater management, demand management and business improvements.

Table 3.3 provides a list of the major projects and outputs to be delivered by Sydney Water over the next three years. A major focus of its capital expenditure program is on the sewerage system. Projects include maintenance of the sewerage system, sewage treatment plant upgrades and the sewage overflow abatement program.

In terms of the sewage overflow abatement program, the Tribunal notes the EPA's concern that the funds allocated by Sydney Water for dry weather overflows may be insufficient to meet the requirements in the Pollution Reduction Programs in EPA licences.<sup>30</sup>

The Tribunal will review Sydney Water's progress in achieving the outputs in Table 3.3 at the next determination. It may consider adjustments at the next review if the expected outputs are not delivered over the price path period.

The Tribunal also notes that business improvements are a significant area of capital expenditure for Sydney Water over the next three years. The Tribunal therefore expects to see significant improvements in customer service.

Finally, the Tribunal expects Sydney Water to make significant progress towards meeting the demand management targets in its Operating Licence over the next three years. At this stage, the Tribunal is concerned that Sydney Water may not meet these targets (see Section 7.1). Sydney Water has produced a Demand Management Strategy<sup>31</sup> and has estimated that in the first five years of the strategy over \$50 million will be spent on water efficiency, water recycling and leakage reduction.<sup>32</sup> As the Licence Regulator of Sydney Water's Operating Licence,<sup>33</sup> the Tribunal will closely monitor Sydney Water's strategies to achieve the demand management targets.

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<sup>30</sup> Correspondence from EPA of 11 September 2000, p 1.

<sup>31</sup> Sydney Water Corporation, *Demand Management Strategy*, December 1999.

<sup>32</sup> Sydney Water submission, December 1999, p 28.

<sup>33</sup> Following recent amendment to the Independent Pricing and Regulatory Tribunal Act, 1992, and the *Sydney Water Act, 1994*, the Tribunal will be the Licence Regulator for Sydney Water's Operating Licence later this year.

**Table 3.3 Major projects and outputs specified by Sydney Water over the next 3 years**

Project	Cost <sup>1</sup> (\$millions)	Standard to be achieved
<b>Water</b> Maintain water supply system	171.9	Operating Licence water system standards (5.4.1 to 5.4.3). Ongoing maintenance and renewal of the water supply system.
<b>Sewerage</b> Maintain sewerage system	202.2	Operating Licence sewerage system standards (5.4.4) Project Includes maintenance and renewal of sewage transport system and rehabilitation of the major trunk system serving south-west Sydney.
Illawarra STPs upgrade & amplify, effluent re-use	142.8	EPA licence requirements to improve beach water quality and meet ANZECC guidelines for bacterial indicators in bathing waters. Provide opportunities for future recycling of effluent.
Sewage overflow abatement program	122	EPA licence requirements as per Pollution Reduction Programs. An ongoing program to reduce both wet and dry weather overflows from the sewerage system. The program includes: <ul style="list-style-type: none"> <li>• Reduce frequency of dry weather flows from sewerage pumping stations.</li> <li>• Reduce number of overflows due to tree roots.</li> <li>• Reduce number of incidents of sewerage leakage in dry weather.</li> <li>• Reduce the frequency of wet weather overflows in the Blue Mountains to 10 events per 10 years.</li> </ul>
To upgrade Cronulla, Berowra Creek and South Creek Sewage treatment plants (STP)	64.5	EPA licence requirements specifies standards to be achieved. <ul style="list-style-type: none"> <li>• South Creek STPs – lower phosphorus and nitrogen loads into the Hawkesbury Nepean system.</li> <li>• Cronulla STP – improve beach water quality and meet ANZECC guidelines for bacterial indicators in bathing waters. Provides opportunities for further recycling of effluent eg small re-use plant.</li> <li>• Berowra Creek STPs – reduce nitrogen loads to receiving waters.</li> </ul>
Other sewerage improvements	46.0	Initial expenditures on upgrades to West Camden, Warriewood, North Head and Bondi STPs and the Georges River Strategy. These improvements are not driven by EPA licence requirements. <sup>3</sup>
Biosolids management	27.0	Construction of biosolids facilities to commence at Malabar and St Marys STPs. This project is not required by the EPA as Sydney Water currently beneficially re-use 99 per cent of biosolids. <sup>3</sup>
<b>Business improvements</b> Information technology	76.9	Renewal of existing IT infrastructure and installation of new systems to improve: <ul style="list-style-type: none"> <li>• Scheduling, customer and asset information for civil maintenance.</li> <li>• Access for customers and suppliers through on-line services and electronic delivery channels.</li> <li>• Business information and processing through document management and data warehousing systems.</li> </ul>
System monitoring and control	65.9	Installation of monitoring and control systems: <ul style="list-style-type: none"> <li>• IICATS for wastewater transport system and STPs. To optimise wastewater system performance and improve the ability to detect and respond to incidents.</li> <li>• SCADA for STPs and smaller water filtration plants to improve operation.</li> </ul>
Customer billing system	26.0	Installation of an integrated customer billing and information system to improve customer service and efficiency – completion within 3 years.

1. These costs were supplied by Sydney Water in correspondence of 28 August 2000.
2. Sydney Water submission, December 1999, p 28.
3. Correspondence from EPA, 11 September 2000.

## 4 SYDNEY WATER'S REVENUE NEEDS

One of the key questions the Tribunal considered in making this determination was how much revenue Sydney Water needs to earn from water, sewerage and stormwater services to remain financially viable and to meet its service obligations. Based on its analysis, the Tribunal believes that Sydney Water can maintain a sound financial position with the revenues<sup>34</sup> shown in Table 4.1.

**Table 4.1 Tribunal's estimate of Sydney Water's total revenue (\$ of the day, millions)**

	2000/01	2001/02	2002/03
Revenue	1,184.0	1,205.3	1,227.4

Source: IPART financial model for Sydney Water.

The Tribunal arrived at these figures after considering various pricing proposals and their impacts on customers. The Tribunal then generated a set of tariffs that were put into a financial model to estimate Sydney Water's revenue. In estimating revenue, the Tribunal has assumed that Sydney Water will meet the demand management targets in its 2000 Operating Licence.<sup>35</sup>

The revenue in Table 4.1 is sensitive to the level of water demand. If Sydney Water does not achieve the level of water demand assumed in the financial analysis, then it is likely to experience a revenue shortfall. Conversely, if Sydney Water exceeds water demand levels then there will be a windfall revenue gain. The Tribunal will consider the revenue implications of Sydney Water achieving the demand forecasts at the next pricing review.

Figure 4.1 compares the Tribunal's projected revenue for Sydney Water with actual revenue. This shows that Sydney Water's actual revenue over the period 1995/96 to 1999/00 was greater than the projections at the time of the 1996 determination. Over the next three years, the revenue is projected to increase slightly.

<sup>34</sup> Revenue estimated for the regulated business includes tariff, tradewaste and miscellaneous charges revenue.

<sup>35</sup> Section 7.1 of this report explains the demand management assumptions used in the financial analysis.

**Figure 4.1 Projected and actual revenue for Sydney Water (\$ of day, millions)**

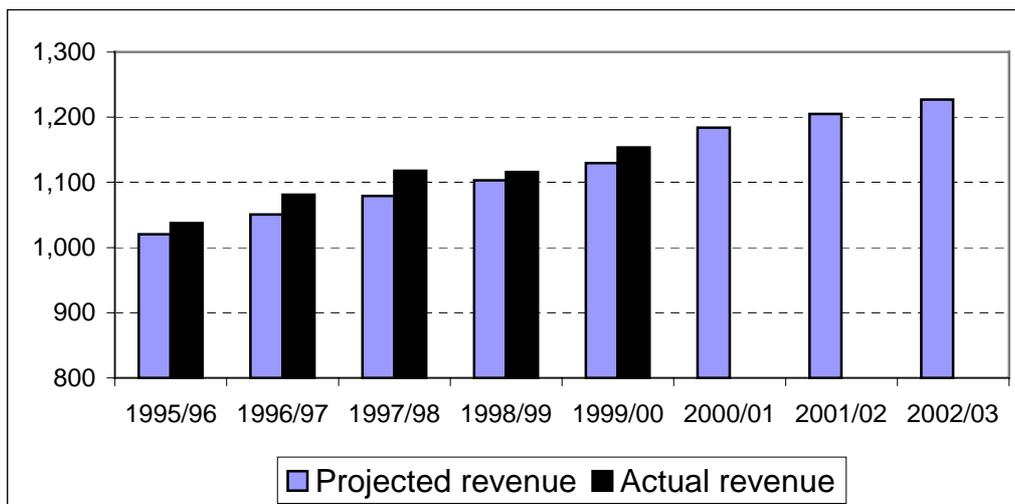
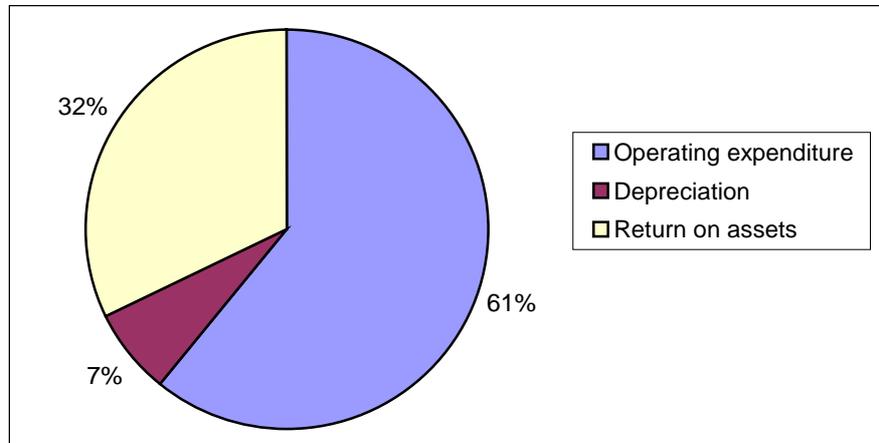


Figure 4.2 shows a breakdown of Sydney Water’s expected costs – operating expenditure, return of capital (depreciation) and return on capital as an average over 2000/01 to 2002/03. Operating expenditure comprises over 60 per cent of its revenue requirement and return on assets accounts for over 30 per cent.

**Figure 4.2 Components of Sydney Water’s costs over 2000/01 to 2002/03**



Source: IPART financial model for Sydney Water.

The remainder of this section outlines the main components of the Tribunal’s analysis of Sydney Water’s financial position that underpin its determination, including operating costs, capital costs, capital expenditure, and dividend and tax equivalent payments. The section also discusses the overall implications of the resulting price path on a range of financial indicators.

## 4.1 Operating costs

To determine Sydney Water's efficient operating costs, the Tribunal considered Sydney Water's forecast operating expenditure and potential for improving its efficiency. It also took into account the implications of the introduction of *A New Tax System (Goods and Services Tax) Act, 1999*, including the Goods and Services Tax (GST).

### 4.1.1 Operating expenditure

The Tribunal believes Sydney Water can reduce its total operating costs over the next three years, through greater efficiency. It also believes that Sydney Water has the scope to achieve an additional 3 per cent saving above the 23 per cent it is already targetting. In reaching this view, the Tribunal relied on Halcrow's analysis of Sydney Water's projected operating and capital expenditure performance.

Table 4.2 shows Sydney Water's projection of operating expenditure<sup>36</sup> for the period 2000/01 to 2002/03. The operating expenditure now includes payments to the Catchment Authority for bulk water.

**Table 4.2 Sydney Water's projected operating expenditure<sup>1</sup> (\$ of day, millions)**

Activity	2000/01	2001/02	2002/03
Water <sup>2</sup>	395.6	389.3	401.8
Sewerage	333.6	333.8	336.7
Stormwater	4.2	4.2	4.4
<b>Total</b>	<b>733.4</b>	<b>727.3</b>	<b>742.8</b>

Source: Sydney Water submission, December 1999.

1. Operating expenditure includes estimated savings from the new tax system.
2. Includes costs of bulk water supplied by the Catchment Authority. These costs have been adjusted to reflect IPART projections of water demand and the Catchment Authority's bulk water prices.

Halcrow's review of Sydney Water's operating expenditure found that Sydney Water has a number of strengths:

- it is a technically sound organisation, willing to innovate
- its processes and system tools are generally good
- it is challenging itself and starting to demonstrate progress
- its overall performance is sound.

<sup>36</sup> Operating expenditure excludes depreciation and interest costs.

However, Halcrow's overall view is that Sydney Water has relatively high operating costs. When compared to other water companies in Australia, and in England and Wales, Sydney Water's sewer operating costs per connection are very high. The water operating costs per connection are also high. Sydney Water acknowledges this and has identified that it could reduce operating costs by 23 per cent over the period to 2001/02. It is currently implementing three strategies to reduce costs:

1. A voluntary exit program to reduce staffing numbers by 700 over 1999/00, which represents a 15 per cent reduction. Sydney Water's labour costs are approximately 40 per cent of the total operating budget.
2. The introduction of shared services within the support function.
3. A more efficient operating environment.

Halcrow considers that Sydney Water's operating expenditure target is an appropriate challenge for the three years to 2001/02. But it notes that the reductions Sydney Water achieves in operating costs will be offset by increases in the cost of raw water it now needs to purchase from the Catchment Authority. This means that the net impact of its overall efficiency improvement projection is much lower. Halcrow believes that in addition to the 23 per cent efficiency factor, Sydney Water could achieve a further 2.3 to 3.0 per cent per annum efficiency improvement by the end of the price path. In a recent submission, Sydney Water indicated that it considered a 2 per cent reduction per year on top of the substantial gains of 2001/02 represent a realistic program for improvement.<sup>37</sup>

This 2 per cent is below the lower end of Halcrow's estimated range. After considering Sydney Water's projected operating expenditures and Halcrow's analysis, the Tribunal believes there is scope for Sydney Water to achieve a 3 per cent efficiency saving in its operating expenditure in 2002/03. This is at the high end of range proposed by Halcrow.

Table 4.3 gives the Tribunal's estimate of operating expenditure, compared to Sydney Water's projections. The operating expenditure for 2002/03 represents the effects of applying the Halcrow efficiency factor. The Halcrow efficiencies were not applied to bulk water costs.

**Table 4.3 Projected annual operating expenditure (\$ of day, millions)**

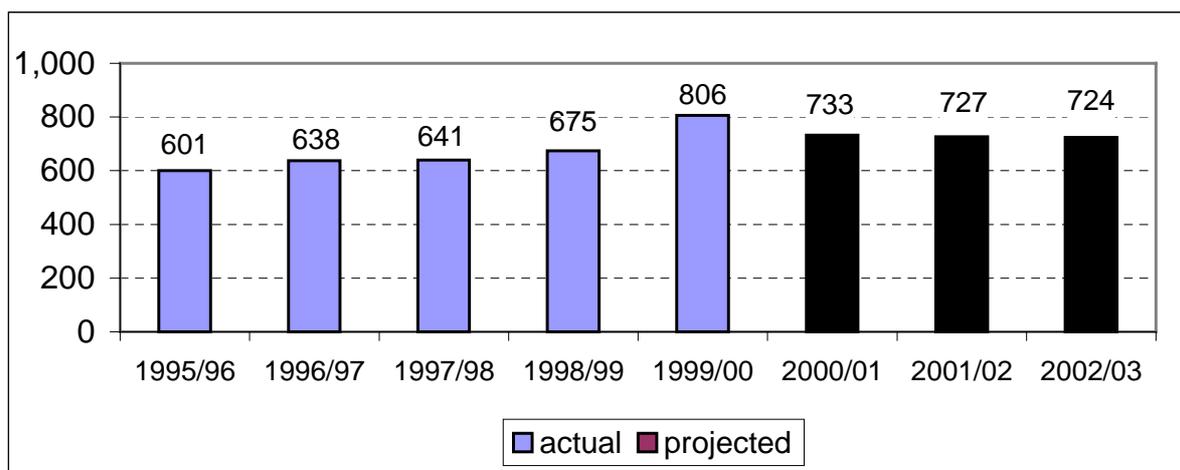
	2000/01	2001/02	2002/03
Sydney Water's proposed operating expenditure <sup>1</sup>	733.4	727.3	742.8
Tribunal's estimate of required operating expenditure	733.4	727.3	724.3

1. Sydney Water submission, December 1999. Operating expenditure includes the new tax system savings.

The following graphs illustrate Sydney Water's historic and forecast operating costs. For the years 2000/01 to 2002/3, the costs have been adjusted for the net impact of the new tax system, the 3 per cent additional efficiency saving the Tribunal believes is possible and costs for water supplied by the Sydney Catchment Authority which align with the Tribunal's determination. Figure 4.3 provides an overview of Sydney Water's actual and projected operating expenditure since 1995/96.

<sup>37</sup> Sydney Water submission, 10 August 2000.

**Figure 4.3 Actual and projected operating expenditure (\$ of day, millions)**

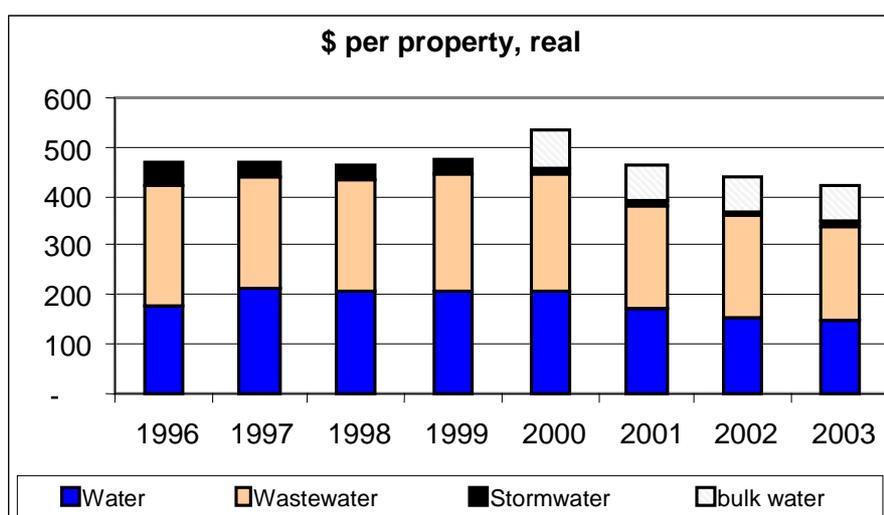


Source: Annual Information Return 1999 for Sydney Water and IPART financial model for Sydney Water.

Figure 4.3 show that Sydney Water’s operating costs increased significantly in 1999/00. This is because the budgeted operating expenditure includes \$66.7m for a voluntary exit program and \$166m in bulk water costs.<sup>38</sup> This illustrates Halcrow’s point that the establishment of the Catchment Authority will offset efficiency gains for Sydney Water.

Despite an increase in operating costs in 1999/00, there should be reductions in both operating costs per property and per kilolitre of water sold in the following years (Figures 4.4 and 4.5).

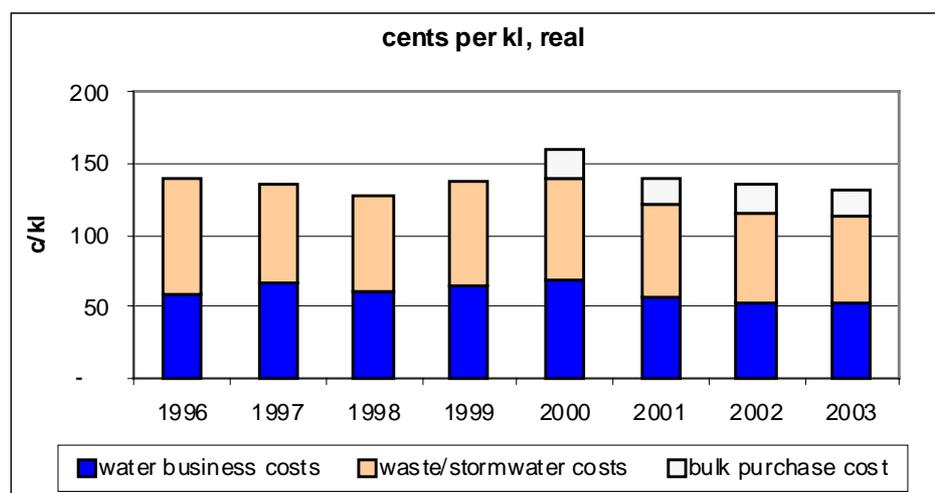
**Figure 4.4 Tribunal’s estimate of Sydney Water’s operating costs per property (adjusted for GST and 3 per cent efficiency saving)**



Source: Annual Information Return 1999 for Sydney Water and IPART financial model for Sydney Water.

<sup>38</sup> Sydney Water pays the Catchment Authority a fixed and a usage charge for bulk water. In 1999/2000, this amounted to \$116m and is included in Sydney Water’s operating expenditure. This increase is less than \$116m as Sydney Water no longer undertakes bulk water supply and catchment management functions, but is more than Sydney Water had been paying. However, there is an offsetting reduction in capital costs as assets valued at \$647m have been transferred to the Catchment Authority.

**Figure 4.5 Tribunal's estimate of Sydney Water's operating costs per kL (adjusted for GST and 3 per cent efficiency saving)**



Source: Annual Information Return 1999 for Sydney Water and IPART financial model for Sydney Water.

#### 4.1.2 GST

The Tribunal has made an explicit adjustment to Sydney Water's costs as a result of the Federal Government's New Tax System. The provision of water and sewerage services is GST-free.<sup>39</sup> This means that the water utilities:

- will not be required to pay GST on their revenue and will not have to increase prices by 10 per cent
- will be able to claim back GST credits on their purchases
- will see decreases in input costs where wholesale sales tax equivalents have been paid, and indirectly as suppliers' costs decrease.

In setting prices from 1 July 2000,<sup>40</sup> the Tribunal considered the impact of the new tax system on Sydney Water's costs. The Tribunal estimated net cost savings of 1.2 per cent of revenue prior to introduction of the new tax system. However, the Tribunal did not reduce charges. Rather it maintained Sydney Water's charges at their pre June 2000 levels. In setting charges from 1 October 2000, the Tribunal has adjusted prices for the net impact of the new tax system package on the utility, and will exclude the economy-wide impact of the package from subsequent price indexation. This approach has the benefit that there will be no 'windfall' loss or gain for the utility and the impact on the consumer will equal the net impact of the GST package on the utility.

<sup>39</sup> Sydney Water has advised the Tribunal that no water, sewerage and drainage charges will require the 10 per cent GST to be charged. Section 38.1 of *A New Tax System (Goods and Services) Act, 1999* indicates that the supply of water, sewerage services and a service that consists of the emptying of a septic tank or draining storm water are GST-free. The ATO has issued a ruling that interprets Section 38. In this ruling, volumetric, service and valuation based charges are GST-free (*Goods and Services Tax Ruling GSTR 2000/25*). However, some trade waste and miscellaneous charges would appear not to be GST-free. Further, on 28 June 2000, the Acting Commonwealth Treasurer made a determination under Section 81.5(2) covering charges affecting Sydney Water that are GST-free (*A New Tax System (Goods and Services Tax) (Exempt Taxes, Fees and Charges) Determination 2000 (No 2)*).

<sup>40</sup> IPART, *Sydney Water Corporation: Prices of water supply, sewerage and drainage services from 1 July 2000, Determination No 6, 2000*, June 2000.

As price regulator, the Tribunal has set in place procedures to help satisfy itself that the effects of the new tax system package are appropriately reflected in prices charged by the utilities it regulates.<sup>41</sup> This is separate to the Australian Competition and Consumer Commission's (ACCC) role on price exploitation under the Trade Practices Act. The utilities regulated by the Tribunal are required to comply with the Tribunal's determination (and its procedures on new tax system compliance) as well as the ACCC's guidelines. The Tribunal's approach to determining the effect of the new tax system is consistent with the ACCC guidelines on price exploitation.<sup>42</sup>

In estimating Sydney Water's operating costs, the Tribunal has considered the various ways the Federal Government's new tax system could affect Sydney Water. These include reduced input costs due to the abolition of wholesale sales taxes, additional compliance costs associated with the new system, a windfall gain associated with the 'spike' in the September quarter consumer price index (CPI) and subsequent impacts on the CPI, and an obligation to charge the 10 per cent GST on some of the services it supplies.

The Tribunal has applied the net cost savings of 1.2 per cent to both capital and operating expenditure. The net cost savings is based on the short term effect forecast by the Econtech model and includes compliance costs.<sup>43</sup>

The maximum charges included in this determination have been made on the basis that the charges are GST-free. In the event that any of the charges listed in this or any other determination do attract GST, the Tribunal has developed an approach for including GST in the maximum prices.<sup>44</sup>

## 4.2 Capital costs

To estimate Sydney Water's capital costs, the Tribunal has established a valuation for the Sydney Water's existing asset base for regulatory purposes—that is, its regulatory asset base. It also considered its rate of return on these assets (return on capital) and depreciation (return of capital).

### 4.2.1 Regulatory asset base

For this determination, the Tribunal has decided to reject Sydney Water's proposed approach to setting the regulatory asset base.<sup>45</sup> The Tribunal has estimated the value of Sydney Water's regulatory asset base as \$5.4b in 1999/00, using an optimised deprival valuation (ODV) approach.

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<sup>41</sup> These procedures include Sydney Water using an economic model devised by Econtech to estimate cost savings and a review by Econtech of the application of the model. The Econtech model has been used widely, including by ACCC and the NSW Treasury, to assess GST impacts.

<sup>42</sup> ACCC, *Price Exploitation and the New Tax System*, second edition, March 2000.

<sup>43</sup> Sydney Water indicated that these costs would be of the order of \$425,000. Sydney Water has also indicated that these costs would be up-front implementation costs and there would be no on-going costs.

<sup>44</sup> This approach is outlined in the Determination.

<sup>45</sup> See Section 2.4 of this report.

According to the ODV approach, three underlying bases need to be considered:

- **Replacement cost**—the cost of replacing the existing assets with identical assets in the same condition (ie after allowing for depreciation). For regulatory purposes, these costs can be optimised by adjusting for technological change and past poor investment decisions (such as bad location). The value so obtained is called the Depreciated Optimised Replacement Cost.
- **Recoverable amount**—the future revenue stream, minus cash operating costs, that the assets will generate. This figure is then adjusted to today's dollars (ie present value) to allow for the time value of money (or interest cost). This is the 'Line in the Sand' (LIS) methodology referred to in previous determinations for Sydney Water and Hunter Water.<sup>46</sup>
- **Net realisable value**—if the assets are surplus to requirement, the value is the price the assets could be sold for in the open market.

Once an amount has been estimated for each of these bases, whichever is higher of the recoverable amount and the net realisable value is considered to be the Economic Value of the assets. Whichever is lower of the Economic Value and the Depreciated Optimised Replacement Cost (DORC) is the Optimised Deprival Value of the assets.

Since in the case of Sydney Water's assets, the DORC is certain to be much higher than the Economic Value,<sup>47</sup> the Tribunal has estimated the value of Sydney Water's assets by using the LIS methodology<sup>48</sup> to determine their Economic Value. This resulted in a regulatory asset value of \$5.4b for 1999/00.<sup>49</sup> The Tribunal will at its next determination consider whether it wishes to continue with this valuation (after adjustment for capital expenditure, inflation and depreciation) or establish a new value at this time.

For financial analysis, the Tribunal has also estimated the value of the asset base for 2001/02 and 2002/03 by rolling forward the 2000/01 regulatory asset base (as described above) from year to year as follows:<sup>50</sup>

- the opening asset base at the start of each year is indexed by the CPI
- projected capital expenditure (excluding capital contributions) is added and indexed<sup>51</sup>
- depreciation and asset disposals are subtracted to obtain the closing asset base.

Attachment 5 provides the components of the regulatory asset base for 2000/01 to 2002/03.

<sup>46</sup> The LIS value is equal to the present value of future free cashflows. For the current determination the LIS value as of the end of 1998/99 was estimated using the actual free cashflow in that year. The free cashflow is actual cash revenue less cash operating costs and renewals expenditure. The opening regulatory base for the regulatory period was obtained by rolling forward the 1998/99 LIS value one year to 1999/00.

<sup>47</sup> Sydney Water values its assets at a written down replacement cost which is comparable to DORC. At the end of 1998/99 Sydney Water valued its assets at \$12.6b (Annual Report).

<sup>48</sup> As the assets are clearly not surplus there is no need to test their net realisable value so the Economic Value is equivalent to the LIS.

<sup>49</sup> The regulatory asset base of \$5.4b includes \$79m of working capital.

<sup>50</sup> The asset roll forward process is discussed in detail in the Tribunal's recent determination for the NSW electricity distributors, *Regulation of NSW Electricity Distribution Networks, Determination and Rules Under the National Electricity Code, IPART*, December 1999, p 53.

<sup>51</sup> Capital expenditure occurs throughout the year. Half the percentage change in CPI (inclusive of the ANTS effects) is used because, on average, the capital expenditure would be incurred half way through the year.

In rolling forward the regulatory asset base, the Tribunal has considered capital expenditure projections for two projects in particular, the Northside Storage Tunnel and backlog sewer projects.

#### *Northside Storage Tunnel*

There has been much concern about the construction of the Northside Storage Tunnel and its cost. Originally estimated to cost \$300m,<sup>52</sup> the current estimate is \$451m.<sup>53</sup> In estimating the regulatory asset base the Tribunal has included the tunnel expenditure. The projected capital expenditure on the tunnel of \$42m<sup>54</sup> in 2000/01 has been included with other forecast capital expenditure. Section 4.3 discusses how the Tribunal has treated capital expenditure over the next three years.

Despite concern over the cost blowout, priorities and processes, the Tribunal has no evidence that the tunnel is an imprudent investment. The cost increases reflect in part the early stage at which the original cost estimates were made. The Audit Office is planning to undertake a comprehensive examination of the costs incurred on the tunnel when the project is nearing completion.<sup>55</sup>

#### *Backlog sewer capital expenditure*

The Tribunal has determined that capital expenditure for completed backlog sewerage projects<sup>56</sup> in Sydney Water's capital expenditure projections be included in the regulatory asset base.<sup>57</sup> However, holding costs have been excluded as backlog sewerage capital expenditure already earns a rate of return.

The Tribunal's 1997 determination on backlog sewerage service found that the backlog areas of the lower Blue Mountains (the Winmalee amplification), Picton, Bundeena and Gerringong were environmentally sensitive and so cost sharing principles should apply.<sup>58</sup> The Tribunal determined that local customers on connection should pay actual costs up to \$3,000 per property and the balance to be recovered from tariff revenue from all customers. The Government subsequently decided to pay the local customer contribution as a Community Service Obligation.<sup>59</sup>

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<sup>52</sup> In 1997 Sydney Water advised the Waterways Advisory Panel that it estimated that the cost of the tunnel would be \$375m. This estimate was revised in January 1998 to \$300m as Sydney Water decided not to proceed with full lining of the tunnel and the construction of conduits, including a sludge pipe.

<sup>53</sup> Correspondence from Sydney Water, 25 February 2000.

<sup>54</sup> Correspondence from Sydney Water, 25 February 2000.

<sup>55</sup> See the *Auditor General's Report to Parliament 1999 Volume Three*.

<sup>56</sup> Backlog sewerage areas are urban areas that have reticulated water services but sewerage services are not yet provided.

<sup>57</sup> After allowing for the amount of the capital cost to be funded from the local customer contribution.

<sup>58</sup> IPART, *Pricing of Backlog Sewerage Services*, Determination 4, 1997, July 1997.

<sup>59</sup> Based on the Tribunal's methodology, Sydney Water has calculated the local customer contribution for the three backlog sewer projects (to be paid by the Government as a Community Service Obligation) as follows:

- Winmalee \$882 per lot
- Picton \$2,569 per lot
- Bundeena/Maianbar \$3,000 per lot.

The balance of the above project costs are to be reflected in the sewerage service charge to all customers.

In its submission, Sydney Water has sought recovery of capital costs<sup>60</sup> (including holding costs ) for 3 backlog sewer projects:

- costs of amplification of the Winmalee treatment plant
- Picton regional sewerage scheme to service the areas of Picton, Thirlmere and Tahmoor
- a sewer system extension linking Bundeena/Maianbar with the Cronulla treatment plant.

The Tribunal has included the backlog sewer projects in the capital expenditure which is then rolled forward into the regulatory asset base. However, the Tribunal has excluded holding costs as a return is already provided for in adding the backlog capital expenditure to the asset base.

#### 4.2.2 Rate of return

The Tribunal considers that as a result of this determination, Sydney Water will achieve an adequate rate of return on its regulatory asset base, given its large capital expenditure program. Table 4.4 shows Sydney Water's rate of return under the Tribunal's financial modelling for the period 2000/01 to 2002/03.

**Table 4.4 Tribunal's estimate of Sydney Water's rate of return per cent (real pre tax)**

	2000/01	2001/02	2002/03
Rate of return	6.5	6.3	6.1

Source: IPART financial model for Sydney Water.

The rate of return a regulated agency receives on its assets is a key element of its overall revenue requirement. Its rate of return multiplied by the value of its underlying asset base determines its dollar return. The Tribunal, therefore, needs to ensure the prices it sets will result in an adequate rate of return for the agency.

<sup>60</sup> Cost recovery is based on the ratio of the number of backlog properties to the total increase in capacity of the refurbished plant.

An adequate rate of return is one that enables the owners of a regulated business to finance its regulated undertakings and obtain reasonable returns in accordance with the risks involved. If the rate of return is too low, the regulated business may face financial difficulties and run short of capital. It would then have to reduce maintenance and capital expenditure to below optimum levels, resulting in lower levels of service and increased costs to customers in the long term. If the rate of return is too high, the business is likely to be charging higher prices, and this could result in it over investing in assets or building up cash.

The rate of return usually reflects a business' cost of capital. The Tribunal has estimated the agencies' likely Weighted Average Cost of Capital (WACC) using a range of underlying parameters,<sup>61</sup> listed in Attachment 6. This resulted in a range of 4.8 per cent to 7.8 per cent on a real, pre-tax basis. For its financial modelling, the Tribunal has used a WACC of 7 per cent (real, pre-tax) for all the agencies. The value of 7 per cent is for a commercial water agency.

The final issue the Tribunal considered in relation to return on assets was working capital. The Tribunal recognises that any business must maintain an investment in working capital to allow it to manage the lag between payments to suppliers and receipts from customers. Because an investment in working capital is a necessary part of conducting the business, it should earn a return similar to investment in physical assets. For financial modelling, the Tribunal has used a nominal return of 7.3 per cent. This approach is consistent with the Tribunal's other recent determinations.

#### **4.2.3 Depreciation**

The Tribunal considered depreciation in estimating Sydney Water's capital costs. It has decided to allow depreciation on the asset base established for regulatory purposes, and to adopt depreciation schedules based on the straight-line depreciation methodology. The Tribunal used an average asset life of about 70 years for existing assets, to depreciate the regulatory asset based for its financial modelling. For new assets, the Tribunal has based depreciation on an average asset life of 90 years.

### **4.3 Capital expenditure**

The Tribunal seeks to ensure that the prices it sets enable regulated agencies to fund prudent and efficient capital expenditure. In considering Sydney Water's proposed capital expenditure, the Tribunal has taken into account Sydney Water's need to meet agreed service standards, as well as future demand. It has also considered the need to discourage over-investing in infrastructure, and the trade-off between capital expenditure, operating expenditure and demand management.

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<sup>61</sup> For financial modelling purposes, the Tribunal has estimated the WACC for the agencies on a commercial basis. The WACC is a weighted average of the agency's cost of debt and equity. The agencies' cost of equity has been estimated using the Capital Asset Pricing Model. A detailed discussion of this methodology may be found in the Tribunal's determination for the NSW electricity distributors, *Regulation of NSW Electricity Distribution Networks, Determination and Rules Under the National Electricity Code*, December 1999.

The Tribunal expects that Sydney Water will achieve increased service standards, particularly for sewerage, through the substantial increase in capital expenditure it has allowed over the next three years. It also expects that existing service standards will be met, including the conditions in Sydney Water's Operating Licence and EPA licences. During 2002/03, the Tribunal will review Sydney Water's capital expenditure and performance in terms of prudence and achieving service standards.

The rest of this section analyses Sydney Water's projected capital expenditure program and reviews its actual capital expenditure over the previous determination period.

#### 4.3.1 Projected capital expenditure

Over the next three years, Sydney Water's total projected capital expenditure increases by 14.8 per cent. Capital expenditure on sewerage infrastructure comprises three-quarters of the total program (Table 4.5). Sydney Water argues that this increase is needed if it is to meet commitments under Waterplan 21.

**Table 4.5 Sydney Water's projected capital expenditure by business activity (\$ of day, millions)**

Activity	2000/01	2001/02	2002/03	Total
Water <sup>1</sup>	85.4	111.8	128.2	325.4
Sewerage	382.3	394.0	416.5	1192.8
Stormwater	17.3	13.1	11.9	42.3
<b>Total</b>	<b>485.0</b>	<b>518.9</b>	<b>556.6</b>	<b>1560.5</b>
Increase	-	7.0%	7.3%	

Source: Annual Information Return 1999 for Sydney Water Corporation,

1. Capital expenditure on bulk water and resource management is now the responsibility of the Catchment Authority.

Table 4.6 lists the main drivers of the projected capital expenditure in terms of standards, renewals and growth. The table shows that the primary factor driving this increase is improved standards – around 60 per cent of Sydney Water's projected capital expenditure relates to standards. Renewals are also a significant driver, accounting for more than 30 per cent of the total projected capital expenditure.

**Table 4.6 Sydney Water's projected capital expenditure by driver (\$ of day, millions)**

Driver	2000/01	2001/02	2002/03	Total
Renewals (replacement and renewal of existing assets to maintain current capacity)	141.3	166.2	187.8	495.3
Standards (expenditure needed to meet new standards or environmental requirements)	315.3	311.3	318.0	944.6
Growth (expenditure to meet the expanding needs of existing and new customers)	28.4	41.4	50.8	120.6
<b>Total</b>	<b>485.0</b>	<b>518.9</b>	<b>556.6</b>	<b>1560.5</b>

Source: Annual Information Return 1999 for Sydney Water Corporation.

Section 3 of this report discussed the Tribunal's expectations in terms of the outcomes of the major capital expenditure projects over the next three years, and their impacts on service standards. The Tribunal will consider the extent to which these outcomes have been achieved at its next review.

The Tribunal has also reviewed the efficiency of Sydney Water's projected capital expenditure program based on the analysis and recommendations made by Halcrow.<sup>62</sup> In general, Halcrow considered that Sydney Water could deliver its proposed service levels for lower capital expenditure. It based this conclusion on a number of factors including program effectiveness, procurement efficiencies and innovation.<sup>63</sup>

Halcrow believes Sydney Water can potentially make efficiency gains ranging between 2.5 per cent and 18 per cent of its projected capital expenditure per annum, as shown in Table 4.7.<sup>64</sup>

**Table 4.7 Potential to reduce capital expenditure through greater efficiency**

Year	2000/01	2001/02	2002/03
Expected efficiency gain	2.5% to 4%	11% to 15%	13% to 18%

Source: Halcrow Management Sciences Ltd, p 53.

The Tribunal believes that it is reasonable to expect Sydney Water to achieve capital efficiency at the highest end of this range. This belief is based on Halcrow's analysis, as well as on:

- Sydney Water's history of underspending on its forecast capital expenditure (see Section 4.3.2)
- the large increase in its projected capital expenditure program (almost 15 per cent over the next three years)
- Sydney Water's revised capital expenditure program (see Table 4.9).

The Tribunal has therefore adjusted Sydney Water's capital expenditure projections in line with this expectation in its financial analysis. It has also adjusted these projections by 1.2 per cent per annum, to reflect Sydney Water's estimated savings as a result of the new tax system (Table 4.8).

<sup>62</sup> For a summary of Halcrow's findings see *New South Wales Water Agencies Review – Summary*, Halcrow Management Sciences Limited, December 1999.

<sup>63</sup> Halcrow Management Sciences Limited, *New South Wales Water Agencies Review – Summary*, December 1999, p 29.

<sup>64</sup> Halcrow's proposed capital efficiency gains for the NSW agencies are comparable with those recently proposed by Ofwat for the UK water authorities, as shown below:

**Capital maintenance expenditure to maintain serviceability to customers of the networks.** A stepped improvement in 2000–01 of between 0 per cent and 11 per cent in addition to 1.4 per cent per year leading to savings in the range 3 per cent – 15 per cent in the period to 2004–05.

**Capital enhancement expenditure to meet new quality and environmental standards.** A stepped improvement in 2000–01 of between 1 per cent and 19 per cent in addition to 2.1 per cent per year leading to savings in the range 7 per cent – 24 per cent in the period to 2004–05.

**Table 4.8 Projected capital expenditure used in the Tribunal's financial analysis  
(\$ of day, millions)**

	2000/01	2001/02	2002/03	Total
Sydney Water's projected capex (Dec 1999)	485.0	518.9	556.6	1,560.5
Projected capex used in Tribunal's analysis	457.5	421.0	422.7	1,301.2

The capital expenditure projections shown in Table 4.8 were subsequently revised by Sydney Water in its submission to the Tribunal in August 2000. The Tribunal's capital expenditure projections over the next three years are \$47.8m (or 3.5 per cent) lower than Sydney Water's revised projections (Table 4.9). The Tribunal believes that Sydney Water can achieve further savings in the capital expenditure program over the next three years, in line with its projections.

**Table 4.9 Sydney Water's revised capital expenditure program compared to capital expenditure used in the Tribunal's financial analysis (\$ of day, millions)**

	2000/01	2001/02	2002/03	Total
Projected capex used in Tribunal's analysis	457.5	421.0	422.7	1,301.2
Sydney Water's revised capex projections <sup>1</sup>	422.4	453.5	473.1	1349.0
Difference	35.1	-32.5	-50.4	-47.8
Difference as percentage of Sydney Water's revised capex	8.3%	-7.2%	-10.7%	-3.5%

1. Sydney Water submission 10 August 2000, p 3. AWT capital expenditure has been excluded.

The Tribunal will review Sydney Water's actual capital expenditure over the period 2000/01 to 2002/03 at the next water pricing review. Only prudent, efficient and appropriate capital expenditure will be added to the capital base. At the same time, it will also conduct a review of Sydney Water's proposed capital expenditure program.

#### 4.3.2 Historic capital expenditure

The Tribunal is concerned about Sydney Water's history of underspending on its capital expenditure forecasts, and the implications this has for meeting service standards and the prices customers have to pay.

In the 1996 determination,<sup>65</sup> Sydney Water projected a \$1.1 billion capital expenditure program for the period 1996/97 to 1999/00. Over this period there was a significant underspend in capital expenditure compared to that projected in 1996 (Table 4.10). The Tribunal notes the underspend in capital expenditure appears to have been used to fund the Northside Storage Tunnel.<sup>66</sup> In 1997, Sydney Water committed itself to fund the tunnel

<sup>65</sup> Independent Pricing and Regulatory Tribunal, *Sydney Water Corporation: Prices of Water Supply, Sewerage and Drainage Services, Medium term price path from 1 July 1996*, June 1996, p 29.

<sup>66</sup> The objective of the Northside Storage Tunnel is to improve the water quality of the middle and lower section of Sydney Harbour and Middle Harbour. The tunnel is to reduce the number of wet weather sewage overflow events occurring at major overflow points at Lanes Cove, Tunks Park, Quakers Hat Bay and Scotts Creek. The overflows would be directed into a tunnel which stores untreated sewage then transported to North Head for treatment before discharge into the deepwater ocean outfall.

through the existing price structure and was confident of delivering environmental and operating standards.<sup>67</sup>

**Table 4.10 Comparison of projected capital expenditure in 1996/97 to actual capital expenditure (\$ of day, millions)**

Activity	1996/97	1997/98	1998/99	1999/00 budget	Total
Actual Capex <sup>1</sup> (excluding Northside Storage tunnel)	141	151	249	310	<b>851</b>
1996 Projected Capex <sup>2</sup>	215	301	335	310	<b>1,161</b>
Difference between Actual and Projected Capex.	<b>- 74</b>	<b>- 150</b>	<b>- 86</b>	<b>0</b>	<b>- 310</b>
Actual Northside tunnel Capex <sup>3</sup>	1	41	160	207	<b>409</b>

- Source
1. Sydney Water Annual Information Returns. The figures for 1999/00 are budget projections from the 1999 Annual Information Return. Figures before July 1999 include capital expenditure on assets now owned by the Catchment Authority.
  2. The projected figures were supplied by Sydney Water for the 1996 medium term price path.
  3. Correspondence from Sydney Water of 25 February 2000.

When expenditure on the Northside Storage Tunnel (which was not included in the capital expenditure projections in the 1996 determination) is excluded from the total actual capital expenditure, Sydney Water has underspent on its 1996 capital expenditure projections by more than 27 per cent over the four-year period. The Tribunal is concerned that the large underspend in capital expenditure projections may lead to a decline in service standards over the longer term.

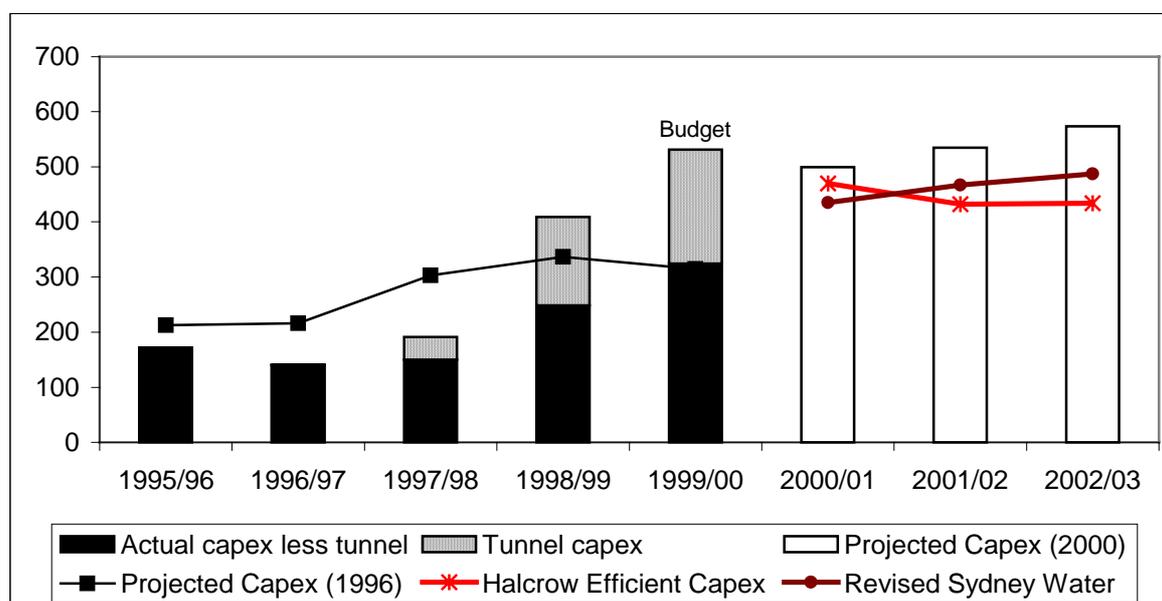
Figure 4.6 provides an overview of Sydney Water's actual and projected capital expenditure from 1995/96.

- The large underspend in capital expenditure over 1995/96 to 1997/98 appears to have been spent on the Northside Storage Tunnel in 1998/99 and 1999/00.
- Over the next three years, there will be a large increase in the capital expenditure program (an average increase of almost \$135m per year compared to the 1996 determination).<sup>68</sup>
- There is only a small difference between the Halcrow efficient capital expenditure, used in the Tribunal's financial analysis, and Sydney Water's revised forecast.

<sup>67</sup> Correspondence from Sydney Water Corporation, 9 July 1997.

<sup>68</sup> The average capital expenditure over the 1996 determination was \$315m per year. Sydney Water's projected average capital expenditure over the next three years is \$450m per year.

**Figure 4.6 Sydney Water's projected and actual capital expenditure 1995/96 to 2000/03 (\$ of day, millions)**



#### 4.4 Dividends and tax equivalents

Sydney Water pays dividends and tax equivalents to the State Government. In the Tribunal's financial modelling, tax equivalents were calculated using the standard corporate tax rate, which is currently 34 per cent and will reduce to 30 per cent in 2001/02. Tax expense was calculated by applying the relevant tax rate to operating profits before tax and capital contributions, and after abnormal items. Further, the depreciation expense excludes, for taxation purposes, the depreciation of contributed assets and capital expenditure funded by means of capital contributions.

In its financial analysis, the Tribunal has assumed that dividends and income tax equivalents are 85 per cent of pre-tax profit, excluding capital contributions (Table 4.11).

**Table 4.11 Projected dividend and income tax equivalent payments<sup>1</sup> used in the Tribunal's financial analysis (\$ of day, millions)**

	2000/01	2001/02	2002/03
Dividend	42	54	67
Tax equivalent	88	105	100

Source: IPART financial model for Sydney Water.

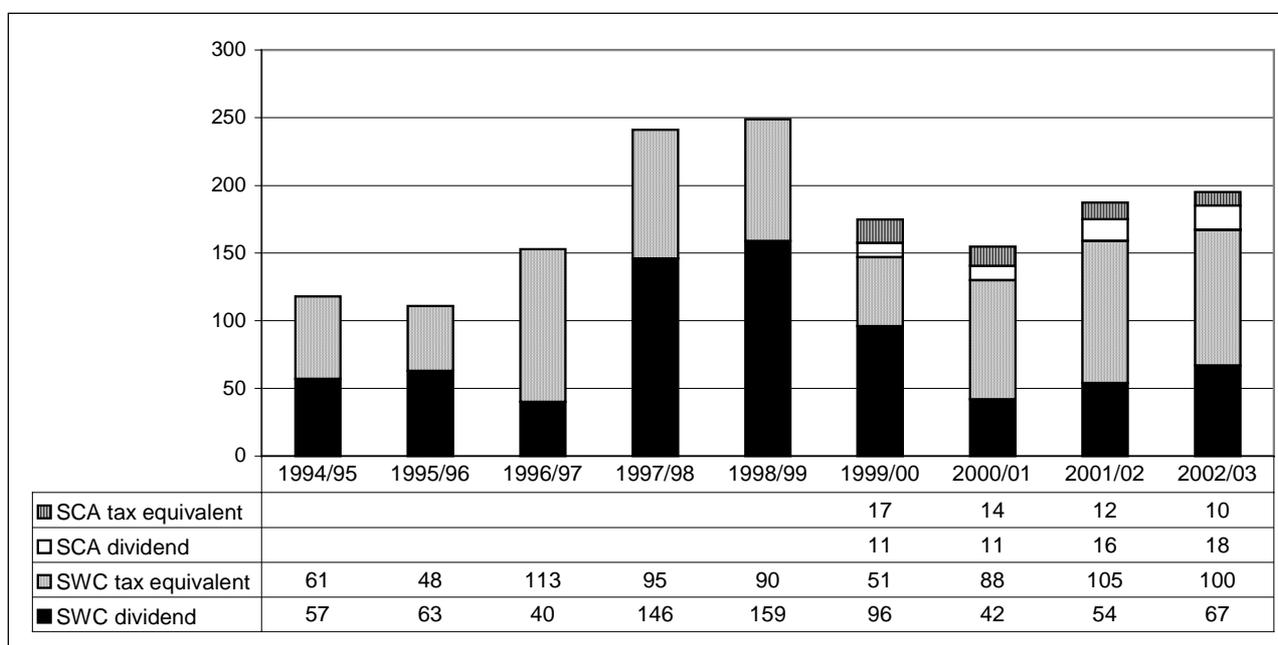
1. The dividends and tax equivalent payments are the declared amounts not the actual cash payment

The Tribunal considers that Sydney Water should be able to meet its dividend and tax equivalent requirements under this determination.

Figure 4.7 shows dividends paid and tax equivalent payments made by Sydney Water to government over the period 1994/95 to 1998/99 (and budgeted figures for 1999/00). It also shows the projected level of dividends and tax equivalents from the Tribunal's financial analysis for Sydney Water and the Catchment Authority for the period 2000/01 to 2002/03. Although dipping in 2000/01, the level of Sydney Water's dividend payments increased substantially in 1997/98 and 1998/99.

The Tribunal believes that the dividends estimated for Sydney Water over the period 2000/01 to 2002/03 maintain the long-term trend in dividends. The Sydney Catchment Authority will also be paying dividends and tax equivalent payments to government. The projected level of dividends for Sydney Water is expected to increase over the three year regulatory period.

**Figure 4.7 Sydney Water's dividend and tax equivalent payments 1994/95 to 2002/03 (\$ of the day, millions)**



Source: The 1994/95 to 1998/99 figures are from Sydney Water Annual Reports. 1999/00 is budget information from Sydney Water. Figures in 2000/01 to 2002/03 for Sydney Water and the Catchment Authority are estimates based from the IPART financial model.

## 4.5 Financial indicators

The final major component of the Tribunal's analysis of Sydney Water's financial needs aimed to ensure that the prices it sets for water and sewerage services will not have a negative impact on Sydney Water's financial capacity or credit rating.

This involved analysing a range of financial indicators which are commonly used by debt rating agency, Standard and Poors, and the NSW Treasury.<sup>69</sup> These indicators were chosen on the basis of relevance, availability of information, and common usage in the financial community. They focus on the agency's financial capacity and ability to service and repay debt. The indicators are guidelines and must be read in that context; a wide range of factors are considered in setting a rating.

This analysis indicates that the prices set in this determination will enable Sydney Water to maintain its financial position and current credit ratings over the next three years (see Table 4.12). For example, it shows that Sydney Water:

- is well able to service its debt (the funds flow interest coverage, which shows how many times funds from operations covers interest payments, improves to an AA rating in 2002/03)
- is in a sound position to repay debt (the funds flow net debt payback indicator remains relatively stable over the determination period).

**Table 4.12 Financial indicators and credit ratings for Sydney Water Corporation**

	1998/99	1999/00	2000/01	2001/02	2002/03
<b>Ability to service debt</b>					
Funds flow interest coverage	2.95	2.61	2.88	3.41	3.50
S&P – US utilities (1995)	A	A	A	AA	AA
Pre-tax interest coverage	1.82	1.28	1.91	2.19	2.22
S&P - US utilities (1995)	BBB	BBB	BBB	BBB	BBB
<b>Ability to repay debt</b>					
Funds flow net debt payback	6.34	9.90	9.41	8.42	7.95
NSW Treasury rating (1994)	A	BBB	BBB	A	A
Funds from operations/total debt	0.12	0.09	0.10	0.12	0.12
S&P - US utilities (1995)	BBB	BB	BBB	BBB	BBB
Total debt/total capital	33%	35%	34%	33%	33%
S&P - US utilities (1995)	AA	AA	AA	AA	AA
<b>Ability to fund capex internally</b>					
Internal financing ratio	19%	14%	29%	50%	55%
S&P - US utilities (1995)	<BB	<BB	BB	BBB	BBB
<b>Net debt or (cash holdings) (\$m)</b>	<b>1,398</b>	<b>1,650</b>	<b>1,915</b>	<b>2,062</b>	<b>2,210</b>

Note: These ratings have been calculated on the basis of NSW Treasury, *Capital Structure Policy for NSW Government Trading Enterprises*, August 1994 and Standard and Poors Debt Rating, *Standard and Poors Corporate Finance Criteria*, 1995.

Although the internal financing ratio indicates that borrowing will be required to fund the capital expenditure program (reflected in the increase in net debt) this is reasonable given Sydney Water's large capital expenditure program over the next three years.

Together, these financial indicators show that the prices set through this determination will generate sufficient cashflow for Sydney Water to comfortably fund its operations, service its debt and meet its capital expenditure forecasts while at the same time maintaining appropriate standards.

<sup>69</sup> In evaluating the credit ratings for Sydney Water, the Tribunal has compared them with ratings corresponding to a business with an 'excellent' risk profile.

For a definition of each of the financial indicators used in the Tribunal's analysis, see Attachment 7.

## 5 MAXIMUM PRICES SET FOR WATER, SEWERAGE AND STORMWATER SERVICES AND IMPLICATIONS FOR CUSTOMERS

In addition to ensuring the prices it sets will enable Sydney Water to meet service standards and remain financially viable, the Tribunal must consider the effect these prices will have on Sydney Water's customers. This section outlines the Tribunal's determination on the maximum prices Sydney Water can charge for water, sewerage and stormwater, and discusses the implications of these determinations on both residential and non-residential customers.

The Tribunal usually sets prices for water, sewerage and stormwater services for a full year. However, as this determination takes effect from 1 October 2000, the prices will only apply to 9 months of the 2000/01 financial year. These prices have been adjusted so that there is no loss of revenue for Sydney Water.

### 5.1 Water charges

Residential and non-residential customers currently pay a water service charge, based on the size of the meter connection to the property, together with a water usage charge.

The Tribunal has determined that in 2000/01 the water service charge will be reduced to \$75 per annum for a 20mm service connection,<sup>70</sup> and will remain fixed throughout the period of the price path. The Tribunal has determined that the maximum water usage charge in 2000/01 will increase to \$0.925 per kilolitre of water. This charge is to be adjusted by CPI-GST-2% over the regulatory period. The Tribunal believes that these decisions will improve the balance between the water service and usage charges.

In making this determination, the Tribunal has rejected Sydney Water's proposal to link water usage charges to the achievement of demand management targets in the Operating Licence. While the Tribunal recognises the importance of demand management, it believes that Sydney Water should focus on non-price demand management strategies. The Tribunal also rejected Sydney Water's proposal for the current water service charge to be maintained in real terms over the period of the determination.

#### 5.1.1 Sydney Water's proposal

Sydney Water proposed that water usage prices be based on achieving the demand management targets in its Operating Licence.<sup>71</sup> It presented two options for increasing water usage charges:

- staged increases as the year on year demand management targets are achieved
- a one-off increase in 2000/01.

It also proposed that the current water service charge of \$80 per annum be maintained in real terms over the period of the price path. Table 5.1 provides a summary of Sydney Water's water pricing proposals.

<sup>70</sup> The water service charge is based on the size of the meter connection to the property.

<sup>71</sup> Section 7.1.2 of this report explains Sydney Water's demand management targets its Operating Licence.

**Table 5.1 Sydney Water's current and proposed water charges (\$ of 1999/00)**

Year	Usage charge (per kL) Option 1 – staged increase	Usage charge (per kL) Option 2 – one off increase	Service charge <sup>1</sup> (per annum)
1999/00 (current)	0.900	0.900	\$80
2000/01	0.900	0.965	\$80
2001/02	0.915	0.965	\$80
2002/03	0.947	0.965	\$80
2003/04	0.965	0.965	\$80

1 The water service charge is based on the size of the meter connection to the property. This charge is calculated for a 20mm connection.

The Tribunal's analysis indicates that the impact of the proposed charges on residential customers would vary depending on the level of consumption. For example, average customers (240kL) would experience an increase of \$40 in their water account by 2002/03, using a staged increase in the water usage charge (Option 1).<sup>72</sup>

### 5.1.2 Tribunal's determination and implications for customers

The Tribunal considers that the impact on customers of Sydney Water's proposal is unacceptable for a number of reasons:

- Sydney Water projects only a small increase in the standards of service provided to its water customers
- Sydney Water proposes reducing its operating costs by 23 per cent through greater efficiencies, but has not reflected this in charges to customers
- bulk water costs will decrease for Sydney Water due to the Tribunal's determination for the Catchment Authority.

The Tribunal has also rejected Sydney Water's proposal to link water usage charges to the achievement of demand management targets. It believes that Sydney Water's proposal creates a perverse incentive for customers – as they reduce water consumption, the water usage charge will increase, which means they would see no financial benefit in decreasing water usage.

#### *Residential customers*

After considering pricing principles, costs of supply and impacts on customers, the Tribunal has set a maximum service charge of \$75<sup>73</sup> and usage charge of \$0.925 per kL for 2000/01. Sydney Water will be able to adjust the usage and service charges for 2001/02 and 2002/03 according to Table 5.2.

<sup>72</sup> An inflation rate of 3 per cent per year was assumed over the period 2000/01 to 2002/03.

<sup>73</sup> For a customer with a 20mm service connection.

Table 5.2 Residential water charges determined by Tribunal<sup>1</sup>

Charge	1999/00	2000/01	2001/02	2002/03
Service charge <sup>2</sup> (per annum)	\$80	\$75	\$75	\$75
Usage charge (Per kL)	\$0.90	\$0.925	$\$0.925 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$0.925 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$

- 1 CPI and **CPI<sup>-GST</sup>** are defined in the Determination attached to this report. **CPI<sup>-GST</sup>** means the CPI exclusive of the net impact of:
- the GST; and
  - changes to any other Commonwealth, State or Territory taxes or charges, consequent upon the introduction of the GST.
- 2 The service charge is calculated for a customer with a 20mm meter connection. The service charge for other customers varies in proportion to the cross-sectional area of the connection.

The Tribunal has limited increases in the water usage charge to  $\text{CPI}^{-\text{GST}} - 2\%$  in 2001/02 and 2002/03, to reflect Sydney Water's proposed operating expenditure efficiency savings. It expects a small increase in the usage charge over the regulatory period.

In addition, the Tribunal has reduced the water service charge by \$5 to \$75 per annum in the 2000/01. This charge is fixed at this level throughout the determination period. In making this decision, the Tribunal aims to increase Sydney Water's reliance on the usage charge. This will improve the balance between the water service and usage charges. The Tribunal took into account the Peak Environment Group Non Government Organisations' (PENGOs) argument that the current level of the service charge may provide a disincentive for customers to reduce water consumption.<sup>74</sup>

The outcomes of these charges for residential customers are shown in Table 5.3 below. In general, they will have only a small impact on the bills of residential water customers over the next three years.

<sup>74</sup> PENGOs submission, February 2000, p 4.

**Table 5.3 Tribunal decision – annual residential water bills by water usage level (\$ of day)**

Water usage (kL per year)	% of Res. Customers	1999/2000	2000/01		2001/02		2002/03	
		Current	Actual	Increase or (decrease)	Actual	Increase or (decrease)	Actual	Increase or (decrease)
Vacant	3	80	20	(60)	0	(80)	0	(80)
<100	5	148	145	(2)	145	(2)	146	(2)
100-150	17	193	191	(1)	192	(1)	193	0
150-200	17	238	237	0	238	1	240	3
200-250	14	283	283	0	285	3	287	5
250-300	11	328	329	1	332	4	334	7
300-400	13	395	398	3	402	7	405	10
400-500	6	485	490	5	495	10	500	15
500-1000	5	755	765	10	776	21	783	28
>1000	0.4	1430	1454	24	1476	46	1490	60

Note: The impact calculated in 2000/01 includes the three month freeze in prices from 1 July to 30 Sept. 2000. The increase or decrease in the water bill was calculated from 1999/00. An inflation rate of 3 per cent per year was assumed over the period 2001/02 to 2002/03. The impact was calculated using the mid-point of water usage, 1500kL was used for >1000kL and 75kL was used for <100kL.

#### *Non-residential customers*

The impact of the Tribunal's decision for non-residential customers will depend on their level of water consumption per year. Those with a service connection of 20mm<sup>75</sup> will be affected in the same way as residential customers (see Table 5.3 above). Almost 50 per cent of Sydney Water's non-residential customers use less than 250kL of water a year, and these customers will experience real reductions in their water charges.

### **5.1.3 Implications for certain customer groups**

#### *Large-Customer Tariff*

The Tribunal has decided not to introduce a large customer tariff for Sydney Water. Instead it will convene a Working Group to look at an appropriate approach for charging Sydney Water's large customers.

In a recent submission to the Tribunal,<sup>76</sup> Sydney Water's reasons for not supporting a large customer tariff included:

- introduction of a large-customer tariff should await resolution of third-party access protocols for the water industry
- lower charges for large customers in low-cost areas would mean increased charges for those in high-cost areas.

<sup>75</sup> Non-residential customers pay a water service charge based on the size of the service connection.

<sup>76</sup> Sydney Water submission, 10 August 2000.

Other stakeholders' views varied considerably. Sydney Water's large industrial customers support a large-customer tariff.<sup>77</sup> PIAC suggests that the Tribunal should require clear evidence of cross subsidies between large and small customers before granting a large customer tariff. The PENGOS oppose a large customer tariff, arguing that it would diminish the resource conservation signal conveyed by usage charges and compromise demand management. Further, they believe such a pricing system would reduce incentives for large-volume users to convert to recycled water.<sup>78</sup>

The Tribunal has considered all these views. It believes that Sydney Water will need to work hard over the next three years to meet the demand management requirements in its Operating Licence. An important component of Sydney Water's strategy is a reduction in consumption by industrial and commercial customers.<sup>79</sup> It would be inappropriate to discount charges to large customers at a time when Sydney Water is encouraging large customers to reduce their water consumption.

The Tribunal has therefore decided not to implement a large customer tariff for Sydney Water at this time. In addition, it believes there is currently insufficient information available from Sydney Water to assess whether the costs of supplying water to large customers are less than the costs of supplying other customers.

The Working Group will be required to assess whether there is a case for differential charging for Sydney Water's large customers and to report on this issue within the next two years. Issues to be considered will include:

- potential for third-party access
- cost differentials between supplying large customers and other customers and whether a large-customer discount is justified
- a possible framework for large-customer contracts
- possible models for large-customer tariffs.

As noted in the Tribunal's June 2000 Issues Paper for Sydney Water, Ofwat<sup>80</sup> recently put forward the following principles in relation to large-customer tariffs:

- unit charges should not be lower for business customers simply because they use a large amount of water
- charges should reflect the lower costs of delivering large quantities of water to a single point of delivery, which does not require the use of all levels of the distribution system
- tariffs should be structured to avoid incentives to waste water.<sup>81</sup>

These principles will be further considered by the Working Group.

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<sup>77</sup> See submission from Caltex et al, 18 April 2000.

<sup>78</sup> PENGOS submission, February 2000, p 8.

<sup>79</sup> Sydney Water Corporation, *Demand Management Strategy*, December 1999, pp 17 and 25.

<sup>80</sup> Ofwat is the regulator of water companies in England and Wales. It has similar pricing responsibilities to the Tribunal.

<sup>81</sup> Ofwat, *1999 – 2000 Report on Tariff Structure and Charges*, p 49.

### *Unmetered properties*

The Tribunal has determined that the process for charging unmetered premises should remain unchanged. There are currently 19,000 unmetered premises in Sydney Water's area of operations. As their level of usage cannot be measured, Sydney Water charges customers without water meters as if they are 'average' users of water. That is, they are charged the standard service charge and a usage charge based on consumption of 250kL per year. Sydney Water proposed continuing this approach.

Retaining the current approach means that some customers who use less than the average amount will pay for more water than they use.<sup>82</sup> This approach gives these customer an incentive to have a meter installed. In addition, Sydney Water has a program of meter installation at no cost to the customer.<sup>83</sup>

In order to encourage water suppliers to install meters, Melbourne water suppliers can only charge customers without meters the fixed component of the tariff. Therefore, the water agency has to decide if the loss of revenue through usage charges outweighs the costs of metering. If a similar system was introduced in Sydney, then Sydney Water would lose approximately \$4.3m per year. Sydney Water argues that under such a system, metered customers would be subsidising unmetered customers, and the latter would have no incentive to install a meter.

The Tribunal considers that the current approach provides customers with an opportunity to consider whether it is in their own interests to request that a meter be installed and so has decided that the pricing structure should be retained.

### *Landlords/tenants*

In the Issues Paper, the Tribunal raised the issue of landlords and tenants. Legally, the owner of the property is the customer of Sydney Water. Under the *Residential Tenancies Act, 1987*, landlords can ask the tenant to pay the usage component of the bill.<sup>84</sup> However, it is the landlord not the tenant that has a customer relationship with Sydney Water.

Despite this, the tenant is often the one who is inconvenienced when a disruption occurs. For example, during the water quality incident in 1998, tenants were required to boil water but rebates were made to the landlord (ie the customer).

The Tribunal has considered this matter on a number of occasions. However, establishing a service provider-customer relationship between Sydney Water and tenants is difficult for a number of reasons, including:

- the need for separate bills to the landlord and the tenant
- provisions within the *Sydney Water Act, 1994* and the customer contract.

The Tribunal recommends that the Government consider the policy implications of establishing a provider-customer relationship between Sydney Water and tenants.

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<sup>82</sup> Mr Caruana submission, February 2000.

<sup>83</sup> Sydney Water has advised that they will only install a meter where existing plumbing arrangements allow a meter to be fitted easily and cost-effectively. There may be significant costs involved in upgrading the pipes within the customer's property. The customer is responsible for these costs.

<sup>84</sup> For a landlord to pass through the usage charges, the *Residential Tenancies Act, 1987* requires that the Tenancy Agreement must include a clause indicating that the tenant is to pay the usage charge.

### *Water used for shipping*

The Tribunal has determined that water supplied to customers to be used for shipping should be charged for at the same rate as for any other customer.

In the past, at some Sydney port facilities, visiting ships have been supplied with water through special meters that did not attract a service charge. Therefore, in previous determinations, Sydney Water had been able to levy a higher than standard usage charge (\$1.15 per kL and no service charge) to recoup the return on, and of, capital components of charging. However, these shipping meters have now been phased out and Sydney Water is able to charge the port facility at standard prices (ie a service and usage charge) for water used.

## **5.2 Sewerage charges**

The Tribunal has decided to increase the sewerage service and usage charges to fund Sydney Water's expanded capital expenditure program to improve service standards for the sewerage system. The Tribunal has also decided to progressively reduce the property-value charge for non-residential properties over a period of three years.

The sewerage service charge for residential and non-residential customers will increase in real terms by 4.7 per cent in 2000/01. In the following two years, this charge will be maintained in real terms.

To minimise the impacts on non-residential customers, the Tribunal decided to stage the removal of the property-based charge and to limit the increase in the sewerage usage charge. The sewerage usage charge will increase to \$1.03 in 2000/01, a real increase of 5.3 per cent. In the following two years, this charge will be maintained in real terms.

Residential customers only pay a sewerage service charge. Non-residential customers currently pay a sewerage service charge, a sewerage usage charge (for discharges greater than 500kL per year) and a property-based valuation charge (for Assessed Annual Value (AAV)<sup>85</sup> greater than \$2,500).

### **5.2.1 Sydney Water's proposal**

Sydney Water proposed a 11.9 per cent real increase in the sewerage service charge in 2000/01 and maintenance of the charge in real terms over the following two years.

For the sewerage usage charge, Sydney Water proposed a real increase of 12.5 per cent in 2000/01 and then in the following two years to maintain this charge in real terms. Sydney Water also proposed to remove the property-based charges for non-residential customers by 2001/02. The reason for increasing the sewerage service and usage charge was to generate revenue for the proposed capital expenditure program and to remove the property-based charges.

Table 5.4 provides a summary of Sydney Water's sewerage pricing proposals.

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<sup>85</sup> Assessed Annual Value is defined by the *Valuation of Land Act 1916*.

**Table 5.4 Sydney Water's proposal for sewerage charges (\$ of 1999/2000)**

	1999/00 current	2000/01	2001/02	2002/03
Sewerage service charge <sup>1</sup> (\$ per year)	290.4	325.0	325.0	325.0
Sewerage usage charge (\$kL)	0.96	1.08	1.08	1.08
Sewerage property-based charge (per quarter) (cents/\$AAV above \$2,500)	0.313	0.235	0	0

<sup>1</sup> based on 20mm sewerage service connection.

### 5.2.2 Tribunal's determination and implications for customers

The Tribunal accepts that over the three years, Sydney Water has a large capital expenditure program to meet environmental standards and to improve the quality of service for customers. However, it considers that Sydney Water's proposed increase of 12 per cent for service and usage charges are too high. For example, such an increase would result in a \$34.50 real increase in residential customer's sewerage bills in 2000/01.

In addition, the EPA has expressed concern that the proposed increase in the sewerage service charge is well in excess of increases in the CPI and may reflect less than ideal planning of capital expenditure.<sup>86</sup>

The Tribunal has therefore decided to increase prices for sewerage services, but by less than was proposed by Sydney Water. It believes this increase will still allow Sydney Water to generate sufficient revenue for the expanded capital expenditure program on the sewerage system (see Section 4.3.1).

After considering pricing principles, costs of supply and impacts on customers, the Tribunal has decided to:

- Increase the sewerage service charge for a residential customer to \$310 in 2000/01. This charge will be maintained in real terms in the following two years. This represents a 4.8 per cent increase (in real terms) over the next three years compared to Sydney Water's proposed 11.9 per cent increase.
- Limit the increase in the sewerage usage charge to \$1.03 in 2000/01 and in the following two years this charge will be maintained in real terms. This represents a 5.3 per cent increase (in real terms) over the next three years compared to Sydney Water's proposed 12.5 per cent increase.
- Progressively reduce the property-based sewerage charge over three years.

Table 5.5 provides a summary of the Tribunal's decision on sewerage charges.

<sup>86</sup> EPA submission, 18 February 2000, p 41.

Table 5.5 Tribunal's determination on sewerage charges<sup>1</sup>

Charge	1999/00	2000/01	2001/02	2002/03
Sewerage service charge <sup>2</sup> (per annum)	290.4	\$310	$\$310 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$310 \times (1 + \text{CPI}_1^{-\text{GST}})$ $\times (1 + \text{CPI}_2^{-\text{GST}})$
Sewerage usage charge (kL)	0.96	\$1.03	$\$1.03 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$1.03 \times (1 + \text{CPI}_1^{-\text{GST}})$ $\times (1 + \text{CPI}_2^{-\text{GST}})$
Sewerage property-based charge (per quarter) (cents/\$AAV above \$2,500)	0.313	0.256	$0.180 \times (1 + \text{CPI}_1^{-\text{GST}})$	$0.090 \times (1 + \text{CPI}_1^{-\text{GST}})$ $\times (1 + \text{CPI}_2^{-\text{GST}})$

- 1 CPI and **CPI<sup>-GST</sup>** are defined in the Determination attached to this report. **CPI<sup>-GST</sup>** means the CPI exclusive of the net impact of:
- the GST; and
  - changes to any other Commonwealth, State or Territory taxes or charges, consequent upon the introduction of the GST.
- 2 The service charge is calculated for a customer with a 20mm meter connection. The service charge for other customers varies in proportion to the cross-sectional area of the connection.

While Sydney Water did not propose a sewerage usage charge for residential customers in this review, it indicated that it will consider these charges in future pricing proposals.<sup>87</sup> The Tribunal acknowledges the support expressed by the PENGOS and EPA for greater reliance on usage charges for sewerage services. However, it has some concerns about the application of usage charges to the household sector.

The pricing of discharges of wastewater is a difficult issue, due to the problems in measuring and assessing costs. Cost reflective pricing requires that the price for each additional kilolitre of sewage discharged reflect the marginal costs of transporting, treating and disposing of the sewage. These costs depend on:

- the volume of wastewater transported and treated
- the type, mass and concentration of pollutants in the wastewater
- the location of the discharge of treated waste and the standards set for discharge at these points
- geographical factors such as the density of development and terrain.

The relative contributions of the volume of wastewater and the pollutant loads to sewerage costs are important elements in the design of pricing structures. For residential customers, discharges are difficult to measure and households have limited opportunities to respond to usage prices. In light of these issues, the Tribunal considers that a uniform access charge for residential customers is the most appropriate option for the next three years.

In future pricing reviews, Sydney Water would need to demonstrate to the Tribunal that usage based charges for residential customers would yield sufficient benefits to outweigh the transitional and administrative costs of changing the price structure, and that the method of assessing discharges is fair.

<sup>87</sup> Sydney Water submission, 20 December 1999, p 52.

*Non-residential customers*

As non-residential customers are a diverse group<sup>88</sup> the impacts of increased sewerage charges will depend largely on the size of the property-based valuation charge. According to the Tribunal's impact analysis the following groups of non-residential customers will experience significant real reductions in their sewerage bills over the next three years due to the removal of the property-based charge:

- major central business district
- small business
- medium business
- major suburban retail complexes
- major city tourist hotels.

Large water-using industries with high property-based charges will experience small real reductions in their sewerage charges over three years. Those industries with low property-based charges will face small real increases in sewerage charges.

### **5.2.3 Implications for certain customer groups**

*Penrith and Hawkesbury*

The Tribunal has decided that Sydney Water may levy charges on customers within the Penrith Sewerage scheme at the same rate as any other sewerage customer.

In 1988 Sydney Water took over a sewerage scheme operated by Penrith Council. At the time, the standard Sydney Water charges were higher than those charged by Penrith Council. In 1993, the Tribunal introduced transitional arrangements for Penrith customers so that charges could not be increased by more than 10 per cent per annum compared to the previous year. However, due to movements in Sydney Water's sewerage charges, the gap between the charges has not been closed for some customers. In view of the time allowed for transition and the administrative cost, Sydney Water now seeks that the remaining Penrith customers be charged standard Sydney Water sewerage charges.

The Tribunal considers that only a small number of customers are affected by the change and these customers have been receiving reduced charges for a number of years.

In 1993, Sydney Water also took over responsibility for Hawkesbury Council's sewerage scheme. However, this scheme reverted to Council in 1996. Therefore, the Tribunal has excluded these charges from the determination.

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<sup>88</sup> Non-residential customers range from corner stores to shopping centres, from small factories to large industrialist, or from suburban offices to city skyscrapers.

### 5.3 Stormwater charges

The Tribunal has decided not to introduce an area-based charge for stormwater services as proposed by Sydney Water. Rather, it has decided to moderately increase the fixed charge and continue to reduce the property-value charge. The Tribunal considers that it is appropriate to provide more revenue than requested by Sydney Water for the provision of stormwater services. In making this decision, it took into account the considerable concern expressed in submissions that Sydney Water is not allocating sufficient capital expenditure to stormwater projects. The Tribunal expects that the additional revenue will be spent on projects identified under the stormwater management planning process (see Section 7.3).

#### 5.3.1 Sydney Water's proposal

Sydney Water proposed to abolish the property-tax component of its non-residential stormwater charges in 2001/02. Area-based charges would then apply from 2001/02 to non-residential properties and residential units and flats (Table 5.9).

**Table 5.9 Sydney Water's proposal for stormwater charges (\$1999/00)**

	1999/00	2000/01	2001/02 <sup>1</sup>	2002/03 <sup>1</sup>
Residential service charge (per annum)	16.0	16.0	27.2	27.2
Non-residential service charge (per annum)	56.8	56.8	27.2	27.2
Property based charge (per quarter) (for AAV > \$2,500) cents/\$AAV	0.313	0.313	0	0

1. The service charge is for flats/units and non-residential properties <1000m<sup>2</sup>. Larger properties will pay proportionately more.

#### 5.3.2 Tribunal's determination and implications for customers

The Tribunal has decided not to accept Sydney Water's proposal to introduce area-based stormwater charges. It considers that this proposal needs to be further developed to ensure that it addresses the matters raised in the Tribunal's stormwater review in 1998.<sup>89</sup> In particular, the proposal did not include adequate information in the following areas:

- Customer impact analysis of the area-based proposal. Sydney Water currently has area-based data for only 54 per cent of non-residential customers.
- The linkage between area-based charges and the impervious area of each property. For example, Sydney Water has not provided details of how to charge properties such as golf courses, which are large in area but of substantially permeable surface.
- Rebates for property owners who provide on-site stormwater management facilities, such as retention basins and stormwater recycling.

<sup>89</sup> IPART, *Review of Sydney Water Corporation's Stormwater Charges and Expenditure*, August 1998.

Sydney Water proposed to fund the projects identified in the Stormwater Management Plans largely through property-based revenue collected in 2000/01. The Tribunal is concerned that as this proposal does not provide a long-term framework to fund stormwater projects beyond the current program, a significant increase in stormwater prices may be required in the future.

Further, in response to a recent Government decision, the Ministry of Energy and Utilities is conducting a review of the policy and funding framework of Sydney Water's stormwater management program.<sup>90</sup> At the same time, the Stormwater Trust is to conduct a review of the Government's stormwater management program. The Tribunal considers it sensible to delay a change in the structure of Sydney Water's stormwater charges until these reviews have been completed.

As a result, the Tribunal has decided to continue with the current stormwater pricing structure and has allowed:

- a moderate increase in the residential and non-residential service charges in real terms over the regulatory period
- a gradual reduction in the property based charge.

The stormwater charges determined by the Tribunal are set out in Table 5.10.

**Table 5.10 Stormwater charges determined by the Tribunal**

	1999/00	2000/01	2001/02	2002/03
Residential service charge (per annum)	16.00	\$19.00	$20.40 \times (1 + \text{CPI}_1^{-\text{GST}})$	$22.40 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
Non-residential service charge (per annum)	56.8	\$60.00	$61.20 \times (1 + \text{CPI}_1^{-\text{GST}})$	$63.20 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
Property-based charge (per quarter) (for AAV > \$2,500) cents/\$AAV	0.313	0.237	$0.163 \times (1 + \text{CPI}_1^{-\text{GST}})$	$0.081 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

Residential and non-residential stormwater customers face a \$2 real increase in fixed charge each year. However, almost eighty percent of non-residential customers will be better off as the property tax reduces over the period.

The Tribunal's decision on stormwater will deliver tariff revenue of around \$15 million per annum on average. This is more revenue than requested by Sydney Water, but around \$5 million less per annum than it received in recent years. The Tribunal recommends that Sydney Water consult with the EPA to assess which stormwater capital expenditure projects should be undertaken with the additional \$4.4 million of revenue per year (see section 7.3).

## 5.4 Overall impacts of the Tribunal's determination

The Tribunal also considered the combined impacts of its determinations on water, sewerage and stormwater services on a range of 'typical' customers of Sydney Water (Table 5.11).

<sup>90</sup> Letter from Ministry of Energy and Utilities of 11 July 2000.

Over the three years of the regulatory period, residential customers will experience a small real increase in their total bill. For an average residential customer, this real increase will be 1.1 per cent. Attachment 8 provides a more detailed analysis of the impacts on total residential bills.

The sample of non-residential customers used in the Tribunal's analysis will all be better off in real terms over the three years. In general, the extent to which non-residential customers will be better off depends on the level of property-based charges. Those customers that currently pay a relatively high level of property-based charges will experience large real reductions in their total bills.

**Table 5.11 Impacts of the Tribunal Determination on Combined Customer Bill for Water, Sewerage and Stormwater (\$2000/01)**

	1999/00 Total bill	2000/01 Total bill	% Change 1999/00 – 2000/01	% Change 1999/00 – 2002/03
<b>Residential Customer (User Category)</b>				
Low (100kL pa)	485	491	1.2	1.7
Average (240kL pa)	614	620	1.0	1.1
High (500kL pa)	852	859	0.8	0.5
<b>Non Residential Customer (User Category)</b>				
Low (100kL pa)	790	708	-10%	-26%
Average (1,700kL pa)	4,263	3,760	-12%	-30%
High (500 000kL pa)	969,402	973,164	0%	-3%

Note: For residential customers a 20mm service was assumed. For non-residential customers the following was assumed: low water use - a 20mm connection and AAV of \$10,000; average water use - a 40 mm connection and AAV of \$50,000; high water use - a 300mm connection and an AAV of \$1,000,000. An 80 per cent discharge factor for non-residential customers. The impact calculated in 2000/01 includes the three month freeze in Sydney Water's prices from 1 July to 30 Sept. 2000.

### *Pensioners*

Pensioner rebates are a matter for Government, not the Tribunal. This Determination does not affect the arrangements Sydney Water has in place with Government to deliver social programs. However, the Tribunal must ensure that pensioners are not adversely affected by changes in water and sewerage charges.

Currently pensioners receive:

- a) a 100 per cent rebate of the water service charge
- b) a 50 per cent rebate of the sewerage and stormwater charges
- c) a transitional rebate of either one third of the usage charge up to 300kL per annum (for water customers only) or \$17 (for water and sewerage customers).

For an average customer, using 240kL per annum, the effect of the Tribunal's determination is shown in Table 5.12. After pensioner rebates, a pensioner with average water usage

would pay \$13 more than currently, but this is less than the \$17.70 that an average non-pensioner would pay.

**Table 5.12 Effect of determination on a pensioner with average water usage (\$ of day)**

Service	Pensioner Rebate	1999/2000		2000/01	
		Before rebate	After rebate	Before rebate	After rebate
Water					
Service charge	100%	\$80.00	\$0.00	\$76.25	\$0.00
Usage charge (240kL pa)		\$216.00	\$216.00	\$220.50	\$220.50
Sewerage	50%	\$290.40	\$145.20	\$305.10	\$152.55
Stormwater	50%	\$16.00	\$8.00	\$18.25	\$9.13
Transitional rebate	\$68		-\$68.00		-\$68.00
<b>Total</b>		<b>\$602.40</b>	<b>\$301.20</b>	<b>\$620.10</b>	<b>\$314.18</b>

Note: The impact calculated in 2000/01 includes the three month freeze in prices from 1 July 2000 to 30 September 2000.

In its submission, Sydney Water sought changes to pensioner rebates.<sup>91,92</sup> For administrative simplicity, it proposed removing the transitional rebate and compensating pensioners by increasing the normal 50 per cent levy to 70 per cent. Sydney Water believes there would not be any negative impacts on pensioner customers. Both PIAC and the Pensioners Association support the proposal.<sup>93</sup>

The Tribunal acknowledges that community service obligations such as pensioner rebates are matters of social policy and therefore are a matter for Government, not the Tribunal. Whether such rebates need to continue is for the Government to decide. However, the Tribunal would be concerned if the value of pensioner rebates were to be eroded.

## 5.5 Vacant and unconnected property charges

The Tribunal has decided to accept Sydney Water's proposal to remove vacant and unconnected property charges for water and sewerage services, as the capital costs of new land developments are now recovered up-front through developer charges. However, it has decided to retain the vacant and unconnected property charges for stormwater.

The Tribunal has previously questioned the appropriateness of the vacant land charge. On the one hand, it may be argued that, regardless of the availability of services, charges should only be levied when services are used. On the other hand, agencies have to supply services for a defined area. In new areas, agencies assume that all properties will eventually connect to the system and, because it is economically more efficient, infrastructure is constructed on that basis. Moreover, the availability of the sewer is a benefit to the owner of the vacant land.

<sup>91</sup> Sydney Water Corporation submission, December 1999, pp 69-70.

<sup>92</sup> In its 1993 determination, the Tribunal recommended that Sydney Water introduce measures for pensioners to ensure a smooth transition to user pays. This was because pensioners had previously not paid the Special Environment Levy would have a sharp increase in charges.

<sup>93</sup> PIAC and Pensioners Association submissions.

The water agencies have for some time recovered the capital costs of infrastructure for new land developments up-front through developer charges. Although the developer charge calculation currently deducts an amount for the potential revenue received from the property, this raises the question as to the extent to which water agencies should continue to rely on vacant land charges.

Sydney Water currently levies charges on 34,000 vacant blocks of land, providing an annual revenue of around \$8m, or 0.7 per cent of core service income.<sup>94</sup> In 1999/2000 the vacant land charges for a property were \$80 for water services, \$172 for sewerage services and \$16 for stormwater services.

In its submission, Sydney Water proposes that vacant and unconnected property charges should cease. The Nature Conservation Council of NSW argued strongly for the removal of fixed charges for water and sewerage services for vacant and unconnected properties.<sup>95</sup>

Hunter Water Corporation has already removed vacant land charges. The Tribunal determined that, for this regulatory period, Gosford and Wyong Councils would retain vacant land charges, but at a reduced level. For the Councils, the Tribunal considered that the removal of the pre-paid water allowance was a significant structural change and the Tribunal will review vacant land charges at the next determination.

The Tribunal has set Sydney Water's maximum charges for vacant and unconnected property for water and sewerage services at zero. However, the Tribunal has decided to retain the vacant and unconnected land charge for stormwater, as this land still contributes to the stormwater problem. The Tribunal has determined that the maximum stormwater charge for vacant and unconnected property is to be the same charge as for residential stormwater services (see Table 5.10).

## 5.6 Rouse Hill charges

The Tribunal has determined that the sewerage buy-in charge is to be abolished. All other Rouse Hill Charges are to increase with CPI-GST-2% over the period of price path.

Rouse Hill development is a large-scale urban development northwest of Sydney, established by a consortium of public and private sector landowners in 1988. Government policy at the time was that Rouse Hill would proceed on the basis of full recovery of costs. Sydney Water now owns and operates these assets.

The Rouse Hill development sought to balance the need for development and environmental protection, particularly of the Hawkesbury-Nepean rivers. The development covers about 13,000 hectares and incorporates water recycling, state-of-the-art wastewater treatment and artificial wetlands for stormwater management.<sup>96</sup>

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<sup>94</sup> Sydney Water Corporation submission, December 1999, p 69.

<sup>95</sup> Nature Conservation Council of NSW submission, 22 August 2000, p 1.

<sup>96</sup> There is a dual water supply system, whereby recycled water is used for toilet flushing and external purposes.

Capital costs for the development have been recovered via developer charges (initially by special agreement and then under the Tribunal's developer charges determination since 1999). Operating costs have been recovered through the charges in the Tribunal's determination for Rouse Hill charges in 1993 and subsequent determinations.

Currently Rouse Hill customers pay:

- the same potable water and sewerage usage and service charges as other Sydney Water customers
- a recycled water usage charge
- the 'Rouse Hill Charge' – an annual fixed charge for drainage services and access to recycled water
- the sewerage 'buy-in charge' – a one off charge for all new landowners to ensure full cost recovery of operating costs.

### 5.6.1 Sydney Water's proposal

Sydney Water proposed to abolish the Rouse Hill sewerage 'buy-in charge' in January 2001 and to maintain, in real terms, the Rouse Hill charges for recycled water and drainage services. The buy-in charge was intended to reflect the increased operating costs associated with the Rouse Hill Sewage Treatment Plant compared with other plants in Sydney. It is currently set at \$1,017 for standard residential property (ie with a 20mm service connection)<sup>97</sup> and is indexed annually.

Sydney Water advised that the buy-in charge is calculated according to a net present value methodology similar to that applied in developer charges. All new developments in the Rouse Hill development have paid developer charges since March 1999. The Rouse Hill developer charges include an offset on the payment of the buy-in charge.

Sydney Water also proposed to continue to apply of the existing Rouse Hill Charge for recycled water<sup>98</sup> (access and usage) and stormwater services, and that these charges be maintained in real terms, as has been the practice since 1996/97.

### 5.6.2 Tribunal's determination and implications for customers

The Tribunal decided to accept Sydney Water's proposal to abolish the sewerage buy-in charge as the same charge can be recovered through the Developer Charges process. The buy-in charge is to be abolished as at 1 October 2000, at which time a new Developer Charges Determination will be in place.

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<sup>97</sup> The charge is proportionately higher based on the size of the service connection.

<sup>98</sup> In the 1993 Determination the Tribunal adjusted the structure of this charge for non-residential properties so that recycled water access charge for properties greater than 1000m<sup>2</sup> related to meter size, rather than property area. This was done in response to representations from Parklea Public School.

The sewerage 'buy-in' charge predates the net present value approach to developer charges. Given the Tribunal's developer charges methodology is now operating, the Tribunal considers that the sewerage buy-in charge adds an unnecessary component to the charges for the Rouse Hill Development. As the charge is paid by developers, it is appropriate that a consistent approach for contributions be used across Sydney Water's service area. Currently, charges to developers in the Rouse Hill area are calculated using the general developer charges methodology. The buy-in charge is included in the calculation of the revenue offset. There should be no effect on developers' total costs from removing the buy-in charge.

The Tribunal also accepted that the existing Rouse Hill Charge associated with recycled water (access and usage) and drainage services should continue to apply. These charges are to be adjusted by CPI-GST-2% for the next three years, in line with other Sydney Water charges. These charges are set out in the Determination.

Rouse Hill is a unique area that has a recycled water system and specific drainage activities. The Tribunal considers that it is appropriate that this area should have a separate charge for recycled water and drainage. The Tribunal has chosen to increase the charges by CPI-GST-2%. This is in line with the Tribunal's decisions for potable water charges.

## 6 MAXIMUM PRICES SET FOR OTHER CHARGES AND IMPLICATIONS FOR CUSTOMERS

This section outlines the Tribunal's determination for Sydney Water's trade waste and miscellaneous charges, and discusses the implications of these charges for customers.

### 6.1 Trade waste

The Tribunal has accepted Sydney Water's proposal for trade waste charges to apply from 1 July 2001. The pricing proposal is cost reflective and is based on the polluter pays principle.

Sydney Water's sewerage charges effectively recover costs associated with treatment and transportation of all domestic strength flows.<sup>99</sup> The Trade Waste charge is intended to recover the costs of treating discharges with concentrations that exceed domestic levels.

Trade Waste revenue is only a minor component Sydney Water's total revenue. In 1999, it represented 5.2 per cent of non-residential tariff revenue and only 1.5 per cent of total tariff revenue. Similarly, trade waste customers are only a minor proportion (7 per cent) of Sydney Water's total customer base. However, trade waste charges provide important incentives for industrial customers to reduce the pollution content of their waste discharges. Thus the structure of trade waste charges has important environmental consequences.

Since the early 1990s Sydney Water's trade waste charges have contained a significant 'pollution tax' element, as tariff revenue has exceeded costs by around \$5m per annum. The introduction of load-based licensing fees on 1 July 1999 has removed the need to include a separate pollution tax in Sydney Water charges. Thus Sydney Water has proposed to decrease trade waste tariffs so they recover administrative and operating costs.<sup>100</sup>

#### 6.1.1 Sydney Water's proposal

In its submission, Sydney Water proposed to reform its trade waste pricing system from 1 July 2001, by:

- replacing the existing concentration-based pricing system with a mass-based system, designed to provide incentives to reduce the total mass of discharges and remove incentives to waste water by diluting concentration of discharges
- adopting a cost-based approach, recovering only those costs associated with administration, transport, treatment and discharge of above domestic strength waste. Charges are to reflect any variation in locational treatment costs
- building in price incentives to stabilise customer discharges of critical substances, and avoid discharges at concentrations exceeding acceptance standards.

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<sup>99</sup> 'Domestic strength' is defined in terms of concentrations of mg/litre of the following substances: suspended solids, biological oxygen demand, grease, ammonia, nitrogen and phosphorous.

<sup>100</sup> Sydney Water's approach to trade waste charging is a marginal cost pricing approach. No return of, or on, capital costs are included in the revenue requirement calculation.

Sydney Water's proposed trade waste charges comprise three elements:

1. fixed component, comprising agreement, application and inspection fees
2. variable component reflecting mass-based quality charges – mainly recovering transport and treatment costs, but also some administration and inspection costs
3. a 'wastesafe' charge to recover costs associated with monitoring, transporting and treating grease trap waste.

Sydney Water advised that its proposed charges will result in a 22 per cent fall in total trade waste revenue from the first year of implementation in 2001/02. This fall in revenue reflects the removal of the pollution tax component from charges. Actual revenue will fall from around \$21.6m to around \$16.8m.

### 6.1.2 Tribunal's determination and implications for customers

The Tribunal has decided to accept Sydney Water's trade waste proposal as it is cost-reflective and embodies the principle of 'polluter pays'.

According to Sydney Water, those facing significant increases under the policy are a small number of high-mass discharging industrial customers. The main beneficiaries of the new trade waste policy will be large volume dischargers of domestic substances and commercial customers producing low mass trade waste.

The PENGOS, in their submission, endorsed the view that "businesses which create the waste should bear the extra cost of treating and discharging waste higher than domestic grade".<sup>101</sup> Sydney Water's proposal embodies this approach.

The Tribunal noted the recommendation contained in the submission from Australian Business that Sydney Water's new trade waste fees should be phased in over a two-year period, because businesses who face significant increases in charges should be given time to adjust.<sup>102</sup> As Sydney Water's new trade waste charges will not apply until 1 July 2001, the second year of the price path, the Tribunal considers that businesses will have adequate time to prepare for the new charges. Further, Sydney Water has advised the Tribunal that it has an ongoing consultation program with Trade Waste customers to gain acceptance of the proposed charging approach. Sydney Water's Trade Waste charges for the next three years are set out in the Determination at the end of this report.

## 6.2 Miscellaneous charges

In addition to water and sewerage charges, Sydney Water levies a range of miscellaneous charges for other related services. The Tribunal has set a maximum fixed price for every miscellaneous charge and these are set out in the Determination at the end of this report. The charges apply for the entire determination period, and no new miscellaneous charges can be introduced.

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<sup>101</sup> PENGOS's submission, February 2000, p 16.

<sup>102</sup> Australian Business submission, February 2000, p 8.

### 6.2.1 Sydney Water's proposed charges

In late 1999, the Tribunal facilitated a Water Miscellaneous Charges Working Group (WMCWG) that included representatives of each agency and stakeholders. This group aimed to review the water agencies' range of miscellaneous charges and to assist them in preparing their proposals.<sup>103</sup> It decided that the agencies would present their proposed charges in terms of the underlying material and labour costs involved, and show the level of overheads recovered.

$$\text{Miscellaneous Charge} = \text{Base Cost} + \text{Direct Material Cost} + \text{Profit Margin}$$

Where: Base cost = [Direct cost of labour (including on costs) + transport + equipment] \* [business unit overheads]

In its submission, Sydney Water based its charges on an underlying labour rate that ranged from \$25.2 to \$45.96. In addition, it included overhead costs of 107 per cent, and a profit margin of 10 per cent. Based on this approach, Sydney Water proposed substantial reductions in several of its charges.

### 6.2.2 Tribunal's determination and its implications for customers

In making its determination, the Tribunal has allowed for overheads of 100 per cent on Sydney Water's underlying labour rates. No profit margin was allowed. It adopted a number of charges that the WMCWG found were common services provided by all the water agencies. It also accepted the conversion of a number of flat fees to time-based charges. The Tribunal has taken into consideration that Sydney Water conducted a process of customer consultation on its proposed charges which indicates that "customers are generally satisfied with current levels of services provided by Sydney Water and have no outstanding concerns with the proposed repackaging of existing miscellaneous services".<sup>104</sup>

Although miscellaneous charges do not collectively account for a material proportion of total revenue from the water and sewerage business, they can be significant for the customer, particularly those on low-incomes. Both PIAC<sup>105</sup> and NCOSS<sup>106</sup> argued that the Tribunal should determine an exhaustive list of charges. PIAC was particularly concerned about the introduction of late payment fees and personal visit fees and argued for common service levels for common charges. PIAC and the PENGOS<sup>107</sup> considered it inappropriate to factor in a profit margin.

In making its decision, the Tribunal took into account these arguments and determined:

- an exhaustive list of miscellaneous charges
- no late payment fees or personal visit fees
- no profit margin in the calculation of the charges.

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<sup>103</sup> The following stakeholders were invited to participate in the WMWCG: Electricity and Water Ombudsman of NSW, Council of Social Services of NSW, PIAC, NSW Department of Community Services, Urban Development Institute of Australia.

<sup>104</sup> Sydney Water's Supplementary submission on Miscellaneous Customer Services, February 2000, p 4.

<sup>105</sup> PIAC submission, March 2000, p 9.

<sup>106</sup> Council of Social Services of NSW submission, March 2000, p 2.

<sup>107</sup> PENGOS submission, February 2000, p 10.

## 7 IMPLICATIONS FOR THE ENVIRONMENT

Over the next three years, the Tribunal expects that Sydney Water will achieve significant environmental gains in terms of improvements in the quality of discharges to natural water systems, a reduction in water consumption through the Demand Management Strategy, and an increase in the level of effluent re-use.

The Tribunal anticipates that Sydney Water's large capital expenditure program (see Section 4.3.1) will translate into improved environmental performance, particularly of the sewerage system. Key elements of this program include maintenance of the sewerage system, sewer overflow abatement and upgrading sewage treatment plants (see section 3.3).

The Tribunal has provided more revenue than requested by Sydney Water for the provision of stormwater services, and recommends that Sydney Water consult with the EPA on how to best spend this additional revenue on projects under the current stormwater management plans. Further, the control and management of stormwater is an important factor in ensuring the effectiveness of Sydney Water's proposed sewer overflow abatement program. For example, stormwater can infiltrate the sewerage system causing the system to overload, releasing raw sewage.

Following recent amendments to the IPART Act and the *Sydney Water Act, 1994*, the Tribunal will become the Licence Regulator for Sydney Water's Operating Licence later this year. It is of great concern to the Tribunal that demand management targets under the Operating Licence may not be achieved. The Tribunal, as the Licence Regulator, will closely monitor Sydney Water's strategies to achieve these targets.

### 7.1 Demand Management

Demand management is an important issue for Sydney Water to ensure that in the future the competing interests of customers and the environment (eg environmental flows in water catchments) can be balanced. The next three years will be critical for Sydney Water in achieving the demand management obligations in the 2000 Operating Licence. The Tribunal believes that Sydney Water's demand management strategy must emphasise non-price initiatives such as leakage reduction, water efficiency and water recycling.

#### 7.1.1 Demand management performance

Sydney Water's original Operating Licence<sup>108</sup> had the following demand management target requirement:

Sydney Water must take action to reduce the quantity of water drawn from all storages on a per capita basis by at least 25% between 1990/91 and the year 2000/01, and by 35% per capita between 1990/91 and 2010/11.<sup>109</sup>

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<sup>108</sup> Sydney Water was granted an Operating Licence in 1995. This licence was reviewed in 1999 and a new licence commenced on 12 April 2000. Amendments to this licence have subsequently been passed by Parliament.

<sup>109</sup> Sydney Water Operating Licence, 1995.

In July 1999, the auditor of the Operating Licence assessed a low level of compliance with this licence condition. The auditor considered that the additional demand management initiatives that Sydney Water has been introducing would not deliver the consumption reductions necessary for compliance with the 2000/01 target.<sup>110</sup>

In July 2000, the licence auditor gave Sydney Water a 'partial compliance' toward meeting the demand management target for 2000/01. The auditor was of the view that the 2000/01 target had been mostly abandoned by Sydney Water in favour of the interim target proposed in the 2000 Operating Licence.<sup>111</sup>

Table 7.1 provides Sydney Water's demand management achievements since 1990/91 and the 1995 Operating Licence target for 2000/01.

**Table 7.1 Sydney Water's water demand management achievements**

	1990/91 Actual	1995 <sup>1</sup> Actual	1996 <sup>2</sup> Actual	1996/97 <sup>2</sup> Actual	Dec 1998 <sup>3</sup> Actual	Dec 1999 <sup>4</sup> Actual	2000/01 Target
Water consumption (litres per capita per day)	503	418	401	425	420	405	377
Reduction from 1990/91 level		16.9%	20.2%	15.5%	16.5%	19.4%	25%

1. 1996 Operational Audit of the Sydney Water Corporation, p 3-30.

2. 1997 Operational Audit of the Sydney Water Corporation, p 37.

3. 1998 Operational Audit of the Sydney Water Corporation, p 55.

4. 1999 Operational Audit of the Sydney Water Corporation, p 60.

Table 7.1 shows that except in 1996 there has been little improvement in demand management since 1995. The significant reduction in water consumption was mainly due to water restrictions which were in place from October 1994 to October 1996.<sup>112</sup>

There are many factors that have influenced the demand for water from 1990/91 including:

- The change in Sydney Water's customer base. For example, industrial water use has been declining due to a shift in Sydney's economic base from heavy industry toward commercial and institutional activity. For residential customers, there have been changes in the housing mix (relatively more medium and high-density), smaller lot sizes and lower average household occupancies.<sup>113</sup>
- Weather, as during dry years water consumption tends to be higher than in wet years.
- Water restrictions directly impact on consumption levels.
- Changes to the water pricing structure.

<sup>110</sup> Licence Regulator, *1998 Operational Audit of the Sydney Water Corporation*, July 1999, p 55.

<sup>111</sup> Licence Regulator, *1999 Operational Audit of the Sydney Water Corporation*, July 2000, p 61.

<sup>112</sup> Licence Regulator, *1999 Operational Audit of the Sydney Water Corporation*, July 2000, p 60.

<sup>113</sup> Sydney Water Corporation, *Demand Management Strategy*, December 1999, p 7 & p 10.

The Tribunal's analysis of water price and consumption data indicates that a 30 per cent increase in the water usage price since 1992/93 has resulted in little variation in average consumption per household.<sup>114</sup> Further, Sydney Water has recently estimated a relatively low demand elasticity for water of -0.2, which means demand is expected to reduce 1 per cent for a 5 cent increase in the water usage price.<sup>115</sup> This suggests that the focus of Sydney Water's demand management should be on non-price strategies such as leakage reduction, water efficiency and water recycling.

### 7.1.2 Demand Management Strategy

In response to the 1998 operational audit, the Minister for Energy and Utilities required Sydney Water to:

... produce a revised Demand Management Strategy that indicates interim yearly demand management reduction aims for the 2000/01 to 2010/11 timeframe. The revised strategy should allow for program modification in response to data on individual program effectiveness.<sup>116</sup>

The EPA is concerned that the demand management measures proposed by Sydney Water may not be sufficient for Sydney Water to meet the targets in the Operating Licence.<sup>117</sup> The Tribunal is also concerned that Sydney Water may not meet these targets.<sup>118</sup>

As Licence Regulator, the Tribunal will monitor Sydney Water's progress in achieving the demand management targets. It will also seek details of how the proposed strategies are expected to achieve the target and to link these strategies to the \$50 million to be spent by Sydney Water on demand management over the next five years.

In the Tribunal's financial analysis it was assumed that Sydney Water would achieve the demand management targets in the Operating Licence (Table 7.2). If Sydney Water does not achieve the level of water demand in Table 7.2, then there will either be a revenue shortfall or windfall gain (see Section 4).

**Table 7.2 Demand management assumptions used in financial model and Operating Licence target**

Year end 30 June	2000	2001	2002	2003	2004
Financial model assumption (lcd) <sup>1</sup>	401	393	385	373	364
Annual % reduction	1% <sup>2</sup>	2%	2%	3%	3%
Operating Licence target (lcd)					364

1. lcd = litres per capita day

2. This is a 1 per cent reduction from the December 1999 figure of 405.

<sup>114</sup> Although the ability of changes in the water usage price to drive down demand may have been limited by the relatively small change in customers total bill over the period.

<sup>115</sup> Sydney Water Corporation, *Demand Management Strategy*, December 1999, p 17.

<sup>116</sup> Sydney Water Corporation, *Demand Management Strategy*, December 1999, p 3.

<sup>117</sup> EPA submission, 18 February 2000, p 41.

<sup>118</sup> Under the 2000 Operating Licence, Sydney Water must take action to reduce the quantity of water it draws from all sources to the following target levels:

- 364 litres per capita per day by 2004/5 (being a reduction of 142 litres per capita per day or 28 per cent from the 1990/91 baseline [506 litres per capita per day])
- 329 litres per capita per day by 2010/2011 (being a reduction of 177 litres per capita per day or 35 per cent from the 1990/91 baseline).

## 7.2 Effluent Re-use

The Tribunal believes that this determination supports increased effluent re-use by Sydney Water. Firstly, the Tribunal has determined a new charge for sewer mining (ie the extraction of wastewater prior to any treatment) at 'zero' or an 'at cost' price.<sup>119</sup> Secondly, the removal of vacant land and unconnected property charges will improve the incentives for those customers who wish to disconnect from sewerage services and install their own environmentally friendly systems. Lastly, Sydney Water's proposed capital expenditure program will provide further opportunities for recycling of effluent. For example, a small re-use plant is to be included at the Cronulla sewage treatment plant and re-use opportunities will be available as part of the Illawarra Wastewater Strategy (such as to BHP Port Kembla).

Effluent re-use is an important component of demand management as re-use reduces the demand for potable water and provides the additional benefit of reducing the volume of effluent discharged to the environment.

In its submission, Sydney Water states that it recycled more treated effluent than any other authority in Australia, with nearly 2 per cent of Sydney's daily water demand being fulfilled by recycled water.<sup>120</sup> However, the EPA and PENGOS are concerned about the small percentage of effluent that is re-used.<sup>121</sup> The EPA also highlights that Sydney Water is unlikely to meet the re-use target in section 27(2) of the *Sydney Water Act, 1994*. This section requires Sydney Water to reduce the volume of effluent discharged to the environment by 58ML by June 2000.

## 7.3 Stormwater

Stormwater management is a major issue in Sydney, Illawarra and Blue Mountains areas. Stormwater collects waste and pollutants before discharging into natural water systems such as rivers, ocean and harbour. It can also enter the sewerage system causing the system to overflow, releasing raw sewage.

In 1998 the Tribunal's review of Sydney Water's stormwater charges and expenditure found that there was considerable disagreement about the extent to which Sydney Water is fulfilling its stormwater responsibilities.<sup>122</sup> The views expressed in submissions to this pricing review suggest the situation has not changed. In particular, these submissions express concern that Sydney Water is not allocating sufficient capital expenditure to stormwater projects.<sup>123</sup>

In 1998, the EPA directed Sydney Water to participate in the preparation of 17 stormwater management plans. These plans are intended to address environmental protection issues including stormwater quality, river flow, riparian vegetation and aquatic habitat

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<sup>119</sup> In the 1996 determination for Sydney Water, the Tribunal indicated that it intended to introduce a new charge for sewer mining, where the initial prices will be set at 'zero' or an 'at cost' charge until re-use increases to 20 per cent of total water use.

<sup>120</sup> Sydney Water submission, December 1999, p 29.

<sup>121</sup> EPA submission, 18 February 2000, p 19.

<sup>122</sup> IPART, *Review of Sydney Water Corporation's Stormwater Charges and Expenditure*, August 1998.

<sup>123</sup> EPA submission, 18 February 2000, pp 37-38; PENGOS submission February 2000, p 14, Wilson and Kiernan submission, February 2000.

management.<sup>124</sup> This process identified 86 projects for Sydney Water to mitigate the environmental impacts of stormwater discharges but Sydney Water has decided to fund only the 'top' 60 projects. The EPA has noted that Sydney Water has decided not to undertake the additional 26 projects due to the "evaluation process, financial considerations and practical feasibility".<sup>125</sup>

The EPA has advised that these 26 stormwater projects would cost a total of \$11.3m.<sup>126</sup> The Tribunal has allowed an additional \$4.4m of revenue per year for stormwater projects.

The focus of Sydney Water's capital expenditure on stormwater has primarily been on engineering infrastructure such as maintaining the existing hydraulic capacity of channels.<sup>127</sup> Kiernan and Wilson argue that Sydney Water does not regard natural systems such as the Botany Water Reserve as stormwater assets.<sup>128</sup> The PENGOS recommend that Sydney Water direct a proportion of stormwater revenue to restoring canals to natural streams.<sup>129</sup>

In 1997, the Waterways Advisory Panel concluded that achieving cost-effective improvements in water quality, stormwater management must become as high a priority as sewage management.<sup>130</sup> As Sydney Water's proposed capital expenditure on the sewerage system over the next three years is large, the Tribunal considers that Sydney Water should undertake stormwater projects to improve that effectiveness of the capital expenditure program on sewer overflows. For example:

- the removal of illegal stormwater connections to the sewerage system to reduce wet weather sewer overflows
- control of stormwater entering the sewerage system through broken pipes and joints to reduce wet weather sewer overflows
- control of sewerage leaking from cracked pipes during dry weather. This will reduce sewerage entering receiving waters via the stormwater system.

This capital expenditure on stormwater should be in addition to the projects identified by the EPA as part of the stormwater management planning process.

In light of the additional stormwater revenue provided under this determination, the Tribunal recommends that:

- Sydney Water consult with the EPA to identify projects under the current stormwater planning process to spend the additional revenue.
- Sydney Water should undertake stormwater projects to improve the effectiveness of the capital expenditure program on sewer overflows.

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<sup>124</sup> EPA web homepage, 'Stormwater Management Planning'.

<sup>125</sup> EPA submission, 18 February 2000, p 37.

<sup>126</sup> Correspondence from EPA, 11 September 2000, p 2.

<sup>127</sup> Correspondence from Sydney Water Corporation, 25 August 2000.

<sup>128</sup> Wilson and Kiernan submission, February 2000, pp 7-8.

<sup>129</sup> PENGOS submission, February 2000, p 14.

<sup>130</sup> Waterways Advisory Panel, *Report to the NSW Government on the Proposal by Sydney Water Corporation for Sewage Overflow Abatement in Sydney Harbour*, August 1997.

## GLOSSARY

AAV	Assessed Annual Value
ACCC	Australian Competition and Consumer Commission
ANZECC	Australian and New Zealand Environment and Conservation Council
ATO	Australian Taxation Office
b	billion
Catchment Authority	Sydney Catchment Authority
CPI	Consumer Price Index
DORC	Depreciated Optimised Replacement Cost
EPA	Environment Protection Authority of NSW
GST	Goods and Services Tax component of A New Tax System
Halcrow	Halcrow Management Science Limited
IPART	Independent Pricing and Regulatory Tribunal
IPART Act	<i>Independent Pricing and Regulatory Tribunal Act, 1992</i>
kL	Kilolitre (1000 litres)
LIS	Line in the Sand
m	million
NCOSS	NSW Council of Social Services
NHMRC	National Health and Medical Research Council
ODV	Optimised Deprivation Valuation
PIAC	Public Interest Advocacy Centre
PENGOs	Peak Environment Non Government Organisations
STP	Sewage treatment plant
Sydney Water	Sydney Water Corporation
Tribunal	Independent Pricing and Regulatory Tribunal
WACC	Weighted Average Cost of Capital
WMCWG	Water Miscellaneous Charges Working Group

## ATTACHMENT 1 LIST OF SUBMISSIONS

### Submissions in relation to the Issues Paper of October 1999

Australian Business  
Australian Council for Infrastructure Development Limited  
Australian Family Alliance  
Caltex Refineries (NSW) Pty Ltd  
Clareville & Bilgola Plateau Residents Assoc.  
Combined Pensioners & Superannuants Association of NSW  
Department of Housing  
Environment Protection Authority  
Fairfield Community Aid  
NSW Council of Social Service  
Olympic Co-ordination Authority  
Peak Environment Non-Government Organisations  
Property Owners' Association of Australia  
Public Interest Advocacy Centre  
Richmond Community Services Inc  
Salvation Army  
Sydney Water Corporation  
The Boat Owners' Association of NSW Inc  
The Master Electroplaters Association of NSW  
Treasury  
Wollongong City Mission Family Support Service

Mr Gaine Cramb  
Mr Brian D Findlay  
Mr Sam Spitzer  
Mr R Wilson & Mr I Kiernan  
Mr Walter Wood

### Submissions in relation to the Issues Paper of June 2000

Burwood Council  
Goulburn City Council  
Nature Conservation Council of NSW  
Property Owners' Association of Australia  
Property Owners' Association of Australia  
Sydney Water Corporation  
Sydney Water Corporation

Mr Salvatore Caruana  
Mr M Desmond  
Mr Walter Wood

## ATTACHMENT 2 PRESENTERS AT PUBLIC HEARING

The list of presenters at the public hearing on 3 March 2000 were:

Mr Alex Walker, Sydney Water Corporation  
Dr Judi Hansen, Sydney Water Corporation  
Mr Matt Cooper, Sydney Water Corporation

Mr Drew Collins, Environment Protection Authority of NSW  
Mr Joe Woodward, Environment Protection Authority of NSW

Mr Wayne Brailey, Department of Housing  
Mr Richard Hunt, Department of Housing  
Mr Donald Proctor, Department of Housing

Mr Bob Wilson

Mr Peter Price, Urban Development Institute of Australia  
Mr Chris Taylor, Landcom  
Mr Ravi Ravindra, Landcom

Mr Jeff Angel, Peak Environment Non-Government Organisations  
Mr Leigh Martin, Peak Environment Non-Government Organisations  
Ms Kathy Ridge, Peak Environment Non-Government Organisations

Mr Jim Wellsmore, Public Interest Advocacy Centre  
Ms Pat Ranald, Public Interest Advocacy Centre

## ATTACHMENT 3 IPART ACT REQUIREMENTS

### Section 15 compliance

Section	Reference
s15(1)(a) the cost of providing the services concerned	The costs of providing water and sewerage services to customers are discussed in <b>Section 4</b> .
s15(1)(b) the protection of consumers from the abuses of monopoly power in terms of prices, pricing policies and standard of services	<b>Sections 5 and 6</b> discuss how the Tribunal has managed the impacts of changes in prices. <b>Section 5</b> also addresses price changes over the regulatory period. In general, the Tribunal has increased prices by CPI-X. However, a number of charges increase at a rate greater than inflation in the first year. These include sewerage charges for which Sydney water has a large capital program to meet standards.
s15(1)(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	<b>Section 4</b> discusses appropriate profit margins, rates of return and dividend payments for Sydney Water.
s15(1)(d) the effect on general price inflation over the medium term	Constraints on the movement of individual tariffs for customers are detailed in <b>Sections 5 and 6</b> . These will ensure that the impact of the Tribunal's determination will have a negligible effect on general price inflation over the medium term.
s15(1)(e) the need for greater efficiency in the supply of service so as to reduce the cost for the benefit of consumers and tax payers	The Tribunal has applied efficiency factors to Sydney Water's operating and capital expenditure projections ( <b>see Section 4</b> ).
s15(1)(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	<b>Section 7</b> discusses issues relating to the environment.
S15(1)(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	<b>Section 4</b> discusses Sydney Water's capital program. In making this determination, the Tribunal has considered Sydney Water's debt servicing potential and scope for dividend payments. Sydney Water will continue to make reasonable dividend payments to government.
s15(1)(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	In <b>Section 4</b> the Tribunal has considered the costs of bulk raw water supplied by the Sydney Catchment Authority and filtration performed under Build Own and Operate (BOO) contracts.
s15(1)(l) the need to promote competition in the supply of the services concerned	The Government has not created any provision for the establishment of competition in the supply of water and sewerage services. In <b>Section 5</b> , the Tribunal has indicated its intention to create a working group to examine large customer tariffs.

Section	Reference
s15(1)(j) consideration of demand management (including levels of demand) and least cost planning	<b>Section 7</b> addresses the impact on demand management practices.
s15(1)(k) the social impact of the determinations and recommendations	<p><b>Sections 5 and 6</b> set the constraints in movements of individual tariffs. In <b>Section 5</b>, the Tribunal considers the impact of charges on residential and non-residential customers as well as a number of specific groups of customers. <b>Section 5</b> also considers the impact on pensioners.</p> <p><b>Section 6</b> outlines the maximum price Sydney water can charge for a limited number of miscellaneous charges.</p>
s15(1)(l) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).	In making this determination, the Tribunal has endeavoured to ensure that the level of service provided to customers is what they pay for. The Tribunal considers that it has determined prices that would ensure that the levels of service are either maintained or increased. In <b>Section 3</b> , the Tribunal discusses how Sydney Water achieved its stated outcomes in the 1996 determination. The Tribunal has also sought quantifiable outcomes for the period to 2002/03.

## Section 16 requirements

The Tribunal is required under Section 16 of the Act to assess and report on the likely annual cost to the Consolidated Fund if the price were not increased to the maximum permitted.

As a result of this Determination, in 2000/01 Sydney Water's revenue will increase about \$30m above the 1999/00 levels. Should tariffs be set below the scheduled levels, the level of dividends remitted to the consolidated fund would fall. The extent to which it falls would depend on Treasury's application of its financial distribution policy and how the change affects pre-tax profit.

The Tribunal's financial model has projected payment of dividends and income tax equivalents at 85 per cent of pre tax profit. Every \$1 decline in pre-tax profit will result in a loss of revenue to the consolidated fund of 85 cents.

## ATTACHMENT 4 WATER SERVICE STANDARDS

### Comparison of water agencies service standards

Standard	Agency	Standards of Service (1999)
Water reliability	Sydney Water Corporation	Not published
	Hunter Water Corporation	Imposition of water restrictions at no less than 10 yearly intervals
	Gosford City Council <sup>1</sup>	Storage capacity sufficient to meet demand without restriction 95% of the time
	Wyong Shire Council <sup>1</sup>	Meet unrestricted demand requirements unless operating under restricted conditions
Water continuity	Sydney Water Corporation	95% of customers will not experience a discontinuity >6hrs (each event)
	Hunter Water Corporation	92% of customers will not experience a discontinuity > 5hrs (cumulative for year)
	Gosford City Council <sup>1</sup>	6 hrs per property. per annum max (unprogrammed) 12 hrs per property per annum max (programmed)
	Wyong Shire Council <sup>1</sup>	Unprogrammed supply disruption per year not to exceed 4 hours per individual property 90% of the time
Supply adequacy	Sydney Water Corporation	98% of customers to receive pressure > 15m at main tap (excluding low pressure areas)
	Hunter Water Corporation	95% of customers to receive pressure > 20m at the service meter (throughout whole of geographic area)
	Gosford City Council <sup>1</sup>	Minimum of 12m head
	Wyong Shire Council <sup>1</sup>	Maintain 15m pressure in distribution mains
Water Quality	Sydney Water Corporation	Meet health related parameters of 1996 NHMRC Drinking Water Guidelines
	Hunter Water Corporation	Meet 1994 draft NHMRC Australian Drinking Water Guidelines in full
	Gosford City Council <sup>1</sup>	Meet 1991 NHMRC Health Guidelines 95% of the time
	Wyong Shire Council <sup>1</sup>	Meet 1996 NHMRC health and quality Drinking Water Guidelines
Sewer Surcharge	Sydney Water Corporation	96% of customers will not experience a surcharge on their property
	Hunter Water Corporation	96% of customers will not experience a surcharge on their property
	Gosford City Council <sup>1</sup>	800 recorded sewage discharges per year
	Wyong Shire Council <sup>1</sup>	Operate sewerage system in a manner consistent with EPA requirements.

1. Internally set standards.

Source: Halcrow Management Sciences Ltd, p 20.

## ATTACHMENT 5 REGULATORY ASSET BASE AND RATE OF RETURN

Financial year ending 30 June	2000	2001	2002	2003
Opening fixed asset value		5,315	5,840	6,318
Plus net capital expenditure <sup>1</sup>		450	397	401
Less depreciation		(78)	(85)	(92)
Less disposals		(11)	(11)	(11)
Plus indexation		164	178	193
Closing fixed asset value	5,315	5,840	6,318	6,809
Working capital (closing balance)	79	82	84	86
Total regulatory asset base	<b>5,394</b>	<b>5,922</b>	<b>6,403</b>	<b>6,896</b>
Operating expenditure	805.7	734.6	728.5	725.2
Depreciation	77.2	78.3	85.2	92.2
Expected return on assets	270.6	366.2	387.2	403.4
Expected revenue <sup>3</sup>	1,153.5	1,179.1	1,201.0	1,220.7
Return on assets (% , real pre-tax) <sup>2</sup>	4.9%	6.5%	6.3%	6.1%

1. Net capital expenditure is capital expenditure net of capital contributions.
2. The return on assets is calculated on the average asset base for the year.
3. Expected revenue is revenue derived from the financial model. There is a small difference between expected revenue and tariff revenue.

Note: Columns may not add due to rounding.

## ATTACHMENT 6 WACC PARAMETERS

Parameter	Value
Nominal risk-free rate	6.41%
Real risk-free rate	3.52%
Inflation	2.79%
Market risk premium	5.0% to 6.0%
Debt margin	0.8% to 1.0%
Debt to total assets	60%
Dividend imputation factor (Gamma)	0.5 to 0.3
Tax rate	30%
Asset Beta	0.30 to 0.45
Equity Beta	0.65 to 1.02
Cost of equity (nominal post tax)	9.7% to 12.5%
Cost of debt (nominal pre tax)	7.2% to 7.4%
WACC (nominal post tax)	6.2% to 7.6%
<b>WACC (real pre tax)<sup>131</sup></b>	<b>4.8% to 7.8%</b>

<sup>131</sup> The lower bound of 4.8 per cent is estimated by applying the so called 'reverse transformation' approach to the lower range of the parameters listed. The upper bound is estimated by applying the 'market' transformation to the upper range of the parameters listed.

## ATTACHMENT 7 FINANCIAL INFORMATION

	1999	Budget 2000	Regulatory period		
			2001	2002	2003
<b>Ability to service debt</b>					
Funds flow interest coverage	2.9	2.6	2.9	3.4	3.5
NSW Treasury (1994)	A	BBB	A	AA	AA
S&P – US Utilities (1995)	A	A	A	AA	AA
Pre-tax interest coverage	1.82	1.28	1.91	2.19	2.22
S&P – US Utilities (1995)	BBB	BBB	BBB	BBB	BBB
<b>Ability to repay debt</b>					
Funds flow net debt payback	6.34	9.90	9.41	8.42	7.95
NSW Treasury (1994)	A	BBB	BBB	A	A
Funds from operations/total debt	0.12	0.09	0.10	0.12	0.12
S&P – US Utilities (1995)	BBB	BB	BBB	BBB	BBB
Total debt/total capital (regulatory value)	33%	35%	34%	33%	33%
S&P – US Utilities (1995)	AA	AA	AA	AA	AA
<b>Ability to fund capex internally</b>					
Internal financing ratio	19	14	29	50	55
NSW Treasury (1994)	<BB	<BB	<BB	BBB	BBB
S&P – US Utilities (1995)	<BB	<BB	BB	BBB	BBB
<b>Funds flow adequacy</b>					
Funds from operations/(dividends + net capex)	0.45	0.30	0.39	0.55	0.60
<b>Net debt</b>					
Total debt less cash, ST and LT investments (\$m)	1,398	1,650	1,915	2,062	2,210
EBIT / total revenue	33%	24%	28%	34%	36%
EBITDA / total revenue	0.47	0.38	0.42	0.48	0.50
EBIT (\$m)	423	307	356	470	515
EBITDA (\$m)	602	486	539	661	714
Profit after tax (\$m)	129	121	113	220	264

Note: These ratings have been calculated on the basis of NSW Treasury, *Capital Structure Policy for NSW Government Trading Enterprises*, August 1994 and Standard and Poors Debt Rating, *Standard and Poors Corporate Finance Criteria*, 1995.

FINANCIAL INDICATORS	GENERAL DESCRIPTION	DEFINITION/COMPONENTS
<b>Funds Flow Interest Coverage</b>	How many times funds from operations covers interest payments	$(\text{Pre-tax funds flow} + \text{net interest}) / \text{net interest}$
<b>Pre-tax Interest Coverage</b>	How many times profit before tax covers interest payments	$(\text{EBIT} - \text{capital contributions}) / \text{net interest}$
<b>Funds Flow Net Debt Pay Back</b>	How many years will it take to payback total debt	Net debt / funds from operations
<b>Funds from operations / total debt</b>	Proportion of funds from operations to total debt	Funds from operations / total debt
<b>Total Debt / Total Capital</b>	Proportion of debt to equity capital	Total Debt / (Total Debt + Total Equity)
<b>Internal Financing Ratio</b>	Funds retained as a proportion of capital expenditure	$(\text{Net cash flow} / \text{net capital expenditure}) \times 100$
<b>Net Debt or (Cash holdings)</b>	The amount of net debt or cash holdings	Total debt – cash – LT&ST investments

Where:

Capital contributions = cash and non-cash contributions of/towards physical assets

Capital expenditure = purchase of property, plant and equipment

Cash holdings = cash + short term investments

EBIT = earnings before (net) interest, tax abnormal items, but after capital contributions

Funds from operations = Profit after tax + depreciation and amortisation – capital contributions + movements in provisions + cost of assets sold + change in working capital – non-cash abnormal items

Net cash flow = funds from operations – dividends paid in year

Net interest = interest payable – interest earnings

Net debt = (total debt – cash – LT&ST investments)

Pre-tax funds flow = funds from operations + tax expense

Total debt = all interest bearing debt

Total equity = retained profits + reserves + share capital

## ATTACHMENT 8 RESIDENTIAL CUSTOMER IMPACTS

### Tribunal decision – total residential bill for water, sewerage and stormwater services by water usage level (\$ of day)

Water usage (kL per year)	% of Res. Customers	1999/2000	2000/01		2001/02		2002/03	
		Current	Actual	Increase	Actual	Increase	Actual	Increase
<100	5	454	469	15	485	31	498	45
100-150	17	499	514	16	532	33	546	47
150-200	17	544	560	16	579	35	593	49
200-250	14	589	606	17	625	37	640	51
250-300	11	634	652	18	672	38	687	53
300-400	13	701	721	20	742	41	758	57
400-500	6	791	813	22	836	44	852	61
500-1000	5	1,061	1,089	27	1,116	55	1,135	74
>1000	0.4	1,736	1,778	41	1,817	80	1,843	107

Note: The increase in the total bill was calculated from 1999/00.

An inflation rate of 3 per cent per year was assumed over the period 2001/02 to 2002/03.

The impact was calculated using the mid-point of water usage, 1500kL was used for >1000kL and 75kL was used for <100kL.

The impact calculated in 2000/01 includes the three month freeze in prices from 1 July to 30 Sept. 2000.

Only 25 per cent of Sydney Water's customers receive stormwater services from Sydney Water.

### Tribunal decision – residential bill for water and sewerage services only by water usage level (\$ of day)

Water usage (kL per year)	% of Res. Customers	1999/2000	2000/01		2001/02		2002/03	
		Current	Actual	Increase	Actual	Increase	Actual	Increase
<100	5	438	450	12	464	26	475	37
100-150	17	483	496	13	511	28	522	39
150-200	17	528	542	14	558	30	569	41
200-250	14	573	588	15	605	32	616	43
250-300	11	618	634	16	651	33	663	45
300-400	13	685	703	18	721	36	734	49
400-500	6	775	795	19	815	39	828	53
500-1000	5	1,045	1,070	25	1,095	50	1,112	66
>1000	0.4	1,720	1,759	39	1,796	75	1,819	99

Note: The increase in the total bill was calculated from 1999/00.

An inflation rate of 3 per cent per year was assumed over the period 2001/02 to 2002/03.

The impact was calculated using the mid-point of water usage, 1500kL was used for >1000kL and 75kL was used for <100kL.

The impact calculated in 2000/01 includes the three month freeze in prices from 1 July to 30 Sept. 2000.





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

# **Determination**

**Under the *Independent Pricing and Regulatory Tribunal Act, 1992***

# **Sydney Water Corporation**

**Determination No 8, 2000  
Reference 99/175**



# 1 Definitions and Interpretation

## 1.1 Definitions

In this Determination:

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

**Blue Mountains septic service** means the service, of pumping out effluent from properties with septic tanks, that the Corporation provides to some properties within the Blue Mountains City Council area proclaimed under the *Local Government Act, 1993*.

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

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

**CPI<sup>-GST</sup>** means the CPI exclusive of the net impact of:

- a) the GST; and
- b) changes to any other Commonwealth, State or Territory taxes or charges, consequent upon the introduction of the GST,

as calculated and published by the Australian Bureau of Statistics from time to time. If the Australian Bureau of Statistics does not, or ceases to, calculate and publish it then CPI<sup>-GST</sup> will mean:

- (i) an index published by Commonwealth Treasury which is its best estimate of the CPI<sup>-GST</sup>; or
- (ii) if Commonwealth Treasury does not, or ceases to, publish an index then an index published by the Reserve Bank of Australia which is its best estimate of CPI<sup>-GST</sup>; or
- (iii) if the Reserve Bank of Australia does not, or ceases to, publish an index, then at the Tribunal's discretion, either:
  - (A) an index published by a person appointed by the Tribunal which is that person's best estimate of CPI<sup>-GST</sup>; or
  - (B) an index published by the Tribunal that is its best estimate of CPI<sup>-GST</sup>.

**CPI<sub>1</sub><sup>-GST</sup>** means the number derived from the application of the following formula:

$$CPI_1^{-GST} = \left( \frac{CPI_{Jun2000}^{-GST} + CPI_{Sep2000}^{-GST} + CPI_{Dec2000}^{-GST} + CPI_{Mar2001}^{-GST}}{CPI_{Jun1999} + CPI_{Sep1999} + CPI_{Dec1999} + CPI_{Mar2000}} - 1 \right) \times 100\%$$

where:

- CPI is as defined and where the corresponding subtext (for example  $_{\text{Jun}2000}$ ) means the CPI for the quarter of the year indicated (in the example, the June quarter for the year 2000);
- $\text{CPI}^{-\text{GST}}$  is as defined and where the corresponding subtext (for example  $_{\text{Dec}2000}$ ) means the  $\text{CPI}^{-\text{GST}}$  of the quarter and the year indicated (in the example, the December quarter for the year 2000).

$\text{CPI}_2^{-\text{GST}}$  means the number derived from the application of the following formula:

$$\text{CPI}_2^{-\text{GST}} = \left( \frac{\text{CPI}_{\text{Jun}2001}^{-\text{GST}} + \text{CPI}_{\text{Sep}2001}^{-\text{GST}} + \text{CPI}_{\text{Dec}2001}^{-\text{GST}} + \text{CPI}_{\text{Mar}2002}^{-\text{GST}}}{\text{CPI}_{\text{Jun}2000} + \text{CPI}_{\text{Sep}2000}^{-\text{GST}} + \text{CPI}_{\text{Dec}2000}^{-\text{GST}} + \text{CPI}_{\text{Mar}2001}^{-\text{GST}}} - 1 \right) \times 100\%$$

where:

- CPI is as defined and where the corresponding subtext (for example  $_{\text{Jun}2000}$ ) means the CPI for the quarter and of the year indicated (in the example the June quarter for the year 2000);
- $\text{CPI}^{-\text{GST}}$  is as defined and where the corresponding subtext (for example  $_{\text{Jun}2001}$ ) means the CPI for the quarter and of the year indicated (in the example, the June quarter for the year 2001).

**Determination** means this determination, including all attachments, tables and documents forming part of or referred to in this determination.

**Discharge factor** for a Non-residential property, is the ratio of the amount of metered water discharged from the property into the Corporation's sewerage system, to the metered water entering the property, expressed as a percentage.

**Exempt property** means land in respect of which the Corporation may not levy service charges under the *Sydney Water Act, 1994*.

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

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

**Inspection fee** means a fee so expressed and payable to the Corporation under a Trade waste agreement.

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

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

**metered Standpipe** means a metered device for connecting to one of the Corporation's fire hydrants to enable water to be extracted.

**Non-residential property** means real property that is not Residential property and is deemed to include a ship.

**Penrith Sewerage Scheme** means the sewerage service previously provided by Penrith City Council that is now operated by the Corporation.

**quarter** means a period of three consecutive months.

**Residential property** means real property used as a principal place of residence.

**Rouse Hill Development Area** means that area in the map bounded by the broken line in Attachment 3 excluding that area described as “Kellyville existing residential area” and the “cemetery”.

**Trade waste agreement** means an agreement that provides for a Trade waste discharge.

**Trade waste discharge** means a discharge by a customer of the Corporation into the Corporation’s sewerage system of any substance which exceeds the concentration and mass usually discharged from a Residential property.

**Trade Waste Policy** means the Corporation’s *Trade Waste Policy and Management Plan* (May 1997) as amended from time to time.

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

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

**Unmetered property** means a Residential property that is connected to a water main or sewer main owned by the Corporation for which there is no meter.

**Vacant or unconnected property** means property which is not connected to a water main or sewer main owned by the Corporation but has available for connection a water main or sewer main.

## 1.2 Interpretation

1.2.1 If there is any inconsistency between this Determination of the Tribunal and a previous determination of the Tribunal, this Determination will prevail to the extent of the inconsistency.

1.2.2 In the interpretation of this Determination a construction that would promote the purpose or object underlying the IPART Act (whether or not that purpose or object is expressly stated in the IPART Act) is to be preferred to a construction that would not promote that purpose or object.

1.2.3 In the event of any uncertainty, the notes in this Determination may be used for interpretation purposes.

1.2.4 The singular includes the plural and vice versa.

## **2 Application of this Determination**

- 2.1 The following services have been declared government monopoly services under the IPART Act:
- (a) water supply services,
  - (b) sewerage services,
  - (c) stormwater drainage services,
  - (d) trade waste services,
  - (e) services supplied in connection with the provision or upgrading of water supply and sewerage facilities for new developments and, if required, drainage facilities for such developments,
  - (f) ancillary and miscellaneous customer services for which no alternative supply exists and which relate to the supply of services of a kind referred to in paragraphs (a) to (e),
  - (g) other water supply, sewerage and drainage services for which no alternative supply exists.

[Note: The Government monopoly services were declared by the Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997, made on 5 February 1997 and published in Gazette No. 18 dated 14 February 1997 at page 558.]

- 2.2 This Determination is made by the Tribunal under the IPART Act.
- 2.3 This Determination applies to the services covered by clause 2.1, except paragraph (e) of that clause.
- 2.4 Subject to paragraph 2.5, the maximum prices or charges listed or calculated in this Determination apply to the Corporation from 1 October 2000 to 30 June 2003, unless otherwise specified.
- 2.5 In this Determination:
- (a) reference to:
    - (i) a period during which a usage charge applies will be deemed to be a reference to that period:
      - (A) in the case of the period 1 October 2000 to 30 June 2001 - commencing on the date of the first meter reading of the Corporation after 1 October 2000;
      - (B) in the case of each of the periods 1 July 2001 to 30 June 2002 and 1 July 2002 to 30 June 2003 - commencing on the date of the first meter reading of the Corporation after 1 July 2001 and 1 July 2002 respectively; and
    - (ii) a usage charge that is to apply during a period will be deemed to be a reference to:
      - (A) in the case of those customers whose meters are read by the Corporation each quarter ("Quarterly Customer" - the usage charge prevailing at the time of the first usage recorded by the meter reading under paragraph (i); and

- (B) in the case of those customers whose meters are read by the Corporation each month (or in the case of a special meter reading) the usage charge that would apply as if:
- (1) the customer were a Quarterly Customer; and
  - (2) their usage occurred in the quarter corresponding to the month the meter reading took place.
- (b) reference to a maximum charge during the relevant period, means a charge for a quarter, a year or per unit as indicated. For example, in Table 1, the maximum charge that may be levied for the quarter 1 July 2001 to 30 September 2001 (for a service connection with a pipe of nominal diameter of 20mm) is \$18.75.
- (c) the water usage charge and water service charge for Unmetered property may be aggregated, and described as an unmetered property charge, in a bill issued by the Corporation.

### 3 Water supply services

The maximum water service charge and water usage charge that may be levied by the Corporation on a Residential property and a Non-residential property is set out in paragraphs 3.1 and 3.2.

#### 3.1 Water service charge

The maximum water service charge that may be levied by the Corporation is the maximum charge for the relevant period and relevant service connection in Table 1, read together with paragraph (a) of that Table.

**Table 1 Quarterly water service charges**

Service connection (nominal diameter of pipe)	Maximum charge per quarter for the period 1 Oct 2000 to 30 June 2003 \$
20mm	18.75
25mm	29.30
30mm	42.19
32mm	48.00
40mm	75.00
50mm	117.19
80mm	300.00
100mm	468.75
150mm	1,054.69
200mm	1,875.00
>200mm	(nominal diameter) <sup>2</sup> x 18.75/400

(a) *Multiple dwellings*

Where a Residential property comprises more than one principal place of residence (for example lots in a strata scheme) the maximum charge that may be levied on each residence is the applicable charge in Table 1 divided by the number of residences within that Residential property.

### 3.1.1 Vacant or unconnected properties

The maximum water service charge that may be levied by the Corporation for Vacant or unconnected property is zero for the period 1 October 2000 to 30 June 2003 inclusive.

### 3.1.2 Unmetered property

The maximum water service charge that may be levied by the Corporation for Unmetered property is to be calculated in accordance with Table 2.

**Table 2 Quarterly Unmetered property charge**

Charge	Maximum charge	Maximum charge	Maximum charge
	1 Oct 2000 to 30 June 2001	1 July 2001 to 30 June 2002	1 July 2002 to 30 June 2003
	\$	\$	\$
Water service (per quarter)	\$18.75	\$18.75	\$18.75

### 3.1.3 Metered Standpipe

The maximum water service charge that may be levied by the Corporation for a metered Standpipe is the charge in Table 1, as if that Table applied to a metered Standpipe.

## 3.2 Water usage charge

### 3.2.1 Filtered water

The maximum water usage charge that may be levied by the Corporation for Filtered water is to be calculated in accordance with Table 3.

**Table 3 Filtered water usage charges**

Charge	Maximum charge	Maximum charge	Maximum charge
	1 Oct 2000 to 30 June 2001	1 July 2001 to 30 June 2002	1 July 2002 to 30 June 2003
	\$	\$	\$
Filtered water (per kilolitre)	\$0.925	$\$0.925 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$0.925 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$

### 3.2.2 Unfiltered water

The maximum water usage charge that may be levied by the Corporation for Unfiltered water is to be calculated in accordance with Table 4.

**Table 4 Unfiltered water usage charges**

Charge	Maximum charge	Maximum charge	Maximum charge
	1 Oct 2000 to 30 June 2001	1 July 2001 to 30 June 2002	1 July 2002 to 30 June 2003
	\$	\$	\$
Unfiltered water (per kilolitre)	\$0.73	$\$0.73 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$0.73 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$

**3.2.3 Unmetered property**

The maximum water usage charge that may be levied by the Corporation for Unmetered property is to be calculated in accordance with Table 5.

**Table 5 Quarterly Unmetered property charge**

Charge	Maximum charge	Maximum charge	Maximum charge
	1 Oct 2000 to 30 June 2001	1 July 2001 to 30 June 2002	1 July 2002 to 30 June 2003
	\$	\$	\$
Water usage (per quarter)	\$57.80	$\$57.80 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$57.80 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$

**3.2.4 Metered standpipe**

The maximum water usage charge that may be levied by the Corporation on a metered Standpipe is the charge in Table 3 as if that Table applied to a metered Standpipe.

**4 Sewerage services**

A Non-residential property may be charged a sewerage service charge, a sewerage usage charge and a property value charge calculated under this Determination. A Residential property may only be charged a sewerage service charge calculated under this Determination.

Properties in the Penrith Sewerage Scheme are to be charged the same as a comparable property in the Corporation's area of operations.

**4.1 Sewerage Service Charge****4.1.1 Residential**

The maximum sewerage service charge that may be levied by the Corporation for a Residential property is to be calculated in accordance with Table 6.

**Table 6 Quarterly Residential sewerage service charge**

Charge	Maximum charge 1 Oct 2000 to 30 June 2001	Maximum charge 1 July 2001 to 30 June 2002	Maximum charge 1 July 2002 to 30 June 2003
Sewerage service (per quarter)	\$77.50	$\$77.50 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$77.50 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

**4.1.2 Non-residential**

The maximum sewerage service charge that may be levied by the Corporation for a Non-residential property with a 100 per cent Discharge factor is the charge corresponding to the relevant service connection in Table 7.

The maximum sewerage service charge that may be levied by the Corporation for a Non-residential property with a Discharge factor less than 100 per cent is the relevant maximum charge in Table 7 multiplied by the applicable Discharge factor for the property.

**Table 7 Quarterly Non-residential sewerage service charges**

Service connection (nominal diameter of pipe)	Maximum charge 1 Oct 2000 to 30 June 2001 \$	Maximum charge 1 July 2001 to 30 June 2002 \$	Maximum charge 1 July 2002 to 30 June 2003 \$
20mm	77.50	$77.50 \times (1 + \text{CPI}_1^{-\text{GST}})$	$77.50 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
25mm	121.09	$121.09 \times (1 + \text{CPI}_1^{-\text{GST}})$	$121.09 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
30mm	174.38	$174.38 \times (1 + \text{CPI}_1^{-\text{GST}})$	$174.38 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
32mm	198.40	$198.40 \times (1 + \text{CPI}_1^{-\text{GST}})$	$198.40 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
40mm	310.00	$310.00 \times (1 + \text{CPI}_1^{-\text{GST}})$	$310.00 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
50mm	484.38	$484.38 \times (1 + \text{CPI}_1^{-\text{GST}})$	$484.38 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
80mm	1240.00	$1,240.00 \times (1 + \text{CPI}_1^{-\text{GST}})$	$1,240.00 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
100mm	1,937.50	$1,937.50 \times (1 + \text{CPI}_1^{-\text{GST}})$	$1,937.50 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
150mm	4,359.38	$4,359.38 \times (1 + \text{CPI}_1^{-\text{GST}})$	$4,359.38 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
200mm	7750.00	$7,750.00 \times (1 + \text{CPI}_1^{-\text{GST}})$	$7,750.00 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
>200mm	$(\text{nominal diameter})^2 \times 77.5/400$	$(\text{nominal diameter})^2 \times 77.5/400 \times (1 + \text{CPI}_1^{-\text{GST}})$	$(\text{nominal diameter})^2 \times 77.5/400 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

### 4.1.3 Vacant or unconnected properties

The maximum sewerage service charge that may be levied by the Corporation for Vacant or unconnected property is zero for the period 1 October 2000 to 30 June 2003 inclusive.

## 4.2 Sewerage Usage Charge

### 4.2.1 Non-residential

The Corporation may levy a sewerage usage charge on Non-residential properties with discharges greater than 500kL per year. The Corporation is to estimate the volume of water discharged into the Corporation's sewerage system.

The maximum sewerage usage charge (based on the volume of water estimated by the Corporation) that may be levied by the Corporation is to be calculated in accordance with Table 8.

**Table 8 Non-residential Sewerage Usage Charges**

Charge	Maximum charge 1 Oct 2000 to 30 June 2001 \$	Maximum charge 1 July 2001 to 30 June 2002 \$	Maximum charge 1 July 2002 to 30 June 2003 \$
Sewerage usage (per kL) above 500kL	\$1.03	\$1.03 x (1 + CPI <sub>1</sub> <sup>-GST</sup> )	\$1.03 x (1 + CPI <sub>1</sub> <sup>-GST</sup> ) x (1 + CPI <sub>2</sub> <sup>-GST</sup> )

A non-residential property with Trade waste discharges is subject also to trade waste charges under paragraph 7 below.

## 4.3 Sewerage charge based on property value

### 4.3.1 Non-residential

A property value based sewerage charge may only be levied by the Corporation on a Non-residential property. This charge applies in addition to the sewerage service charge set out in Table 7.

The maximum property valuation-based sewerage charge that may be levied by the Corporation for a Non-residential property (where AAV exceeds \$2,500) is to be calculated in accordance with Table 9.

**Table 9 Quarterly Sewerage property valuation-based charges**

Charge	Maximum charge 1 Oct 2000 to 30 June 2001 \$	Maximum charge 1 July 2001 to 30 June 2002 \$	Maximum charge 1 July 2002 to 30 June 2003 \$
Property value charge (AAV above \$2,500)	0.256 cents/\$AAV	0.180 cents/\$AAV x (1+CPI <sub>1</sub> <sup>-GST</sup> )	0.090 cents/\$AAV x (1+CPI <sub>1</sub> <sup>-GST</sup> ) x (1+ CPI <sub>2</sub> <sup>-GST</sup> )

## 4.4 Other sewerage services

### 4.4.1 Blue Mountains septic service charges

The maximum charge for the period 1 October 2000 to 30 June 2001 that may be levied by the Corporation in connection with a Blue Mountains septic service comprises both a septic service charge and a septic usage charge calculated in accordance with Table 10.

**Table 10 Quarterly Blue Mountains septic service and usage charges  
1 October 2000 to 30 June 2001**

Charge	1 Oct 2000 to 30 June 2001
Septic service charge (per quarter)	\$89.70
Septic usage charges (per kL)	
First tier for each kilolitre of discharge between 80 to 100 kilolitres per year	\$8.15
Second tier for each kilolitre of discharge over 100 kilolitres per year	\$16.30

The maximum charge that may be levied by the Corporation for the period 1 July 2001 to 30 June 2003 in connection with a Blue Mountains septic service comprises both a septic service charge and a septic usage charge calculated in accordance with Table 11.

**Table 11 Quarterly Blue Mountains septic charges in 2000/02 and 2002/03**

Charge	Maximum charge 1 July 2001 to 30 June 2002 \$	Maximum charge 1 July 2002 to 30 June 2003 \$
Septic service charge (per quarter)	$\$89.70 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$89.70 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$
Septic usage charges (per kL)	Relevant charge in Table 10 $\times (1 + \text{CPI}_1^{-\text{GST}})$	Relevant charge in Table 10 $\times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

### 4.4.2 Exempt properties

The maximum charge for sewer services rendered that may be levied by the Corporation for Exempt property is to be calculated in accordance with Table 12.

**Table 12 Exempt property charges**

Charge	Maximum charge 1 Oct 2000 to 30 June 2001	Maximum charge 1 July 2001 to 30 June 2002	Maximum charge 1 July 2002 to 30 June 2003
Per water closet or urinal closet (per quarter)	\$18	$\$18 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$18 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

#### 4.4.3 Sewer mining

The maximum charge that may be levied by the Corporation for the extraction of wastewater from its sewerage system prior to treatment is zero. The Corporation may charge for the cost of supplying additional services to enable wastewater extraction on an at cost basis.

## 5 Stormwater drainage services

### 5.1 Residential

The maximum stormwater service charge that may be levied by the Corporation for a Residential property is to be calculated in accordance with Table 13.

**Table 13 Quarterly Residential stormwater service charges**

	Maximum charge 1 Oct 2000 to 30 June 2001	Maximum charge 1 July 2001 to 30 June 2002	Maximum charge 1 July 2002 to 30 June 2003
Stormwater service charge	\$4.75	$\$5.10 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$5.60 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

#### 5.1.1 Vacant or unconnected properties

The maximum stormwater service charge that may be levied by the Corporation for Vacant or unconnected property (whether that property is a Residential property or Non-residential property) is to be calculated in accordance with Table 13.

### 5.2 Non-residential

Non-residential properties are charged a stormwater service charge and a stormwater property value based charge.

#### 5.2.1 Service charge

The maximum stormwater service charge that may be levied by the Corporation for a Non-residential property is to be calculated in accordance with Table 14.

**Table 14 Quarterly Non-residential stormwater service charge**

	Maximum charge 1 Oct 2000 to 30 June 2001	Maximum charge 1 July 2001 to 30 June 2002	Maximum charge 1 July 2002 to 30 June 2003
Stormwater service charge	\$15.00	$\$15.30 \times (1 + \text{CPI}_1^{-\text{GST}})$	$\$15.80 \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

## 5.2.2 Stormwater charge based on property value

For the period 1 October 2000 to 30 June 2003, the maximum stormwater valuation-based charge that may be levied by the Corporation for a Non-residential property (where AAV exceeds \$2,500) is to be calculated in accordance with Table 15.

**Table 15 Quarterly Stormwater property valuation based charges**

Charge	Maximum charge 1 Oct 2000 to 30 June 2001	Maximum charge 1 July 2001 to 30 June 2002	Maximum charge 1 July 2002 to 30 June 2003
Property based charge AAV above \$2,500	0.237 cents/AAV	0.163 cents/\$AAV x (1+CPI <sub>1</sub> <sup>-GST</sup> )	0.081 cents/\$AAV x (1+CPI <sub>1</sub> <sup>-GST</sup> ) x (1+ CPI <sub>2</sub> <sup>-GST</sup> )

## 6 Rouse Hill development area

The following charges apply to the Rouse Hill Development Area in addition to the water and sewerage charges that apply to that area.

### 6.1 Recycled Water Usage Charge

The maximum recycled water usage charge that may be levied by the Corporation for the Rouse Hill Development Area is to be calculated in accordance with Table 16.

**Table 16 Recycled water usage charge**

Charge	Maximum charge 1 Oct 2000 to 30 June 2001 \$	Maximum charge 1 July 2001 to 30 June 2002 \$	Maximum charge 1 July 2002 to 30 June 2003 \$
Recycled water usage charge (per kL)	\$0.27	\$0.27 x (1+CPI <sub>1</sub> <sup>-GST</sup> - 2%)	\$0.27 x (1+CPI <sub>1</sub> <sup>-GST</sup> -2%) x (1+ CPI <sub>2</sub> <sup>-GST</sup> -2%)

### 6.2 River Management Charges

#### 6.2.1 Residential property

The maximum river management charge that may be levied by the Corporation for drainage and access to recycled water for a Residential property in the Rouse Hill Development Area for the period 1 October 2000 to 30 June 2001 is to be calculated in accordance with Table 17.

**Table 17 Quarterly Residential River Management Charges**

	1 Oct 2000 to 30 June 2001
Drainage (per quarter)	\$24.50
Access to Recycled Water (per quarter)	\$5.75

The maximum river management charges that may be levied by the Corporation for drainage and access to recycled water for a Residential property in the Rouse Hill Development Area for the period 1 July 2001 to 30 June 2003 is to be calculated in accordance with Table 18.

**Table 18 Quarterly Residential River Management Charges**

Charge	1 July 2001 to 30 June 2002	1 July 2002 to 30 June 2003
Drainage (per quarter)	$\$24.50 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$24.50 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$
Access to Recycled Water (per quarter)	$\$5.75 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$5.75 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$

### 6.2.2 Non-residential property

The maximum quarterly river management charges that may be levied by the Corporation for drainage and access to recycled water for a Non-residential property in the Rouse Hill Development Area for the period 1 October 2000 to 30 June 2001 is to be calculated in accordance with Table 19.

**Table 19 Quarterly Non-residential River Management Charges**

Charge	1 October 2000 to 30 June 2001
Drainage base charge (land area $\leq 1000\text{m}^2$ ) (\$/quarter)*	\$24.50
Access to Recycled Water (\$/quarter) (nominal diameter of pipe)	
20mm	\$5.75
25mm	\$8.98
30mm	\$12.94
32mm	\$14.72
40mm	\$23.00
50mm	\$35.94
80mm	\$92.00
100mm	\$143.75
150mm	\$323.44
200mm	\$575.00
250mm	\$898.44
300mm	\$1,293.75
> 300mm	$(\text{nominal diameter})^2 \times 5.75/400$

\* For land area greater than  $1000\text{m}^2$  the drainage charge is the drainage base charge in Table 19 multiplied by the land area in  $\text{m}^2$  divided by 1000. For example, if the land area is  $3,200\text{m}^2$  the drainage charge is 3.2 times the Drainage base charge.

The maximum quarterly river management charge that may be levied by the Corporation for drainage and access to recycled water for a Non-residential property in the Rouse Hill Development Area for the period 1 July 2001 to 30 June 2003 is to be calculated in accordance with Table 20.

**Table 20 Quarterly Non-residential River Management Charges in 2001/02 and 2002/03**

Charge	2001/02	2002/03
Drainage base charge (land area ≤ 1000m <sup>2</sup> ) (per quarter)**	$\$24.50 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	$\$24.50 \times (1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$
Access to Recycled Water	Relevant charge in Table 19 x $(1 + \text{CPI}_1^{-\text{GST}} - 2\%)$	Relevant charge in Table 19 x $(1 + \text{CPI}_1^{-\text{GST}} - 2\%) \times (1 + \text{CPI}_2^{-\text{GST}} - 2\%)$

\*\* For land area greater than 1000m<sup>2</sup> the drainage charge is the drainage base charge in Table 20 multiplied by the land area in m<sup>2</sup> divided by 1000. For example, if the land area is 3,200 m<sup>2</sup> the drainage charge is 3.2 times the Drainage base charge.

## 7 Trade waste services

For the period 1 October 2000 to 30 June 2001, the maximum charge that may be levied by the Corporation for trade waste services and Inspection fees will be the charge listed in an applicable Trade Waste Agreement current as at 30 September 2000.

For the period 1 July 2001 to 30 June 2003, the maximum trade waste charge and Inspection Fees that may be included by the Corporation in a Trade waste agreement, levied and recovered by the Corporation are the charges set out in Attachment 1, adjusted in accordance with Table 21.

**Table 21 Trade waste charges**

Maximum charge 1 Oct 2000 to 30 June 2001 \$	Maximum charge 1 July 2001 to 30 June 2002 \$	Maximum charge 1 July 2002 to 30 June 2003 \$
Current charges as per the Trade Waste Policy	Relevant charge in Attachment 1 x $(1.019)^* \times (1 + \text{CPI}_1^{-\text{GST}})$	Relevant charge in Attachment 1 x $(1.019) \times (1 + \text{CPI}_1^{-\text{GST}}) \times (1 + \text{CPI}_2^{-\text{GST}})$

[Note: \* This number was determined by applying the following formula:

$$\left( \frac{\text{CPI}_{\text{Jun}1999} + \text{CPI}_{\text{Sep}1999} + \text{CPI}_{\text{Dec}1999} + \text{CPI}_{\text{Mar}2000}}{\text{CPI}_{\text{Jun}1998} + \text{CPI}_{\text{Sep}1998} + \text{CPI}_{\text{Dec}1998} + \text{CPI}_{\text{Mar}1999}} - 1 \right) \times 100\%$$

= **1.9%**

"CPI" is as defined in paragraph 1.1 and where the corresponding subtext (for example <sub>Jun1999</sub>) means the CPI for the quarter of the year indicated (in the example, the June quarter for the year 1999).]

## **8 Ancillary and miscellaneous customer services**

For the period 1 October 2000 to 30 June 2003 inclusive, the maximum charge that may be levied by the Corporation for miscellaneous services are those charges set out in Attachment 2, without adjustment for inflation.

## **9 Consistency of determination with the new tax system**

This Tribunal's determination of the above charges has been made on the basis that those charges are free of the impact of the GST.

If any charge in this Determination is or becomes subject to the GST, it will be amended so that the maximum charge that may be levied is the charge determined in accordance with the formula:

$$\text{Charge}^{+\text{GST}} = \text{Charge} \times (1 + \text{Y})$$

Where:

**Charge**<sup>+GST</sup> means the charge calculated under this section

**Charge** means the relevant charge expressed or calculated under this Determination

**Y** means the amount defined in *A New Tax System (Goods and Services Tax) Act, 1999*, as the GST payable per dollar of taxable supply.

## Attachment 1 Trade waste charges

**Sydney Water Trade Waste Charges to apply from 1 July 2001 to 30 June 2003  
(All charges are expressed in 1999/2000 dollars.)**

The terms used in this attachment are as defined in Sydney water's Trade Waste Policy.

**Table A1 Agreement and Inspection Fees**

<b>Industrial</b>		<b>Commercial</b>	
<b>Agreement Fees</b>		<b>Agreement Fees</b>	
Risk Index 1	\$4,625 per quarter	First process	\$15 quarter
Risk Index 2	\$4,175 per quarter	Each additional process	\$ 5 quarter
Risk Index 3	\$1,950 per quarter		
Risk Index 4	\$1,100 per quarter		
Risk Index 5	\$425 per quarter		
Risk Index 6	\$150 per quarter		
Risk Index 7	\$100 per quarter		
<b>Industrial Inspection</b>		<b>Commercial Inspection</b>	
\$60/hour (1 Sydney Water Representative) or \$120/hour (2 Sydney Water Representatives) minimum increment \$30		\$60/hour (1 Sydney Water Representative) or \$120/hour (2 Sydney Water Representatives) minimum increment \$30	
Application fee	\$200	Application fee	No Charge
Variation	\$240	Variation	No Charge
<b>Wastesafe charges</b>		\$0.093 per litre	
<b>Product authorisation / assessment</b>		\$180 per application plus \$60 per hour (\$30 increments)	
<b>Sale of trade waste data</b>		\$60 per hour	

**Table A2 Sydney Water Trade Waste Quality Charges for Domestic Substance Charges in 2001/02 to 2002/03 (\$/kg)**

<b>Substance</b>	<b>Charge (\$1999/00)</b>
Suspended Solids	0.64
BOD Inland (@ 600 mg/L)	0.515
BOD Ocean (@ 600 mg/L)	0.105
Grease and Oil	0.90
Ammonia	1.50
Nitrogen (inland only)	0.13
Phosphorous (inland only)	1.00

**Table A3 Sydney Water Quality Charges for Non-Domestic Substances in 2001/02 and 2002/03**

<b>Substance</b>	<b>Total Charge (\$/kg)</b>
Acid demand, pH > 10	0.50
Alkali demand, pH < 7	0.50
Aluminium	0.50
Arsenic	50.00
Barium	25.00
Boron	0.50
Bromine	10.00
Cadmium	235.00
Chlorinated Phenolics (incl. Penta-chloro-phenol)	1,000.00
Chlorine	1.00
Chromium	16.50
Cobalt	10.00
Copper	10.00
Cyanide	50.00
Fluoride	2.50
Formaldehyde	1.00
Generic Pesticides (excl OC and OP)	500.00
Herbicides and Defoliants	500.00
Iron	1.00
Lead	25.00
Lithium (Rouse Hill only)	5.00
Manganese	5.00
Mercaptans	50.00
Mercury	1,650.00
Methyl Blue Active Substances	0.50
Molybdenum	0.50
Nickel	16.50
Organoarsenic Compounds	500.00
Petroleum Hydrocarbons (non-flammable)	1.65
Phenolic compounds (non-chlorinated)	5.00
Poly.Aromatic Hydrocarbons	10.00
Selenium	35.00
Silver	10.00
Sulphate (@ 450 mg/L)	0.023
Sulphide	10.00
Sulphite	1.00
Thiosulphate	0.18
Tin	5.00
Total Chlorinated Hydrocarbons	25.00
Uranium	5.00
Zinc	10.00

**Notes:**

Trade waste quality charges for large industrial customers are based on measured kilograms per substance. Sydney Water calculates the mass discharged by multiplying the volume discharged by the concentration. The volume discharged is determined using a trade wastewater discharge meter. The concentration of each substance is determined by sampling and analysis.

For most commercial customers and small industrial customers it is neither practical nor affordable for customers' discharge streams to be flow measured and sampled. For this reason Sydney Water determines an assessed charge for each commercial trade waste discharging process and each small industrial customer. Commercial processes are assessed by sampling of a representative sample of businesses from a particular process.

Table A4 lists the commercial process codes and corresponding assessed charges.

**Table A4 Annual Quality Charges - Assessed Commercial Processes 2001/02 and 2002/03 (\$1999/2000)**

Process	With pre-treatment		Without pre-treatment	
	Primary	Secondary/ Tertiary	Primary	Secondary/ Tertiary
Cafeteria	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Canteen	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Take-Away Food – Hot Food	\$0.55 / kL \$162	\$1.14 / kL \$333	\$7.01 / kL assess flow	\$9.99 / kL assess flow
Snack Bar - Coffee Lounge - Hot Foods	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Restaurant	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Caterer Retail / Commercial Kitchen	\$0.55 / kL	\$1.14 / kL	\$7.01 / kL	\$9.99 / kL
Fried Chicken average (BOD <2000)	\$0.10 / kL \$108	\$0.38 / kL \$416	\$1.00 / kL	\$3.80 / kL
Fried Chicken average (BOD >2000)	\$1.30 / kL \$1044	\$2.09 / kL \$1678	N/a	N/a
Hamburger Restaurant	\$0.55 / kL \$715	\$1.14 / kL \$1460	N/a	N/a
Pizza Restaurant	\$0.78 / kL \$256	\$1.30 / kL \$427	N/a	N/a
Function Centre	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Delicatessen (with hot food)	\$0.55 / kL \$162	\$1.14 / kL \$333	\$7.01 / kL assess flow	\$9.99 / kL assess flow
Kitchen Commercial / Caterers Retail	\$0.55 / kL	\$1.14 / kL	\$7.01 / kL	\$9.99 / kL
Kitchen (Hospital, Nursing Home)	\$0.55 / kL \$2.21 / seat or bed	\$1.14 / kL \$4.57 / seat or bed	\$7.01 / kL \$28.05 / seat or bed	\$9.99 / kL \$39.98 /seat or bed
Kitchen – School (hot meals served)	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Kitchen Hotel/Motel	\$0.55 / kL \$2.21 / seat	\$1.14 / kL \$4.57 / seat	\$7.01 / kL \$28.05 /seat	\$9.99 / kL \$39.98 /seat
Ice cream parlour	\$2.70 / kL \$98	\$4.07 / kL \$149	N/a	N/a
Butcher – retail	\$0.42 / kL \$50	\$0.54 / kL \$60	\$0.75 / kL assess flow	\$1.17 / kL assess flow
Fish (Fresh Outlets) No Cooking	\$0.50 / kL \$127	\$1.48 / kL \$380	N/a	N/a
Chicken (Fresh Retail) No Cooking	\$0.55 / kL \$160	\$1.14 / kL \$420	\$7.01 / kL assess flow	\$9.99 / kL assess flow
Smallgoods < 12kL/Day	\$0.10 / kL	\$0.22 / kL	\$0.35 / kL	\$0.48 / kL
Wholesale butcher < 12 kL/day	\$0.10 / kL	\$0.22 / kL	\$0.35 / kL	\$0.48 / kL
Bakery Retail - Pies - Sausage Rolls	\$0.09 / kL \$50	\$0.41 /kL \$106	N/a	N/a
Bakery, Retail – Hot Bread, Cakes (no pies, no sausage rolls)	\$0.79 / kL \$50	\$1.91 / kL \$70	N/a	N/a

**Table A4 Annual Quality Charges - Assessed Commercial Processes 2001/02 and 2002/03 (\$1999/2000) (Continued)**

Process	With pre-treatment		Without pre-treatment	
	Primary	Secondary/ Tertiary	Primary	Secondary/ Tertiary
Screen Printing	\$50	\$50	N/a	N/a
Spray Painting Booth	\$50	\$50	N/a	N/a
Mechanical Workshop	\$0.10 / kL \$50	\$0.41 / kL \$74	N/a	N/a
Ceramic & Pottery	\$0.64 / kL \$210	\$0.64 / kL \$210	N/a	N/a
Stoneworking	\$1.55 / kL \$1072	\$1.55 / kL \$1072	N/a	N/a
Morgue	\$50	\$50	N/a	N/a
Panel Beating & Spray Painting	\$50	\$50	N/a	N/a
Car Detailer	\$0.30 / kL \$297	\$0.60 / kL \$588	N/a	N/a
Vehicle Wash – Gerni, Hand Wash, Engine Wash	\$0.12 / kL \$104	\$0.12 / kL \$104	N/a	N/a
Vehicle Wash – mechanical	\$50	\$50	N/a	N/a
Service Station (no mechanical workshop)	\$50	\$50	N/a	N/a
Laundromat	\$50	\$50	N/a	N/a
Commercial laundry	\$50	\$50	N/a	N/a
Cooling tower – commercial	\$50	\$50	N/a	N/a
Equipment washing	\$1.52 / kL \$500	\$2.47 / kL \$810	N/a	N/a
Portable toilet waste	\$50	\$50	N/a	N/a
Ship to shore Pumpout	Sewer Usage Charge + \$0.61 / kL	Sewer Usage Charge + \$0.61 / kL	N/a	N/a
Waterless Minilab – With SRU 14	\$93 / unit up to 4 units	\$93 / unit up to 4 units	N/a	N/a
Waterless Minilab - transported offsite 15	\$70 / unit up to 4 units	\$70 / unit up to 4 units		
Waterwash Minilab - With SRU 16	\$156 / unit up to 4 units	\$156 / unit up to 4 units		
Waterwash Minilab – transported offsite 17	\$50 up to 4 units	\$50 up to 4 units		
Xray - With SRU 18	\$123 per 100 x-rays/day or part thereof	\$123 per 100 x-rays/day or part thereof		
Xray – Silver rich transported offsite 19	\$50	\$50		
Graphic Arts Film – With SRU 20	\$140 per 10m <sup>2</sup> film/day or part thereof	\$140 per 10m <sup>2</sup> film/day or part thereof		
Graphic Arts Film – Ag Rich Transported 21	\$50 per 10m <sup>2</sup> film/day or part thereof	\$50 per 10m <sup>2</sup> film/day or part thereof		

**Annual Quality Charges - Assessed Commercial Processes 2001/02 and 2002/03  
(\$1999/2000) (Continued)**

	With pre-treatment		Without pre-treatment	
	Primary	Secondary/ Tertiary	Primary	Secondary/ Tertiary
*Photo Outlab - With SRU 22	\$0.55 / kL *May be Industrial	\$0.55 / kL *May be Industrial		
*Photo Outlab – Ag Rich Transported 23	\$0.07 / kL min \$50	\$0.07 / kL min \$50		
Professional Lab – With SRU 24	\$0.55 / kL *May be Industrial	\$0.55 / kL *May be Industrial		
Professional Lab – Ag Rich Transported 25	\$0.07 / kL min \$50	\$0.07 / kL min \$50		
Wholesale Lab – With SRU 26	\$0.55 / kL *May be Industrial	\$0.55 / kL *May be Industrial		
Wholesale Lab – Transported offsite 27	\$0.03 / kL	\$0.03 / kL		
Microfilm Processing – With SRU 28	\$202	\$202		
Microfilm Processing- Transported 29	\$69	\$69		
Dental Hospital – With SRU 30	\$187	\$187		
Dental Hospital - Ag Rich Transported 31	\$50	\$50		
Educational Institution – B&W Only 32	\$50	\$450		
Beautician	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Carpet Cleaners-Mobile	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Community Hall (minimal hot food)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Day Care	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Delicatessen (no hot food)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Dental Surgery	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Dental Technician	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Doctors Surgery	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Dry Cleaners	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Florist	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Fruit and Vegetable Retail	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Funeral Parlour	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Hairdresser	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists

**Annual Quality Charges - Assessed Commercial Processes 2001/02 and 2002/03  
(\$1999/2000) (Continued)**

	With pre-treatment		Without pre-treatment	
	Primary	Secondary/ Tertiary	Primary	Secondary/ Tertiary
Medical Centre	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Mixed Business (no hot food)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Nut Shop	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Optical Processes	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Pet Shop, Retail	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Pizza Home Delivery	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Sandwich Shop, Salad Bar, Coffee Shop – (no hot food)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
School Canteen	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
School Ceramic & Pottery	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Swimming Pool (Non Municipal)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Take-Away (no hot food)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Venetian Blind Cleaning	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists
Veterinary & Animals (kennels)	Deemed No charge	Deemed No charge	No agreement exists	No agreement exists

**Charges for Corrosive Substances**

**Table A5 Charging Formulas for Corrosive Substances (\$1999/2000)**

BOD – primary Treatment Plants	$0.09 + 0.015 \times [\text{BOD mg/L}] \div 600$
BOD – secondary and Tertiary Treatment Plants	$0.50 + 0.015 \times [\text{BOD mg/L}] \div 600$
Sulphate - All Plants	$0.10 \times [\text{SO}_4 \text{ mg/L}] \div 2000$

*Assessment of the status of substances discharged to sewerage system.*

The maximum allowable industrial loading (MAIL) for all sewage treatment plants is assessed using a biosolids and effluent quality model. Wherever the total mass of any substance from all industrial customers within a sewerage catchment, either measured or agreed exceeds 50 per cent of MAIL it will be regarded as a critical substance for charging purposes. Wherever the total mass exceeds 90 per cent of MAIL, it will be regarded as a very critical substance for charging purposes. Wherever the total mass exceeds 100 per cent of MAIL, it will be regarded as a super critical substance.

### *Charges for critical substances*

1. Where the measured daily mass of a critical substance discharged by a customer exceeds 1.5 times that customer's long term average daily mass (LTADM), the charging rate for the component of mass above 1.5 LTADM is charged at the higher rate listed in Table A6.
2. Where the measured daily mass of a very critical substance discharged by a customer exceeds 1.5 times that customer's long term average daily mass (LTADM), the charging rate for the component of mass above 1.5 LTADM is charged at the higher rate listed in Table A6.
3. Where the measured daily mass of a critical substance discharged by a customer exceeds long term average daily mass (LTADM), the charging rate for the component of mass above LTADM is charged at the higher rate listed in Table A6.

### *Capping of critical mass charge multipliers*

In the formulae above, the unit price for discharging substances that are critical, very critical and super critical increase indefinitely. In reality, there is a need to use incentive pricing for discharges of mass up to several times the mass agreed to in agreements. Beyond that, the matter needs to be investigated and immediate action may need to be taken. It is therefore proposed to cap the increase at five times the standard unit rate as shown. This has the effect, when combined with the double charging for concentration breaches, of limiting the highest unit rate multiplier to a value of 10.

**Table A6 Charges for Critical Substances**

<b>Substance status</b>	<b>Correct formulae for charging rate multiplier</b>
Critical	$(\text{mass} / (1.5 \times \text{LTADM}))^{1.5}$
Very critical	$(\text{mass} / (1.5 \times \text{LTADM}))^2$
Super critical	$(\text{mass} / \text{LTADM})^2$

### **Discharge of Substances above Acceptance Levels**

The mass of any substance excluding BOD and Sulphate discharged at a concentration which exceeds the nominated acceptance standard be charged at double the standard rate for the entire mass for non-domestic substances, and for the mass above domestic equivalent for domestic substances. Concentration is determined by daily composite sampling by either the customer or Sydney Water.

### **Concentration Acceptance Standards**

The concentrations (mg/L) are daily composite limits. If a calculation of the maximum daily mass of each substance discharged from individual properties threatens the safety of Sydney Water's employees, treatment processes, assets, useability of biosolids, public health and/or environment protection, lower concentration standards than those shown below will be applied.

**Table A7 Sydney Water - Concentration Acceptance Standards**

<b>SUBSTANCE</b>	<b>LIMIT mg/L</b>
Aluminium (Al)	100
Ammonia (as N) <i>(Note 5)</i>	50
Arsenic (As)	1
Organoarsenic Compounds	0.1
Barium (Ba)	2
Biochemical Oxygen Demand (BOD <sub>5</sub> ) <i>(Note 7)</i>	See Note 9
Biocides	See Note 16
Boron (B)	100
Bromine (Br)	5
Cadmium (Cd)	1
Chemical Oxygen Demand (COD) <i>(Note 7)</i>	See Note 9
Chlorinated Hydrocarbons	2
Chlorinated phenolics <i>(Note 17)</i>	0.05
Chlorine (Cl) <i>(Note 4) (Total available as hypochlorite)</i>	50
Chromate <i>(in cooling towers)</i>	See Note 16
Chromium (Cr) <i>(Total)</i>	3
Cobalt (Co)	5
Colour	See note 18
Copper (Cu)	5
Cyanide (CN) <i>(Note 3)</i>	1
Fibrous Material	See Note 11
Flammable/Explosive substances	See Note 8
Fluoride (F <sup>-</sup> ) <i>(Note 10)</i>	20
Formaldehyde	50
Grease Primary treatment <i>(Note 6)</i>	110
Grease Secondary / Tertiary treatment	200
Gross solids	See Note 12
Herbicides/Defoliants	0.1
Iron (Fe)	50
Lithium (Rouse Hill only) <i>(Note 19)</i>	10
Lead (Pb)	2
MBAS	100
Manganese (Mn)	10
Mercaptans	1
Mercury (Hg)	0.03
Molybdenum (Mo)	100
Nickel (Ni)	3
Nitrogen (N) <i>(Total Kjeldahl Nitrogen) (Notes 5 and 10)</i>	150
Odour	See Note 13
Penta-chloro-phenol	0.05
Pesticides <i>(Including toxic by-products)</i>	
- General	0.1
- Organophosphates	Nil
- Organochlorine	Nil
PCB	Nil
Petroleum Hydrocarbons <i>(Non-flammable)</i>	30
PH	7-10
Phenolic Compounds <i>(excluding chlorinated phenolics)</i>	10
Phosphorus Compounds <i>(Note 10) (As total phosphorus)</i>	50
Polynuclear Aromatic Hydrocarbons (PAHs)	5

<b>SUBSTANCE</b>	<b>LIMIT mg/L</b>
Radioactivity	See Note 14
Selenium (Se)	5
Silver (Ag)	5
Sulphate (SO <sub>4</sub> )	2000
Sulphide (S)	5
Sulphite (SO <sub>3</sub> )	50
Suspended Solids (SS or NFR)	600
Temperature	Not to exceed 38° Celsius
Thiosulphate (S <sub>2</sub> O <sub>3</sub> )	300
Tin (Sn)	10
Total Dissolved Solids	10,000 See Note 9
Uranium	10
Zinc (Zn)	5
Other substances ( <i>Not listed above</i> )	See Note 15

#### **Notes to Acceptance Standards**

1. Intractable wastes continue to be strictly banned from Sydney Water's sewers.
2. No discrete oil, fat or grease may be discharged.
3. Discharge from cyanide baths is accepted only after detoxification. Cyanide is defined as cyanide that may be destroyed by alkaline chlorination (Labile Cyanide).
4. Where chlorine dosing has been accepted by Sydney Water as a requirement for the treatment of wastes, provided agreed dosing rates have been adhered to by the Customer, any residual chlorine detected at the agreed sampling point will not incur a trade waste charge.
5. An ammonia limit of up to 100mg/L may be negotiated for individual customers depending on site specific conditions and controls. Where ammonia is present with other nitrogenous compounds, the amount of nitrogen in the ammonia is deducted from the total nitrogen before calculating the charge for nitrogen.
6. Grease is defined as acid chloroform extractable substances measured by the Sydney Water 'Soxhlet' method.
7. The oxygen demand of effluent is specified in terms of BOD<sub>5</sub>. For the first 6 months after the commencement of this Policy, sampling and analysis for COD will establish a sufficient history for COD to be eventually adopted as the sole determinant of oxygen demand for most Customers. No charge will be levied for COD until further notice. Where a reliable correlation can be shown to exist between BOD and another test, Sydney Water may be prepared to accept results based on this alternative test.
8. Where flammable and/or explosive substances may be present, the Customer will need to demonstrate to the satisfaction of Sydney Water that there is no possibility of explosions or fires occurring in the sewerage system. Limits and charges will be discussed with individual Customers prior to negotiation of a Trade Waste Agreement. The flammability of the discharge must never exceed 5 per cent of the Lower Explosive Limit (LEL) at 25 degrees Celsius.
9. Acceptance standards for BOD<sub>5</sub>, COD and total dissolved solids are to be determined by the transportation and treatment capacity of the receiving system and the end use of sewage treatment products. The limit for TDS is set as a guide only.

10. Fluoride, nitrogen and phosphorus limits do not apply where a sewage treatment plant (to which the Customer's sewerage system is connected) discharges directly to the ocean.
11. No fibrous material shall be present if in the opinion of Sydney Water, an obstruction or blockage of a sewer, drain or treatment apparatus could result.
12. Non-faecal gross solids must have a maximum linear dimension of less than 20 millimetres, a maximum cross section dimension of 6 millimetres and a quiescent settling velocity of less than 3 metres per hour.
13. Acceptance standard for odour, or substances contributing to odour, will be determined by Sydney Water's Manager, Wastewater Source Control.
14. Radioactivity is subject to negotiation on a site-specific basis.
15. Acceptance standards for substances other than those listed in Table 1 are to be determined by the Manager, Wastewater Source Control. Substances (or mixtures of substances) that are not miscible with water are not accepted to the sewer system.
16. The use of products containing Hexavalent Chromium (Chromate) or organometallic algicides in comfort air conditioning cooling towers and evaporative condensers, where the blow down (or 'bleed-off') is connected to the sewer, is not permitted under a commercial permit. Additionally, any Non-Oxidising Biocides must be registered by NSW Health Department for use in air conditioning cooling towers and evaporative condensers. Comfort Cooling Towers are defined as cooling towers that are dedicated exclusively to (and are an integral part of) heating, ventilation, air-conditioning or refrigeration systems.
17. Acceptance standards for individual chlorinated phenolics will be determined on a catchment basis in accordance with pollution reduction targets for the sewage treatment plant effluent set by the EPA. The concentration limit is set as guide only.
18. Standards for colour and interference with ultra violet disinfection will be determined on a system specific basis.
19. The limit for Lithium applies only in the Rouse Hill sewerage system catchment.

## Attachment 2 Miscellaneous charges

### Sydney Water Miscellaneous Charges

	Nature of Service	Fee
1	Conveyancing certificate	\$15.00
2	Sewerage Service Diagram	\$15.00
3	Service Location Print	\$15.00
4	Special Meter Reading	\$21.00
5	Billing Record Search	\$27.00
6	Water Reconnection - during business hours	\$25.00
7	Water Reconnection - after business hours	\$125.00
8	Full meter test at workshop – based on meter size	\$175-520
9	Watermain connection application (accredited plumbers)	\$20.00
10	Large watermain connection approval 32-65mm	\$57.00
	Large watermain connection approval 32-65mm (joint application)	\$110.00
11	Large water main connection approval 80mm+	\$225.00
12	Water main fitting adjustment application	\$40.00
13	Sewer junction connection application	\$40.00
14	Sewer sideline connection application	\$40.00
15	Manhole/lamphole adjustment application	\$40.00
16	Sewer ventshaft adjustment application	\$40.00
17	Building Over Sewer Letter	\$30.00
18	Connection to storm channel application	\$40.00
19	Inspection of channel break	\$200.00
20	Inspection of drainage lines	\$50.00 per hour
21	Hydrant re-sealing	\$20.00
22	Building plan approval	\$20.00
23	Building plan approval + 2 inspection	\$140.00
24	Building plan approval + 1 inspections	\$98.00
25	Determining requirements on builder (administration fee)	\$105.00 per hour
26	Service protection application	\$105.00 per hour
27	Conducting piercing supervision	\$105.00 per hour
28	Supervising sewer encasing	\$105.00 per hour
29	Fire flow application	\$43.00
30	Fire flow standard investigation	\$48.00
31	Fire flow full investigation	\$102.00
32	Review of hydraulic plans	\$105.00 per hour
33	Subdivider/Developer certificate	\$305.00
34	Developer Investigation Fee (per hour)	\$105.00 per hour
35	Design & Construct Contract Administration Fee	\$105.00 per hour
36	Product approval application	\$170.00
37	Product approval evaluation	\$85.00 per hour
38a	Supplement to water reticulation code (formerly design and construction package)	\$300.00
38b	Supplement to sewerage code of Australia (formerly design and construction package)	\$300.00
39a	Large diameter water mains (formerly Major construction)	\$300.00
39a	Large diameter sewer mains (formerly Major construction)	\$300.00
40	Minor construction - each	\$100.00
41	Dishonoured Payments	
	Cheque	\$20
	Direct debit	\$11
	Credit card	\$10

## **ATTACHMENT 3 ROUSE HILL DEVELOPMENT AREA**

