

SYDNEY WATER CORPORATION

PRICES OF WATER SUPPLY, SEWERAGE AND DRAINAGE SERVICES

Medium term price path from 1 July 1996



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

SYDNEY WATER CORPORATION

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Medium term price path from 1 July 1996

Medium term price path - Sydney Water Corporation

The Tribunal has been investigating pricing proposals and setting maximum prices for Sydney Water Corporation (and its predecessor, the Sydney Water Board) since 1992/93. Since that time, there have been a number of significant changes in the way in which Sydney Water does business and charges for its services. In particular :

- there has been increasing reliance on charges for actual water usage and much less reliance on fixed charges in bills; for the “average” household, usage charges have increased from around 10% of the total bill in 1992/93 to over 30% today.
- property-value based charges have been eliminated for the household sector and substantially reduced for the business sector, with a consequent reduction in the cross-subsidy burden on business; this has equated to an annual reduction in property-tax based charges of \$59m for households and \$218m for business.
- Sydney Water’s operating costs per property have been substantially reduced since 1992; with a 22% reduction in real operating costs per property since 1992/93.
- water and waste water quality objectives are subject to greater scrutiny by the community, with a significant expenditure commitment to improved drinking water quality by way of water filtration plants; the Build-Own-Operate (BOO) water filtration plants will add \$98m per annum to Sydney Water’s costs.
- developer charges are now set on a more systematic and transparent basis, with better signalling of the “true” costs of water and wastewater infrastructure in different areas.

The Tribunal believes that it is now appropriate to set a medium-term price and revenue path for Sydney Water.

This determination sets out a four year price path to 1999/2000, with a mid-term review to take place in early 1998. The Tribunal believes that this determination will provide an appropriate level of revenues for Sydney Water to undertake its currently anticipated activities through to the end of the decade. The four year price path will provide a degree of certainty to the owners and management of Sydney Water with respect to prices and revenues against which to meet the objectives of Sydney Water's current business plan.

The Tribunal believes that this determination provides a reasonable balance of the various and often conflicting interests of the stakeholders. In particular, the four year price path :

- provides sufficient revenues to fund Sydney Water's core business activities and meet its currently known and anticipated water and wastewater quality objectives;
- while further substantially reducing the cross-subsidy burden on the business sector of property-value based charges, with a further 57% reduction in the cross-subsidy over the next 4 years;
- and keeping increases in total bills over the four years within the CPI for "typical" households (consuming 240 kl of water per annum);
- at the same time providing sufficient revenues to generate "appropriate" commercial returns and dividend payments to the owner, including returns on new investment by Sydney Water;
- the four-year price path also strengthens demand management signals and provides clear incentives for customers to financially benefit from water conservation, with a staged increase in the nominal price of water from the current 70 cents to 90 cents per kilolitre by the year 2000.

Providing that there are no unanticipated "shocks" during the period of the determination, the Tribunal expects that the price and related financial outcomes reported here will hold for the next four years. In the event of major unanticipated changes during the four year price-cap period which may require additional revenues, such as major changes in environmental

quality requirements, Sydney Water will need to come to the Tribunal to establish a case for re-opening the determination. The mid-term review in 1998 will provide an opportunity to assess any such need.

This medium term determination has a number of important implications for key stakeholders.

The Household Sector

The Tribunal has accepted that it is appropriate to place greater reliance on actual water usage and less on fixed charges in charging for water services. We have closely monitored the consequences, and the community's acceptance, of this major change since it was introduced in 1993. Customers are now better able to influence the size of their bills by using less water, and there has been a marked reduction in per property use of water in the Sydney Water area.

As part of an overall demand management strategy, the Tribunal accepts that water pricing does play an important role in influencing the community's behaviour with regard to using one of our more scarce resources - water.

The net effect of the four-year price path will see water charges increase by 6 cents to 76 cents in 1996/97 and thereafter by gradual increments to 90 cents by 2000. With the other elements of the price determination, the "typical" household (240kl per annum) will pay only an extra 46 cents per week in 1996/97. For the remaining years of the price path, "typical" households will pay only an extra 34 cents per week on average in each year, in line with expected CPI increases.

The Tribunal has been pleased to note that there appears to have been relatively limited additional need for social policy support measures associated with the changes in usage pricing for water. We understand that Government Social Program Policy safety nets (such as pensioner rebates) as well as Sydney Water's own programs to assist the disadvantaged (such as the payment assistance scheme and targeted low-income/large family assistance measures) will continue.

The Business Sector and Cross-Subsidies

As a result of previous years' determinations, the cross-subsidy from business customers to household customers has reduced from its peak of \$300m in 1992/93 to \$120m today. The four year price path will reduce property-value based charges by a further \$80m.

The Tribunal would have preferred a faster wind-down in the cross-subsidy. However, given the various financial pressures on Sydney Water, including increased water quality requirements, on balance the Tribunal accepts the next round of reductions as reasonable.

It is worth noting that property-value based will have declined from \$418m in 1992/93 to \$61m in 1999/2000 - an overall reduction of some 85% over 7 years.

The Owner and Commercial Returns

Successive governments have increasingly required agencies such as Sydney Water to act in a business-like manner. Indeed, Sydney Water has been corporatised and is expected to operate as a fully commercial entity within commercial, environmental and other parameters as set out under its legislation and within the terms of its operating license.

The Tribunal is required to have regard, amongst other things, to the commercial interests of the owner of Sydney Water - the State - in setting prices. This requires the Tribunal to form a view about appropriate "profit margins" or "rates of return" earned by Sydney Water. The Tribunal is also required to have regard to the payment of dividends by Sydney Water.

This does not mean that the Tribunal is able to nor should guarantee a particular level of profits or rate of return to the operations of Sydney Water. Competitive markets do not provide such certain commercial outcomes. Rather, the Tribunal has attempted to form a view about what an "acceptable" commercial outcome might look like if Sydney Water operated within a competitive market, rather than as a monopoly supplier of water and wastewater services.

In forming a view about an “acceptable commercial outcome” over the period covered by this determination, the Tribunal has also had regard to the remaining cross-subsidy imposed on business customers; the financial pressures arising from major new investments to meet improved water quality objectives (the BOO commitments) and the interests of the customers of Sydney Water - both business and household - who have little, if any, choice in where they obtain their water and wastewater services.

Given the current pressures on Sydney Water and in all the circumstances surrounding the next price-cap period, the Tribunal is satisfied that Sydney Water will be able to generate an “appropriate” level and rate of profits and dividends under this price determination.

The Environment

This price determination continues with Sydney Water’s and the Tribunal’s emphasis on better usage pricing signals for water. There is no doubt that increasing the proportion of water bills accounted for by actual water use has contributed to the rapid reduction in per capita water consumption - *down an impressive 21% since its peak in 1980/81*.

The four year price path will see *water prices* increase to 90 cents per kl by 1999/2000 but with *average household water bills* increasing within the CPI over the same period. The better water price signal, as a part of an integrated demand management strategy, will assist Sydney Water to reach its target 25% reduction in per capita water consumption compared with 1991/92 by 2001.

The Tribunal, however, recognises that more may well need to be done to reduce pressures on catchments and associated storage and delivery infrastructure. The peak environment groups have argued that there is scope for efficient wastewater re-use to supplement Sydney Water’s bulk water supplies.

The Tribunal accepts that opportunities for re-use warrant further examination, and will establish a “re-use forum” to explore opportunities and options.

This determination is based on Sydney Water's business plan with respect to current and anticipated water and wastewater quality requirements over the next four years. Environmental objectives, standards and associated license conditions continue to evolve. Should there be an unanticipated significant change in such quality requirements which impact on Sydney Water during the price cap period, then Sydney Water may seek to re-open this determination. The mid-term review in 1998 may provide a good opportunity to consider whether the quality or other fundamental parameters underpinning this determination have or are likely to change to such an extent that this determination needs to be reviewed.

The Tribunal would be reluctant to see increases in prices greater than has been built in to this determination. However, substantial changes in basic operating conditions, especially in the area of environmental quality requirements, may require the Tribunal to consider the case for further price increases during the next four years. The Tribunal would investigate Sydney Water's capacity to absorb any such cost pressures before deciding on further increases in prices.

Thomas G Parry
Chairman

June 19 1996

REPORT TO THE PREMIER AND DETERMINATION



I N D E P E N D E N T P R I C I N G A N D R E G U L A T O R Y T R I B U N A L
O F N E W S O U T H W A L E S

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

Matter No.: SRD/96/04

Report: No 6, 1996

Agency: Sydney Water Corporation Ltd

Services: Water supply, sewerage and drainage services.

Declaration of government monopoly services under Section 4 of the Act:

Order dated 27 August 1992 - page 6431, Gazette No. 105

TABLE OF CONTENTS

1 INTRODUCTION	1
2 THE PRICE DETERMINATION PROCESS	1
3 SUMMARY AND OVERVIEW OF THE DETERMINATION	2
3.1 Future Charges	2
3.2 Overview of determination	3
4 SUBMISSIONS	6
4.1 Pricing proposals made by Sydney Water	6
4.2 Other submissions	7
5 ISSUES CONSIDERED BY THE TRIBUNAL	8
5.1 Costs and efficiency	8
5.2 Consumer protection	13
5.3 Financial viability	14
5.4 Environmental issues	21
5.5 Standards	25
6 BASIS OF THE TRIBUNAL'S DETERMINATION	25
6.1 The core income level	25
6.2 Expenditure Projections	28
6.3 Revenue projection	29
6.4 Financial performance	31
6.5 Property-valuation based charges and cross subsidies	32
6.6 Water pricing	33
6.7 Sewerage charges	37
6.8 Quality enhancement, environmental standards and pricing	39
6.9 Demand management	40
6.10 Customer Impacts	40
6.11 Impacts on non-residential customers	45
6.12 Other pricing issues	45
6.13 Regulatory issues	48
7 NEXT PRICE DETERMINATION	49

1 INTRODUCTION

As required by Section 11(1) of the Independent Pricing and Regulatory Tribunal Act 1992, the Independent Pricing and Regulatory Tribunal has investigated proposals by Sydney Water Corporation Ltd (a standing reference agency in Schedule 1 of the Act) for maximum prices to be charged from 1 July 1996 for declared water supply, sewerage and drainage monopoly services.

The Tribunal's determinations of the maximum prices for these services are attached with this report. The Tribunal has not completed its investigations of maximum prices of miscellaneous customer services, trade waste services and charges to recover cost associated with sewerage backlog projects. These issues will be the subject of a separate report and determination at a later date.

2 THE PRICE DETERMINATION PROCESS

The Tribunal called for pricing proposals from Sydney Water Corporation (SWC) for consideration of a medium term price path for the supply of water supply, sewerage and drainage services. Submissions were invited from interested parties and the public on these proposals and other issues relating to the pricing of these services.

A public hearing was held on 19 April 1996 at the Sydney Hilton Hotel.

Details of the SWC's proposals are shown below and a summary of other submissions received is shown in an attachment.

Copies of all submissions and a transcript of the hearing are available for inspection at the Tribunal's offices, Level 2, 44 Market Street, Sydney.

The Tribunal members who considered this determination were:

Professor Thomas G Parry, Chairman

Mr James Cox, Full-time Member

Ms Joan McClintock, Member

Mr Robert Bruce, Temporary Member

The Tribunal's price determination process involves consultation with stakeholders and interest groups. A briefing paper was prepared in August 1995 and was sent to the water agencies to outline studies and projects that were required to assist the Tribunal in developing medium term price paths. An information request was circulated in September 1995.

These price determinations are the culmination of a great deal of work by the water agencies, government departments and various customer groups and interest groups. The process involved:

- establishment of working groups and industry forums, including the demand management forum (report completed in December 1995), Developer Charges Forum (ongoing) and working group on price anomalies (report completed in December 1995)
- participation in the work of the Water Industry Asset Valuation Working Group which considered the issues of rate of return and asset valuation

- assessment of agencies' medium- and long term capital expenditure plan
- consideration of the agencies' commitment and/or requirement to meet higher environmental and service quality standards. This was linked to the willingness-to-pay issue, consideration of the standard-setting procedures and Sydney Water's business plan
- assessment of the activities and proposals of the agencies regarding demand management
- consideration of the form of regulation
- analysis of the cost of supply including cost trend analysis
- review of the marginal costs for water services
- financial analysis of agencies' performance and financial modelling to examine various price cap scenarios
- completion of capital works audits with the focus on assessment of the process for making decisions about capital expenditure
- completion of a review of the process leading to Sydney Water's decision to proceed with the drinking water quality program.

3 SUMMARY AND OVERVIEW OF THE DETERMINATION

3.1 Future Charges

This first medium term price determination is made after considering: Sydney Water's obligations; the interests of customers; returns to the shareholder; and the implications for environmental outcomes. The main features of this determination are:

- A four year price path from 1 July 1996 to 30 June 2000 with a mid term review in early 1998.
- Overall periodic water, sewerage and drainage charges are to be reduced by 2.3% in real terms in 1996/97¹ and an average of 0.8% a year in the subsequent three years.
- The existing non-residential property-value based charges will be reduced by \$20m a year in each of the four years. The remaining non-residential property-value based charges in 1999/2000 (\$61m) will be considered in the next review.
- Water charges will increase to reflect water filtration costs associated with higher drinking water quality:
 - * water usage charges (residential and non-residential) for retail filtered water will increase by 6 cents to 76 cents per kilolitre in 1996/97 and then progressively increase to 90 cents in 1999/2000.
 - * the water service charge will remain at the current level (\$80 a year) in nominal terms until 1999/2000.
- Sewerage charges
 - * the annual sewerage service charge will increase by \$8.60 to \$271.60 for residential and non-residential properties (with 20mm water meters) in 1996/97. The annual charge will then increase in small steps to \$290.4 in 1999/2000
 - * non-residential sewerage usage charges will increase by 4 cents to 87 cents per kilolitre in 1996/97 and gradually increase to 96 cents in 1999/2000

¹ This implies a nominal increase of 3.0% on the basis of a 5.3% average increase in the Consumer Price Index (Sydney) for the twelve months to March 1996.

- Stormwater drainage area charges will remain at the current level in nominal terms over the next four years. Drainage property-value based revenue will also be maintained at the current level in nominal terms.
- All new charges will be reflected in customers' bills on or after 1 July of each year except for the water service charge for unmetered residential properties and the usage charges. These will be reflected in bills from 1 October each year. The usage charges will apply to meter reading periods commencing on or after 1 July and concluding on or after 1 October.

Table 1: Overview of Sydney Water's future charges (\$ of year)

	1995/96 Current	1996/97	1997/98	1998/99	1999/2000
Water					
- service charge per annum	\$80	\$80	\$80	\$80	\$80
- usage charge	70 c/kl	76 c/kl	80 c/kl	85 c/kl	90 c/kl
Sewerage					
- service charge per annum	\$263.00 ⁽²⁾	\$271.60	\$280.40	\$285.60	\$290.40
- non residential usage ⁽¹⁾	83 c/kl	87 c/kl	90 c/kl	93 c/kl	96 c/kl
Stormwater drainage area					
- charge per annum	\$16	\$16	\$16	\$16	\$16
Non residential property-value based charges					
	\$141m	\$121m	\$101m	\$81m	\$61m
Revenue projection					
- residential	\$ 664m	\$ 697m	\$ 732m	\$ 763m	\$ 795m
- non residential	\$ 356m	\$ 354m	\$ 347m	\$ 340m	\$ 334m
- total	\$1,020m	\$1,051m	\$1,079m	\$1,103m	\$1,129m

Note:

(1) For non-residential discharges above 1.37 kl/day (500 kl a year)

(2) The sewerage service charge (65.75 per quarter) applies from 1 October 1995.

3.2 Overview of determination

Sydney Water's pricing submission is based on its business plan which sets out its existing obligations and its assumed future health and environmental obligations, including higher drinking water quality, and some anticipated limited enhancements for wastewater treatment and sewer overflows, based on the best information available to it.

Taking account of these obligations and associated investment requirements, the price path will permit continuing improvements in environmental quality and customer service. Sydney Water Corporation will be able to operate on a sound financial basis and achieve appropriate returns on its investments, including works to meet existing standards and some anticipated environmental standards.

In the past three years, Sydney Water has made impressive progress in improving efficiency. Real operating cost per property is projected to be 22% lower in 1995/96 than in 1992/93. The SWC targets to reduce underlying operating cost per property by 45% in 2000/01 from the 1992/93 level.

The Tribunal has concluded that Sydney Water has scope to reduce the operating cost of providing existing services by at least 20% in real terms over the next four years. However, Sydney Water will face new cost pressures resulting from higher quality obligations. For example, the Build-Own-Operate (BOO) costs associated with improvements to drinking water standards will add \$98m per annum to Sydney Water's costs. The costs of water filtration will be reflected progressively in usage charges over the next four years.

This price determination has been made after having regard to an overall return on a regulatory asset base. The opening value of this regulatory asset base is set at a level which is consistent with current prices. New capital works (including environmental works) have been added to the (depreciated) asset base. Over the next four years, the return (represented by earnings before interest and tax) on this regulatory asset base is projected to remain at the current level.

It may be that enhancements to environmental licence conditions will be defined during the four year price control period. These may require separate consideration by the Tribunal and may require further price increases depending on Sydney Water's ability to absorb the costs of meeting the defined standards and the effect on the value of the business. In addition to these factors, the Tribunal will need to consider the effectiveness of the option proposed by Sydney Water, the willingness of customers to pay for such improvements and the financial position of Sydney Water.

In making the medium term price determination, the Tribunal needs to ensure that Sydney Water can properly deliver its functions and meet its objectives. On the other hand, the Tribunal needs to ensure that the interests of customers are protected and that bills should not increase inappropriately or too rapidly.

The operating savings that have been achieved to-date have allowed the SWC to reduce property-value based charges. In so doing, the cross subsidy from the business sector to households has been substantially reduced. Since the Tribunal's first determination in 1993/94, there has been an overall real reduction of 29% in average revenue per customer. Residential property value based charges (\$59m in 1994/95) were fully eliminated from 1 October 1995. More importantly, non-residential property-value charges have been reduced by \$218m (or 61%) over the three years to 1995/96. The rate of unwinding the remaining cross subsidy will be subject to Sydney Water's operating efficiency and its quality obligations.

The Tribunal has determined that the remaining non-residential property-value based charges will be removed at a rate of \$20m a year over the price control period. This will be funded by productivity improvements. In the Tribunal's view, this is the maximum that can be achieved in the absence of deteriorating returns to the owner or unacceptable increases in bills. It is anticipated that the remaining property-value based charges (\$61m as at 30 June 2000) will be removed during the early years of the next price review period.

So far, the price reforms implemented by Sydney Water have been achieved without adverse impacts on residential customers who are now better able to control the size of their water bills because of the increased emphasis on usage pricing. The water and sewerage bill for the "average" household consuming 240kl a year will increase by \$23.90 in 1996/97 (46 cents a week). Increases in average household bills from 1997/98 to 1999/2000 will be capped at the inflation rate. Bills for low water using households will fall in real terms. While those for high water use customers will increase in real terms, there will be stronger incentives for customers to conserve water and therefore save money.

The Tribunal intends to introduce a new charge for "sewer mining" (i.e. extraction of wastewater prior to any treatment). This will require the Tribunal to declare this as a monopoly service and resolution of issues such as the conditions for access to Sydney Water's sewer main. The initial price will be set at a "zero" or an "at cost" charge until such time as the reuse market increases to 20% of the total water use market. As recommended by the environmental groups, the Tribunal will establish a forum to consider processes to encourage greater reuse of wastewater.

The next price review will take place in 1999/2000 to take effect from the following year. The 1998 mid term review will consider any new developments, especially the imposition of new obligations, that may arise.

Other important aspects of this determination include:

- The Tribunal notes that backlog sewerage policy is being reviewed by the Government. The Tribunal is therefore deferring its determination of charges to recover costs associated with sewerage backlog projects until the results of this review are available.
- The existing transitional rebates for pensioners will continue pending a full examination of pensioner concessions by the Government.
- Trade waste charges will remain at existing levels pending the completion of the final report of the inter-departmental working group on trade waste.
- Rouse Hill Development Area charges
 - * Rouse Hill charges (drainage and access for recycled water) will be \$110 in 1996/97 and be indexed by CPI thereafter
 - * the usage charge for recycled water will be set at 30% of the potable water price
 - * the sewerage buy-in charge will remain at \$924 (for a 20mm water meter) in 1996/97 and will be indexed by CPI thereafter.
- Sydney Water is permitted to enter into contractual arrangements with its large customers but subject to review by the Tribunal.
- There will be a small increase in water prices for unfiltered water and raw water supply.
- Charging for recycled water will be further investigated and will be reported on at a later date.
- In accordance with the recommendation in the Price Anomalies Review², charges on unconnected land will remain until the next determination period.
- The charging arrangement for standpipe metering will be adjusted in line with movements in the water service and usage charges.
- Annual increases in charges for the Penrith and Hawkesbury sewerage areas will continue to be capped at 10% for privately owned flats and 15% for non-residential properties.
- Septic pump-out arrangements in the Blue Mountains:
 - * the quarterly service fee will increase in line with CPI in 1996/97
 - * usage charges will remain unchanged.
- Charges for sewerage services which are rendered to exempt properties will increase in line with the sewerage service charge.
- Maximum charges for miscellaneous customer services will be determined at a later date after considering comments by the relevant interest groups.

² Report of the Working Group on the review of price anomalies, December 1995.

- All other charges will remain at existing levels until otherwise determined by the Tribunal.

4 SUBMISSIONS

4.1 Pricing proposals made by Sydney Water

The Tribunal commends Sydney Water for the high quality of its 1996 pricing submission.

The main proposals made by Sydney Water were:

- A fall in core service revenue at an average 0.5% per annum in real terms over the five years to 2000/01
- A “baseline” pricing proposal based on the following parameters:
 - * water consumption levels in each year from 1995/96 will be 7% below those of a past “typical” year
 - * reduction in underlying real operating costs per property by 45% in 2000/01 compared with 1992/93
 - * pass through of the full costs of water filtration associated with improvement in drinking water quality
 - * a real 7 percent return on capital expenditure excluding environmental works associated with existing and anticipated future standards³.
- Price increases for “typical” households (with water and sewerage services) using 240 kl a year would be held to the increase in the consumer price index.
- Water usage charges would increase at a rate above inflation to reflect water filtration costs, but water service base charges would remain at the current level (or decrease in real terms)
- There would be a small reduction in sewerage service charges in real terms and non-residential sewerage usage charges would remain unchanged in real terms
- Non-residential property-value based charges will be reduced by \$20m a year (or a total of \$100m over the next five years)
- An alternative approach to income determination which incorporates the concept of capital annuities
- A proposal to increase sewerage service charges to recover the costs of four backlog sewerage schemes.

Sydney Water’s pricing proposal is based on its 1996 Group Business Plan which identifies the increasing demands on the Corporation. Key business drivers are environmental standards, growth, business efficiency and government commitments. The operating and capital expenditure requirements to meet existing operational standards, existing environmental standards and anticipated standards were identified in the Business Plan.

However, Sydney Water *has not made provision in its submission for price increases* to recover capital expenditure to meet existing environmental standards and anticipated standards.

³ In its 1996 Business Plan, Sydney Water anticipated new environmental standards in relation to ocean and marine environment, the Hawkesbury/Nepean catchment, reuse and overflow. These expectations are based on its scientific knowledge and research findings.

Sydney Water has acknowledged that such price increases should not be assumed in the absence of:

- a) a transparent process for establishing standards
- b) information on the willingness of customers to pay for environmental improvements.

Sydney Water would seek a future price review to recover such capital expenditure if its business performance or the value of the corporation were adversely affected by any such capital expenditure. In responding to any such request, the Tribunal would wish to consider Sydney Water's potential to absorb these increases (e.g. because of efficiency gains since this determination).

The SWC believes the emphasis on usage pricing is the key to meeting its demand management objectives. The proportion of revenue generated through usage pricing will increase from 36% in 1995/96 to around 44% by 2000

4.2 Other submissions

The Tribunal received a number of submissions from other parties, including NSW Treasury, Environment Protection Authority (EPA), the peak environment groups, customers and other interest groups. The main points in the submissions included:

- The NSW peak environment groups submitted that the move to a medium term pricing determination should be deferred for at least another year. This would increase public confidence in the water agencies' commitment to sustainable and accountable water management. These groups were also concerned about barriers to competition and the implications for pricing of the backlog sewerage program and the drinking water treatment plants.
- The EPA and the Treasury were concerned about Sydney Water's exclusion of a rate of return on environmental works from the assessment of price movements. Exclusion of these environmental "costs" would result in under-pricing of wastewater services and impact on the long term sustainability of Sydney Water. Treasury proposed the introduction of an environmental charge explicitly to recover capital investment in environmental works.
- EPA argued that environmental standards are set in a transparent manner.
- The Australian Business Chamber (previously NSW Chamber of Manufactures) questioned the proposed slow-down in eliminating cross subsidies from business to residential customers.
- Some submissions queried the impact of water treatment costs on prices. The Peak Environment Groups recommended that only the usage component of customer bills should increase to recover these costs. The Australian Business Chamber recommended that this element of costs should be funded through lower dividends.
- The Picton Sewerage Community Working Group and the Wollondilly Shire Council supported Sydney Water's preferred pricing option of spreading the costs of backlog sewerage programs over all customers.
- The Pensioners and Supperannuants Association proposed that rebates should be increased to offset the adverse impact of increased usage charges on pensioners' bills.
- BHP made submission about the pricing of unfiltered water and recycled water.

Further details of these submissions are summarised in an attachment.

5 ISSUES CONSIDERED BY THE TRIBUNAL

Under Section 15 of the Independent Pricing and Regulatory Tribunal Act 1992 (formerly Government Pricing Tribunal Act 1992) the Tribunal is required to have regard to a number of matters and indicate what regard it has had to them. These matters are outlined below.

5.1 Costs and efficiency

- * *the cost of providing the services concerned [S15(1)(a)]*
- * *the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers [S15(1)(e)]*
- * *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 [S15(1)(h)]*
- * *the need to promote competition in the supply of the services concerned [S15(1)(i)]*

5.1.1 Operating expenditure

Labour costs represent over 50% of Sydney Water's underlying operating costs. Staffing has been reduced from over 9,000 in 1990 to 5,369 in January 1996, with the major reduction occurring in the past 2-3 years. It is expected that reduced staffing will flow through to lower labour costs in future years.

Underlying operating costs have decreased by \$83m or 13% in real terms in the two years to June 1995. Further cost reductions have been projected for 1995/96 and subsequent years.

Table 2: Operating cost (1995/96 \$m)

	89/90	90/91	91/92	92/93	93/94	94/95	95/96
\$m							
Labour cost	266	276	288	308	312	304	283
Other operating	179	254	325	341	278	263	232
Underlying operating	445	530	613	649	590	567	525
No of employees	9,582	9,367	9,142	8,269	7,326	5,965	5,369
No of properties (000)	1,291	1,325	1,341	1,358	1,380	1,495	1,514

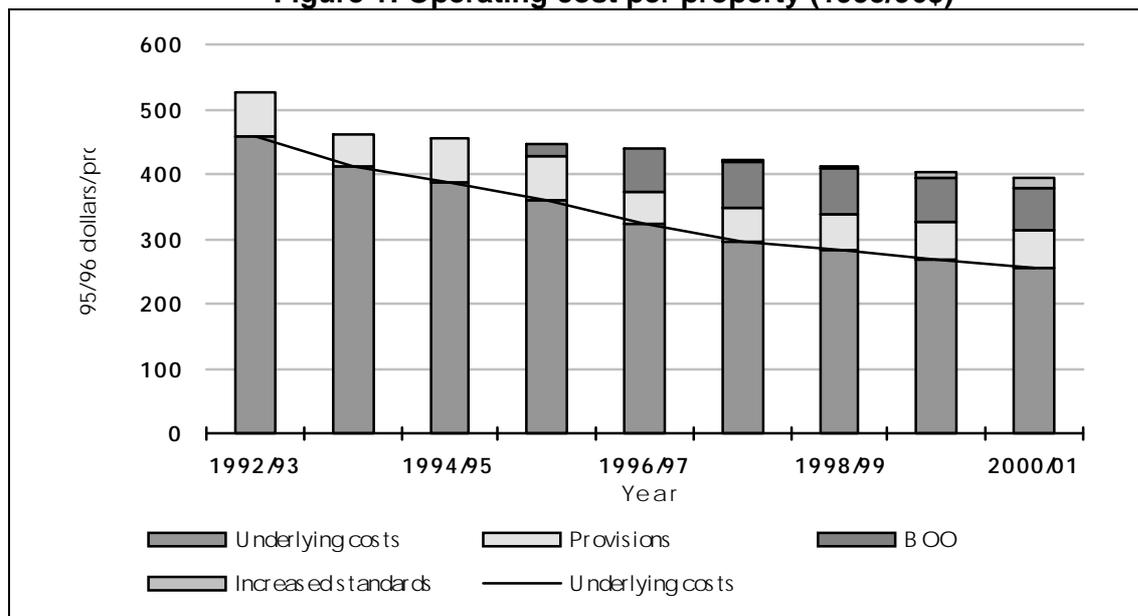
Note: Excluding provisions and cost of external sales

Whilst existing standards are being met at lower cost, new commitments including build-own-operate water treatment plant costs will impact on total operating costs.

5.1.2 Trends in operating costs per property

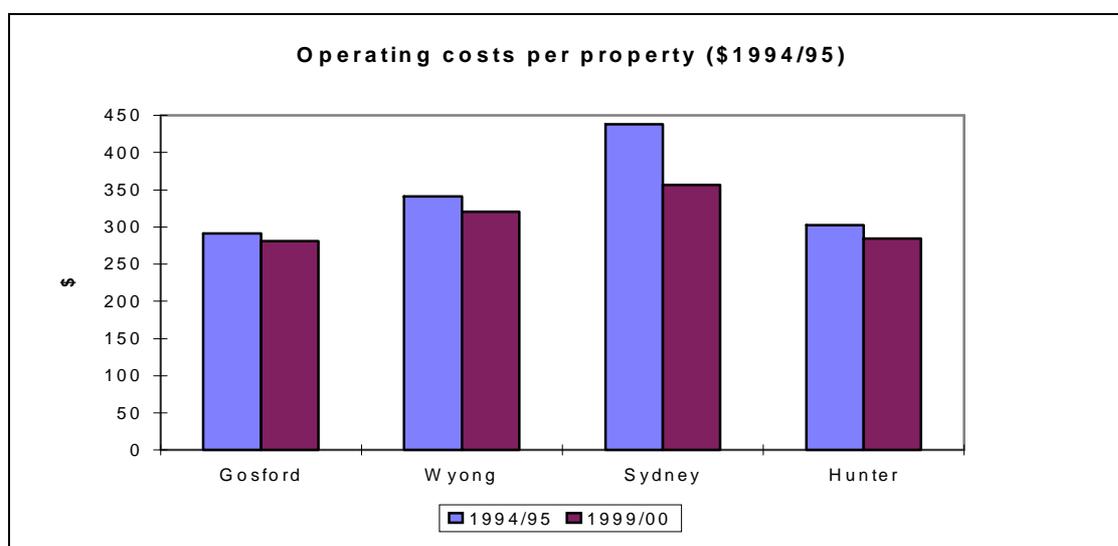
Sydney Water intends to reduce underlying operating costs per property in 2000/01 by 45% below the peak reported in 1992/93. The reduction since the 1989/90 level of operating cost per property will be around 25%.

Figure 1: Operating cost per property (1995/96\$)



The following graph compares operating costs per property for water and sewerage services for Wyong Council, Gosford Council, Sydney Water Corporation and Hunter Water Corporation.

Figure 2: Comparative Operating Costs per Property



Notes:

1. Figures exclude depreciation
2. Figures for Sydney include B O O costs and costs associated with increased standards
3. Figures for Sydney and Hunter exclude costs of external sales

Sydney Water’s operating costs per property remain high compared with those of the other water operators. However, given the extent of pressures for increased costs arising from enhanced standards, the size of reduction in total operating cost per property reflects a commitment by SWC to reduce underlying costs. The Tribunal commends these efforts but considers that regular reviews should take place to ensure that every opportunity for cost reduction has been explored.

5.1.3 Capital expenditure

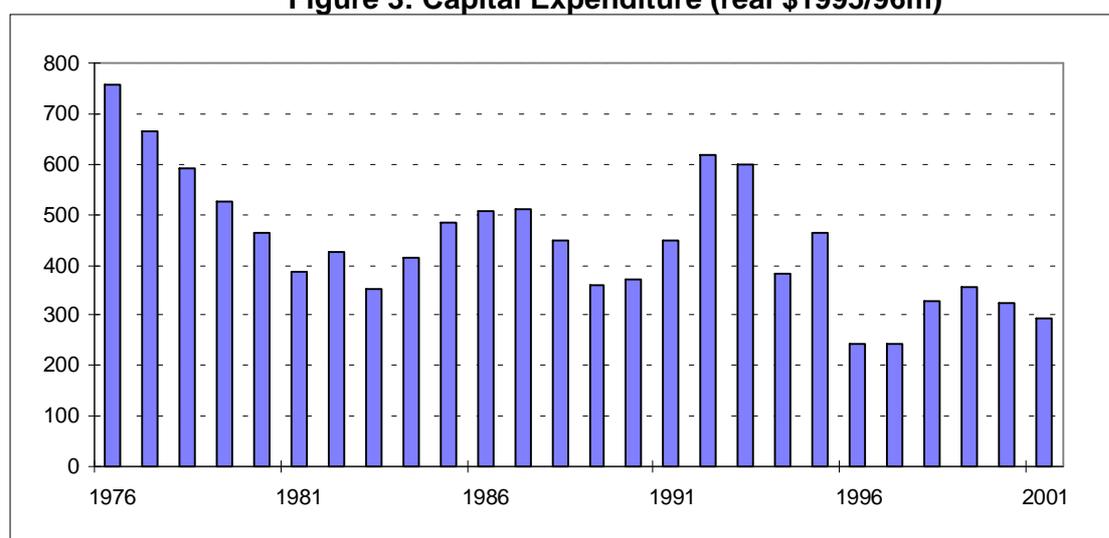
To remain viable, a water operator's prices should cover both operating costs and capital costs. As the water industry is a capital intensive business, asset-related costs are substantial.

The main drivers for capital expenditure are:

- system renewal to meet existing operational standards
- system amplification to meet growth
- environmental protection works to meet existing standards
- capital works to meet planned environmental standards
- special programs such as sewer backlog and dams safety.

As shown in the following graph, Sydney Water has made substantial investments over the past twenty years. Capital expenditure has fallen since 1992, reflecting Sydney Water's greater capital efficiency and the adoption of a strategic planning process for capital expenditure.

Figure 3: Capital Expenditure (real \$1995/96m)



Note:

1. Figures are in 1995/96 dollars. Capital expenditure includes developer funded assets. Rouse Hill infrastructure assets are included in 1994/95
2. The projected expenditure from 1996/97 is presented in Sydney Water pricing submission.

Over the next five years, Sydney Water projects a modest capital expenditure program based on existing commitments and some anticipated enhancement to standards. However, should the quality obligations turn out to be greater than those anticipated, capital expenditure will be higher than the projected level. For example, pending the outcomes of 35 environmental impact statements (EIS) which are expected to be completed by 1997, there is considerable uncertainty about Sydney Water's future capital expenditure on reducing sewer overflows.

5.1.4 Total costs of services

The total reported cost of services for Sydney Water (including depreciation and rate of return) has been reduced by 18% in real terms over the three years to 1995/96. The

reduction has been driven by Sydney Water's cost reduction program, reduced depreciation expense and tightening of the profit margin of the water business.

5.1.5 Private sector participation in infrastructure/Build-own-operate (BOO) arrangements

The SWC's Rouse Hill Development Project, Water Treatment Plants and Blue Mountain Sewerage Tunnel are significant large scale infrastructure projects which involve private sector participation.

Under the Rouse Hill Development Project, a group of land owners will manage the staged provision of water-related services and initially fund this infrastructure through borrowings. The SWC will take over ownership of the assets after the successful commissioning of the works. This arrangement (from Sydney Water's point of view) results in a deferral of funding of urban development works. The design and construction risks will be borne by the private sector.

The new water treatment works at Prospect, Macarthur, Illawarra and Woronora involve private sector involvement under a long term contractual arrangement regarding the financing, design construction, ownership and operation of new infrastructure. The BOO schemes will improve drinking water quality in the Sydney area to meet the 1987 NHMRC health guidelines. The Macarthur plant is now in full operation. The plants at Prospect, Woronora and Illawarra are scheduled to be commissioned in September 1996.

A similar BOO arrangement has also been entered into between Sydney Water and a consortium for the construction and financing of the Blue Mountain Sewerage Tunnel. However, the operating component is relatively small. This arrangement is considered to be similar to a financing arrangement.

Sydney Water considers that the above arrangements will make the delivery of services more cost efficient. The other benefits are that the design and construction risks will be borne by the private sector. However, the Auditor General has raised questions about the accounting treatment of some of these arrangements.

The water treatment plants will have a major impact on Sydney Water's costs of service provision. The extent to which these higher costs should be reflected in higher prices is considered in section 6.

5.1.6 Contracting out

Sydney Water has contracted out meter reading since 1992/93. All capital works are now constructed by contractors.

To further improve efficiency and enhance the delivery of services to its customers, Sydney Water has reorganised to create a holding company and three subsidiary businesses - Utilities, Transwater (Bulk Water & Wastewater), and a trading arm - Australian Water Technologies (AWT). Some services that are provided by AWT to the other businesses have been opened up to competition. AWT will also develop activities other than providing services to Sydney Water.

The introduction of greater competition in the operation of Sydney Water should lead to cost reductions. But it is important that appropriate accounting separation and ring-fencing

arrangements for the separate businesses are put in place to ensure transparency. The Tribunal will further examine the effectiveness of accounting separation as part of the mid term review.

5.1.7 Competition

The submission from the environment groups discusses possible options for removing pricing barriers to competition. Their submission recommends a single set of terms for water, sewerage and drainage services for all water agencies in NSW. The uniform format would be based on the terms contained in the Sydney Water Corporation submission. From the Sydney Water Corporation submission:

“The key to the Tribunal’s review of Sydney Water’s prices in the light of competition policy is to achieve the regularisation of prices and pricing and charging methodologies, and thereby bring Sydney Water’s pricing policies into line with the basis that the private sector could be expected to utilise were it to compete directly.”

The submission from the environment groups contends that:

“ there is no incentive to customers to disconnect from the system (in the interests of self-sufficiency and reducing the stress on existing systems) or to use other service providers.”

As a start to resolving this situation the environment groups recommend the following:

- a customer should be able to disconnect from water, sewerage or drainage infrastructure and pay their plumber who would then certify to the agency that the work had been carried out
- fixed charges for water, sewerage and drainage should cease upon disconnection
- no fixed charges should be payable by a customer who is not connected.

Sydney Water Corporation argues that its charges for entry into and exit from its system are based on recovery of the costs involved in making the physical alterations to the services.

In its submission the NSW Department of Health was concerned about the potential health risks from customers disconnecting from water and sewerage networks. Such action would result in environmental damage and an extra administrative burden from ensuring that individual landowners satisfy environmental standards.

The environment groups also propose that the Tribunal should set a new charge for sewer mining at zero or “at cost”. The groups also recommended that the Tribunal should create a forum to identify where markets for the reuse of wastewater can be encouraged. The Tribunal proposes to adopt both recommendations.

The submission from Sydney Water discusses the scope for competition within the distribution networks of the water agencies. The Tribunal notes that Sydney Water in November 1995 prepared a draft protocol to govern access to its network. The scope for removing impediments to competition will need to be reviewed as part of the National Competition Policy Package which was endorsed by the Council of Australian Governments in April 1995. Although an understanding of the application of National Competition Principles to providing Third Party Access to the water industry is still evolving, competitors will have to pay for access to the networks that are owned by the water agencies.

5.2 Consumer protection

- * *the protection of consumers from abuses of monopoly power in terms of price, pricing policies and standard of services [S15(1)(b)]*
- * *the effect on general price inflation over the medium term [S15(1)(d)]*
- * *the social impacts of the determinations and recommendations [S15(1)(k)]*

5.2.1 Pricing

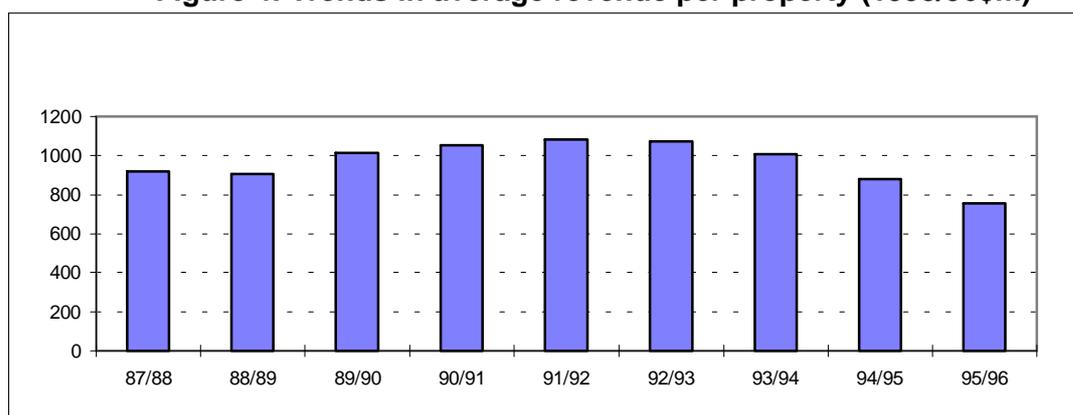
Since the first determination by the Tribunal in 1993/94, Sydney Water Corporation, and its predecessor authority, has been moving progressively from a property-value based charging system to one based on user-charges. Since the early 1990s, significant progress in pricing reform has been made:

- introduction of a single water usage charge from 1 January 1994
- elimination of residential property-value based charges from 1 October 1995 (revenue reduction of \$59m). Residential customers' water and sewerage bills are now based on a simple two-part tariff structure
- reduction of non-residential property-value based charges (revenue reduction of \$218m). As a result, there has been a significant reduction in cross-subsidies from business to households
- adoption of a new developer charges methodology.

5.2.2 Average revenue per property

As shown in Figure 4, average revenue per property increased by 3% per annum in real terms from 1987/88 to 1992/93. Following the Tribunal's determination in 1993/94, the trend was reversed and average revenue per property has since decreased by 10% a year in real terms.

Figure 4: Trends in average revenue per property (1995/96\$m)



Source: Sydney Water

The revenue reduction over the past three years is the result of removing property-value based charges for both residential and non-residential properties. A total \$277m of property-value based charges has been removed from the revenue base. As a result, there has been a significant reduction in cross-subsidies not only from business to households, but also within the residential sector (from households paying property-value based charges to those not paying such charges).

In fact, productivity improvements and cost reductions have allowed the Corporation to restructure progressively its pricing arrangements without adverse impacts on a typical household's water and sewerage bill. The implementation of price reform has also taken place while maintaining a reasonable level of returns to the government.

5.2.3 Service standards

The Operating Licence and Customer Contract together define the Corporation's operational and customer performance requirements. The Licence spells out targets for, among other things, water quality, pressure, and continuity, sewerage system performance and the management of customer complaints.

Sydney Water Corporation has introduced contracts with their customers regarding key service standards. This is a landmark in terms of the relationship between the service provider and its customers. There is a rebate system in place for customers if their service is interrupted for more than one hour without prior notice. During 1995, 128,860 customers received total rebates of \$1.2m. This provides an additional incentive for a monopoly business to meet customer needs.

5.2.4 Effect on inflation

The Household Expenditure Survey conducted by the Australian Bureau of Statistics indicates that water and sewerage charges comprise 0.7% of an average household's weekly expenditure in NSW. The changes in charges will therefore have a minimal effect on the overall cost of living in the Sydney area.

5.2.5 Social impacts

Any changes to the basis of charging (e.g. removal of property taxes) will have differing impacts on various customers. In making its determination the Tribunal has attempted to make charges more cost-reflective to better signal the value of resources consumed. This has been done with due recognition of the impacts on individual customers. Transitional arrangements have been put in place to ease the year to year impacts on pensioners and water-use only properties.

With the increasing focus on water usage pricing, the Tribunal will continue to encourage water operators to provide demand management assistance to pensioners and low income large families.

5.3 Financial viability

- * *the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of NSW [S15(1)(c)]*
- * *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 [S15(1)(g)]*

5.3.1 Rate of return and asset valuation - regulatory approach

The Tribunal is required by its legislation to consider what should be an appropriate return to Sydney Water's shareholders. The Tribunal needs to consider the commitment of the

Council of Australian Governments (COAG) to the adoption of the principles in relation to cost recovery of providing water.

There are a number of reasons why inclusion of a rate of return element in prices is important:

- New investment should only take place if a rate of return can be obtained on the funds that are employed or the investment is explicitly funded as a social program policy
- Because privately owned enterprises are expected to earn a rate of return on the funds that are employed, considerations of competitive neutrality suggest that government-owned enterprises should be expected to do the same
- It is reasonable for government to obtain a return from its commercial businesses.

The problem is to determine what a reasonable return to the government might be. A popular approach is to determine the reasonable return to the owner by applying a risk-related rate of return to the value of the business entity's assets. (Since the return to the owner is part of an overall revenue cap of the CPI-X incentive based regulation, this is not rate of return regulation). The problem is then how to determine the rate of return and the asset value. These questions have been debated recently both in overseas jurisdictions and in Australia. It is useful to review briefly this debate before turning to the Tribunal's own answers to these questions.

The Tribunal has examined various approaches adopted by overseas regulatory authorities⁴. North American regulators principally rely upon historic cost asset values in determining the return to the owner. Their major concerns, not surprisingly, are what to include in the asset base and what is a "fair" return. The British price regulators have argued that applying a commercial return to the total asset stock valued *at replacement cost* would yield excessively high prices. This conclusion is drawn from an assessment of investors expectations, customers willingness to pay and the assessment of cash required to finance the activities of the business⁵.

The British regulators have distinguished between assets existing prior to regulation and new investments. They have been careful to ensure that commercial returns are earned on new investments but have effectively accepted the pre-existing return on past investments.

The Report of the Expert Group⁶ on "Asset Valuation Method and Cost Recovery Definition for the Australian Water Industry" recommended the adoption of a deprival value methodology for asset valuation. The idea behind this methodology is that assets should be valued according to the service potential or future economic benefits that would be lost if the agency were to be deprived of the asset. This can be measured by:

- the current market price of a similar asset; or
- current cost of replacing the same service potential; or
- future economic benefits of the existing asset; or

⁴ The Tribunal, in conjunction with the Australian Society of CPAs Public Sector Accounting Centre of Excellence, has undertaken a research project on "Asset valuation by Government Trading Enterprises - An Evaluation of Pricing Issues". A Final Report was completed in March 1996 and the report will be published in June/July 1996.

⁵ Based on the research findings of the project on asset valuation undertaken by the Tribunal and the Australian Society of CPAs Public Sector Accounting Centre of Excellence.

⁶ An Expert Group was established by the Working Group on Water Resource Policy. A report was completed in February 1995 and was submitted to the Council of Australian Governments.

- current reproduction cost.

It will be evident that the deprival value concept, which has its basis in insurance, is not an easy one to apply in practice. Many difficult judgements are required: for example, what allowance should be made for excess capacity or gold plating? As the British regulators have noted, the use of current cost asset values may imply a very large increase in revenues. Customers may be reluctant to pay the consequential price increases. In addition, there are real doubts as to what economic signals are sent to consumers by prices which are based on such a conceptual approach. The Tribunal therefore is reluctant to endorse the deprival value approach to asset valuation at this stage.

5.3.2 Line-in-the-sand and income entitlement approach

In July 1995, the NSW Treasury convened a Water Industry Asset Valuation Working Group⁷ to consider pricing issues associated with asset valuation. The Working Group decided to adopt a “line-in-the-sand” (LIS) approach in which a distinction is made between past and new investments. As past investments were made for a variety of economic and political reasons, the Working Group concluded that it would be inappropriate to apply a commercial return to the written down replacement value of such investments. However, a commercial rate of return should be required for new investments.

The Working Group considered two options for the implementation of the LIS approach⁸, namely the accounting and the annuity method.

Accounting method

This method determines allowable income (or revenue) for the agency to be the sum of:

- operating and maintenance costs
- accounting depreciation
- the existing rate of return on assets; plus
- a 7% real return on new investments.

Annuity method

This method determines the allowable income for the organisation to be the sum of:

- operating expenditure
- a capital expenditure annuity for new investments; plus
- the current level of gross operating surplus (i.e. earnings before interest, tax and depreciation) which will be maintained in real terms.

Under the annuity method, past investments are valued at the present value of net cash flows at existing price levels. New investment is represented by calculating the equivalent annuity using a real rate of return of 7%. This annuity is added from the investment decision point to allowable revenue. In addition, the annuity proposed by the Working Group allowed for technological progress through a reduction of 1.5% a year in the amount of the annuity. Effectively, the capital expenditure annuity will be greater in earlier years

⁷ In NSW, a Water Industry Asset Valuation Working Group was formed in July 1995 under the Treasury's GTE Consultative Council. The group is represented by NSW Treasury, Sydney Water, Hunter Water and the Tribunal Secretariat.

⁸ Report of the Water Asset Valuation Strategy Group - A subgroup of the Water Asset Valuation Industry Working Group May 1996.

and declining over time at the rate of 1.5% per annum. Under this method, the net present value of the capital annuity will be the same as the initial investment.

The Working Group preferred the annuity approach for the following reasons:

- it provides an alternative to basing pricing on accounting measures of asset valuation and rate of return
- it offers greater regulatory and planning certainty for the water agencies
- it links pricing with the investment appraisal process and commercial decisions to invest.

Sydney Water proposed the annuity approach in its pricing submission as an alternative to the Tribunal's recommended incentive-based price regulation.

The Tribunal is grateful for the progress made by the Working Group. Although the Tribunal accepts that it should have regard to LIS asset value as one element in determining prices, it has not been persuaded that it should adopt the annuity approach to price regulation. This is for several reasons:

- The capital annuity is a form of cost-plus regulation. The guaranteed return (via the capital annuity) may provide incentives for inefficient investment or over-investment.
- Investments are usually made in large lumps and capacity is taken up gradually over time. In initial years, spreading the capital annuity over the existing customers may result in cross-subsidisation from these customers to future customers. The problem will be compounded if the higher technologically adjusted annuity is applied. It is noted that for large-scale private sector capital investments, returns to investors are either nil or very small in the early years. It may take many years before the project break-even and earns a profit.
- The annuity approach places a good deal of emphasis on the Tribunal's ability to scrutinise capital investments. It is not clear how well-placed the Tribunal is to do this.
- The capital annuity method may lead to volatile price increases whenever major capital investment is made. It is not clear that this is appropriate.
- There is a lack of direct relationship between prices and outputs/deliverables.
- Given the wide variation in the expected asset lives for water infrastructure assets, the use of annuity formula is more difficult to administer and monitor in the water industry than in other industries.
- The annuities approach is not easy to explain or understand. Other things being equal, a simpler approach would be preferable.

5.3.3 Establishing the regulatory asset base as one element of price determination

Although prices should allow a return on new investments, they should not be driven by the level of investments. Rather, the regulatory approach should encourage efficient operations and investment.

In its report on Inquiry into Water and Related Services, the Tribunal has considered the advantages and disadvantages of different forms of price regulation in the water industry. It concluded that incentive based regulation (in the form of $CPI \pm X$) is the best approach.

As discussed, the Tribunal accepts that the return on a regulatory asset base should be considered when establishing the (CPI-X) price cap.

The regulatory asset base can be constructed as follows:

- an opening regulatory asset value for existing assets is established based on the net present value of future cash flows at current price levels
- the regulatory asset base is then adjusted through time to take account of renewals of existing assets and new capital expenditure.

Although the Tribunal has calculated a regulatory asset value to assist it in making this present determination, it wishes to consider further in future determinations how the regulatory asset value should be established and, in particular, updated through time.

The regulatory asset value for Sydney Water's existing asset base is estimated to be \$5.1bn⁹. This asset base may not necessarily coincide with the amount reported in the annual accounts. It would be inappropriate to include customer funded assets and assets paid for by the State Government in the regulatory base¹⁰. To earn a rate of return on assets provided free of charge to the water supplier would be double dipping. That is, customers should not be charged a return on assets which have already been paid for (including a profit component). It is recognised that the water supplier has to maintain and ultimately replace such assets and that these costs should be included in the cost of service provision.

Similarly, it would be inappropriate to expect a return on investments which were made to satisfy community service obligations (for which no matching payment was received from Government) or on investments which were made to satisfy non-commercial objectives (e.g. to meet political objectives).

As the costs of undertaking new investments that are related to urban growth are to be recovered from developer contributions, these investments should be excluded from the regulatory asset base.

There are some outstanding implementation issues regarding the regulatory asset value that need to be addressed. The Tribunal will consult with the Water Industry Asset Valuation Working Group to progress these issues.

5.3.4 Assessment of rate of return

The NSW Government has set out its approach to defining the rate of return targets as follows¹¹:

“... the fundamental investment decision rule is that investments should only be made where, over the lifetime of the investment, the expected rate of return on the assets employed at least equals the firm's weighted average cost of capital (WACC).”

Due to conceptual differences, the rate of return measured according to accounting data cannot be expected to be perfectly consistent with the cost of capital criteria used in investment decisions. This is because investment evaluation involves discounting estimates of future cash flows. The cash flow numbers are different from the accounting figures used for financial reporting because they exclude depreciation from operating expenditure and

⁹ This value is established based on the capitalisation of the current level of gross operating surplus. There is no allowance made for operating cost efficiency, capital refurbishment and property growth.

¹⁰ SWC estimated that some \$2.6bn of the asset base are externally funded by customers.

¹¹ NSW Government, *A Financial Distribution Policy for NSW Government Trading Enterprises*, August 1992, p12.

subtract capital expenditure from revenues in the year in which it is incurred. This means that the weighted average cost of capital cannot be translated directly into a financial target based on an accounting rate of return.

Sydney Water in its submission has argued that it should earn a 7% real return (pre-tax) on new investments. Sydney Water estimates that its weighted average cost of capital is about 5.88% (after tax) in real terms.

The financial targets in Sydney Water's Statement of Corporate Intent¹² relate to revalued assets including *all assets*. The financial targets in the Statement of Corporate Intent therefore are not comparable with the return on regulatory asset base calculated by the Tribunal.

The required rate of return on investments should reflect the opportunity cost of capital, that is the rate of return that could be earned on an alternative investment of similar risk. At present, there is limited scope for competition in the water industry. The water operators also enjoy a relatively high degree of certainty in their revenue given that the majority of incomes comes from fixed availability charges. It can therefore be argued that the risk margin for the water industry would be relatively low.

The Tribunal has concluded that it should have regard to the consequences of a 7% return (pre-tax, real) on new investments as part of its consideration of the issues listed in section 15 of the IPART Act.

5.3.5 Return on environmental assets

In the context of its proposed annuities approach, Sydney Water has not sought revenue increases to recover the costs of capital expenditure which is expected to be incurred to meet existing and anticipated environmental standards. Sydney Water considers that it should not automatically assume that price increases would be granted in the absence of (a) transparent processes for establishing and evaluating environmental standards; and (b) information on the willingness of customers to pay for the improvements.

Hunter Water Corporation does not, however, intend to exclude environmental investments from its proposed price movements.

EPA disagrees with Sydney Water's exclusion of environmental works:

"The exclusion of capital works from SWC's medium term price path does not convey the correct price signals to the Corporation's customers. This under-pricing of water and related services is in direct conflict with the Corporation's demand management objectives....

There is more than adequate clarity of environmental objectives and trends in licence conditions for SWC to be able to incorporate environmental requirements in its pricing policies."

The Treasury has similar views. Treasury believes that the charges to recover environmental investments should be separately identified as an "environmental charge".

The capital works required to support existing and anticipated environmental standards are estimated to be \$646m over the next five years.

¹² The Statement of Corporate Intent is negotiated by the Board of Directors and the Government shareholders. It details the commercial objectives and targets that Sydney Water must achieve.

In practice, it will be extremely difficult to partition environmental works from other new capital expenditure. Environmental-related capital expenditure is likely to be combined with asset replacement or upgrades to meet growth. Differentiation of different types of investments would be artificial. Further, meeting environmental standards is unavoidable for a water business.

The Tribunal considers that the costs associated with higher standards, including the return on any such investments, should be included within Sydney Water's cost base. The level of return must be considered in the light of the other objectives of the water agencies including environmental protection and promotion of ecologically sustainable development. The overall return on all assets (including environmental assets) will therefore be considered in the determination process. To manage the impact on customers, it may be desirable to phase in cost increases. The other requirements set out in Section 15 of the Act also need to be considered.

5.3.6 Financial distribution to government

The Tribunal is required to have regard to what, in all the circumstances, an appropriate dividend paid by Sydney Water to the Government would be. The Tribunal has noted the relatively low level of the total financial distribution from Sydney Water to the Government (\$106m of dividends and tax equivalent payments projected for 1995/96) and has been concerned that the level of financial distribution should not be reduced. The Tribunal has also considered customers' interests and the need to retain earnings to fund new capital expenditure.

5.3.7 Other financial performance measures

To enable a balanced assessment of Sydney Water's financial performance, the Tribunal has had regard to a number of accounting and cash based measures other than the rate of return. The following comparisons are made with two large capital intensive private companies and several Government Trading Enterprises.

Table 3: Comparative Financial Performance (%)

Year	Sydney Water 1995/96	Wyong Council 1995/96	Gosford Council 1995/96	Hunter Water 1995/96	Sydney Electricity 1994/95	BHP 1994/95	AGL 1994/95
EBIT/Total Assets	2.2	3.2	3.9	2.4	4.7	10.1	10.5
EBIT/Gross Income	24.3	35.4	42.4	29.3	9.1	15.8	19.7
EBITD/Gross Income	29.5	58.0	63.9	48.1	18.2	24.8	26.6
(Interest Dividends Tax)/Gross Income	+ 24.3	+ 13.5	+ 18.3	+ 26.9	+ 7.6	+ 11.4	+ 13.7
Depreciation/Gross Income	15.2	22.5	21.6	18.8	9.1	8.9	6.9
Capital expenditure/Gross Income	20.0	27.0	17.8	28.0	10.5	20.4	11.9

Notes:

1. Hunter Water Corporation's Gross Income excludes proceeds from the environmental levy
2. Figures for water suppliers' Gross Income and Capital Expenditure include capital contributions

The accounting measures are affected by different approaches to valuation in the public and private sectors. If SWC's EBIT/Total Assets figure was measured on an historic cost basis then the rate of return would increase to approximately 7%, while the ratio of depreciation to gross income would decline from 15.2% to approximately 10%.

5.3.8 Funding of capital works

In the past five years, Sydney Water's capital program has largely been financed from internal sources, developer contributions and government contributions (for social programs). Given the current cash flow position, Sydney Water will be able to fund the majority of its capital works program from internal sources. Some \$100m new borrowing will be required in 1999 to finance the second payment which will then be due to the Rouse Hill development consortium.

The Tribunal has recently engaged a consultant to undertake capital expenditure audits for the metropolitan water operators, including Sydney Water. The objective of the audit was to assess the reasonableness of the water operator's capital expenditure requirements with the emphasis on the process by which capital expenditure decisions are taken.

The audit found that Sydney Water has a detailed planning and approval process for capital expenditure. However, areas for improvements in the capital acquisition process were identified, including the need for clearer allocation of responsibility and accountability to specific groups and for closer liaison between the environmental regulator and the water authorities.

The Tribunal believes that further audits of the capital program itself rather than processes are warranted. The issue will be examined further before the next price review.

5.4 Environmental issues

- * *the need to maintain ecologically sustainable development by appropriate pricing policies that take account of all the feasible options available to protect the environment [S15(1)(f)]*
- * *considerations of demand management and least cost planning [S15(1)(j)]*

5.4.1 Ecologically sustainable development

Ecologically sustainable development (ESD) is described in Part 3 of the Protection of the Environment Administration Act 1991 as requiring *the effective integration of economic and environmental considerations* and the implementation of *improved valuation and pricing of environmental resources*. In line with this objective the Tribunal has introduced a number of initiatives. The Tribunal has also requested guidance from the NSW Environmental Protection Authority (EPA) as to how it may practically incorporate ESD within its pricing determinations¹³.

In its submission to the Tribunal on the pricing proposals of Hunter Water Corporation the EPA stated¹⁴:

¹³ IPART, Transcript of Public Hearing, Sydney Water Corporation, Hearing Volume Number 1, April 19, 1996.

¹⁴ Environmental Protection Authority, *Determination of Maximum Prices for the Hunter Water Corporation from July 1996*, 25 March 1996.

“The EPA supports the inclusion of such a (specific environmental externality) component in the prices for water and related services supplied by water authorities.”

If Sydney Water's water and sewerage operations satisfy current and known future environmental standards, then the Tribunal believes that this condition has been satisfied by ensuring that Sydney Water's prices cover the cost of services (including where appropriate a rate of return). However, the EPA has also argued for inclusion of a component in the usage price for water, above what is already in place, to account for environmental damage resulting from the use of water.

The EPA contends that as a general principle, ecologically sustainable development should become part of the business processes in place within an organisation. For example, environmental issues need to be considered before any capital works decision is made. In general,

“It is a matter of having a certain culture within the organisation and it is a matter of having certain processes that do try to reinforce that culture and to make sure that environmental considerations become a part of every single decision or the decision making process that is employed within the organisation.”¹⁵

The Healthy Rivers Commission was established in January 1996¹⁶ to conduct public inquiries into the condition of the State's key river catchments and make recommendations on water quality objectives for these catchments. The Commission is required to make recommendations to the Government on objectives for water quality, river flows and other goals to achieve ecologically sustainable development in a realistic time frame. The Commission's recommendations will affect future standards and related pricing determinations.

5.4.2 Sydney Water's Environment Plan

Sydney Water has prepared an Environment Plan which explains how it will implement the environmental objectives enshrined in the Water Board (Corporatisation) Act 1994 and the Operating Licence. The objectives relate to:

- preparation of an Annual Environment Report
- ecologically sustainable development
- the Clean Waterways Program
- source control and the trade waste program
- mechanisms for demonstrating environmental due diligence
- management of energy, water and other materials
- environmental risk assessment methodology
- annual review and update of the plan.

The extent of Sydney Water's compliance with the Environment Plan will be audited annually as part of the independent audit of Sydney Water's compliance with its Operating Licence.

Based on the information available to it, the Tribunal believes that Sydney Water has complied, in broad terms, with the requirement of the Operating Licence. The Tribunal will

¹⁵ Transcript of IPART, Op.cit. p55.

¹⁶ Healthy Rivers Commission, *Williams River Inquiry: Issues Paper*, March 1996.

continue to consult with the Licence Regulator regarding Sydney Water's environmental performance.

5.4.3 Demand management

Sydney Water is committed to water conservation. A demand management target is specified in the Operating Licence:

"Sydney Water must aim over the terms of such relevant licences 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 at least 35% per capita between 1990/91 and 2010/11. In achieving this target, Sydney Water must aim to reduce unaccounted losses from its water systems over the terms of such relevant licences to at most 15% by the year 2000/01 (5.14)..."

In October 1995, Sydney Water published its Demand Management Strategy.

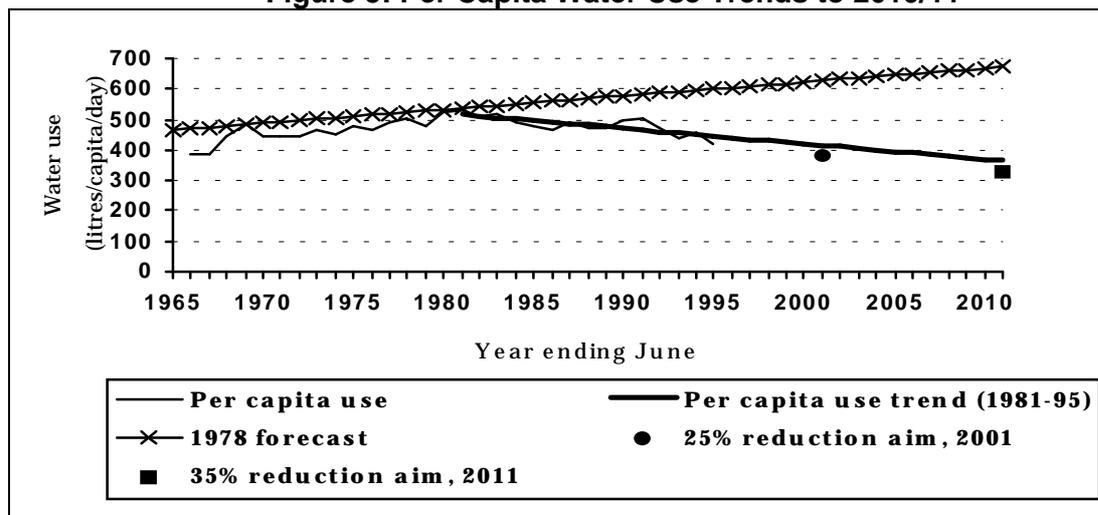
The key strategies are to:

- improve price signals
- involve key stakeholders
- influence customer behaviour
- improve system efficiency
- increase water re-use.

Community awareness during periods of drought and Sydney Water's water saving campaigns appear to have reduced the use of water. These reductions were accelerated by introduction of usage-based pricing which better reflected the value of water. Sydney Water's customer research has found that customers support water conservation.

Average water usage per capita is currently 21% less than in 1980/81 when usage levels peaked at 530 litres per person per day. The trend can be seen in figure 5:

Figure 5: Per Capita Water Use Trends to 2010/11



At current usage levels, Sydney Water expects that another water supply augmentation will not be needed for at least 35 years.

Sydney Water believes that the 25% target can be achieved in 2001 if usage continues at present levels. However, the reduced water use achieved during the recent drought would need to continue permanently. Achievement of the 35% target would involve a combination of increased recycling of water (including potable water reuse) and other management options. The development of potable re-use markets for effluent will depend heavily on consumer and regulator acceptance.

The Tribunal acknowledges the achievements and efforts of Sydney Water in promoting demand management. Sydney Water intends to continue its demand management activities including: free “water audits” for low-income, high water-use households, the “Every Drop Counts” campaign and the “Upside Down Umbrella” program for licensing products that promote water conservation. Sydney Water is also committed to reduce unaccounted water to 15%.

New initiatives over the next four years include:

- publish projections of long term water price movements
- investigate area-based and seasonal-based pricing
- wateruse tracking study
- research cultural differences in water usage
- strategies for customer of non English speaking backgrounds
- implement water efficiency trials for target communities
- target commercial properties
- implement water audits for charitable properties
- review water usage on Sydney Water properties
- potable reuse demonstration plants.

An important issue is the relative weight that should be placed on price and non-price measures to achieve demand management. Sydney Water has chosen to emphasise a higher usage price of water. A high usage price for water encourages customers to use less but may give water agencies an incentive to sell more to the extent that the agency is governed by commercial incentives and the usage price exceeds the short run marginal cost

of water. Many non-price demand management measures will be unattractive to an agency in these circumstances. An alternative would be less reliance on price and greater reliance on non-price measures (such as rebates for customers who purchase water efficient appliances). This issue will require further consideration in future price determinations. It should be noted that Sydney's price-based approach seems to have been successful to-date.

During 1995 Sydney Water participated in a demand management forum¹⁷ which was organised by the Tribunal to 'develop a framework for evaluating the merits of specific demand management measures'. Sydney Water is yet to report on which non-price demand management measures it considers to be justified in terms of the framework. The Tribunal will continue to monitor progress.

5.5 Standards

* *standards of quality, reliability and safety of the services concerned [S15(1)(l)]*

5.5.1 Standards met by Sydney Water Corporation

Sydney Water must ensure that it complies with the standards for water quality, continuity, pressure and sewage surcharges set out in the Operating Licence

Sydney Water is now subject to an annual audit of its performance in relation to its Licence. The Licence Regulator appointed an auditor in February 1996. It is expected that the report of the Licence Regulator and the audit report will be submitted to the Parliament in June.

The Tribunal has to consider whether Sydney Water has fully met its obligations for quality, reliability and safety. The Tribunal will continue to consult the Licence Regulator on Sydney Water's operating performance.

Sydney Water is also required to comply with all effluent discharge and pollution reduction targets of the EPA. It is anticipated that new standards and targets will be set for the following items during the price control period:

- surcharges and discharges from the sewage transportation system
- pollution reduction plans for Sydney Water's 34 sewage treatment plants.

6 BASIS OF THE TRIBUNAL'S DETERMINATION

6.1 The core income level

The Tribunal has considered the revenue requirement and set charges for Sydney Water's services for the next four years from 1 July 1996. Sydney Water's core income has been projected on the basis of these maximum charges and the following assumed parameters:

- from 1995/96, metered water sales will be 7% below those of a "typical year"
- the number of properties will grow at 1.3% per annum (approximately 19,000 properties a year).

¹⁷ IPART, *Water Demand Management, A Framework for Option Assessment, Water Demand Management Forum*, March 1996.

The projected core income level and reductions in average revenue per property (the X factor under CPI +/- X regulation) are shown in Table 4.

Table 4: Revenue path and X factor (\$m)

	1995/96 (forecast)	1996/97	1997/98	1998/99	1999/2000
Real 1995/96 dollars ⁽¹⁾	1,020 ⁽²⁾	998	988	981	975
Dollars of year	1,020 ⁽²⁾	1,051	1,079	1,103	1,129
X factor (real reduction in average revenue per property)	-13%	-3.4%	-2.3%	-2.0%	-1.9%

Note:

(1) Real income projections are based on retrospective CPI ended March 1996. The inflation used is: March 1996 - 5.3%; March 1997 - 3.7%; March 1998-2000 - 3%.

(2) The projected income in 1995/96 is affected by the drought and water restrictions. The income would have been \$1,035-\$1,040m had seasonal conditions been normal.

The X factor can be thought of as comprising two elements:

- an efficiency and financial factor in respect of base service provision; and
- a quality factor which reflects improvements in drinking water quality and environmental quality standards.

Despite the significant cost increases arising from improvements in drinking water quality and environmental quality, the four year cumulative X factor will be -9.6%. This is made possible as a result of the efforts of Sydney Water to reduce its underlying operating costs.

6.1.1 Comparison with alternative approaches

Although the Tribunal has not endorsed Sydney Water's annuities approach, the Table below compares the Tribunal's determination for 1996/97 to 1999/2000 with the income entitlement derived under the annuities approach. This provides an indication of the extent to which the Tribunal in any one year provides less than a 7% real return on new investments in and after 1996/97.

Table 5: Comparative Income Requirements

	1996/97	1997/98	1998/99	1999/2000
<i>Assuming technological change factor of 1.5% per annum</i>				
Excluding environmental assets	1,055	1,069	1,100	1,130
Including environmental assets	1,058	1,077	1,120	1,166
<i>Assuming no technological change factor</i>				
Excluding environmental assets	1,053	1,065	1,095	1,123
Including environmental assets	1,056	1,072	1,112	1,154
Tribunal's determination	1,051	1,079	1,103	1,129

Note: Environmental assets include new investments to meet existing environmental standards and anticipated standards.

The Tribunal notes that its determination is less than the income level that would be calculated if Sydney Water's income entitlement approach was followed strictly. Overall, the allowable income in 1999/2000 (\$1,129m) is about 2% below the income entitlement of (1,154m) under the annuities approach (assuming inclusion of environmental assets but no technological improvement factor).

The Tribunal considers that no business can be guaranteed a specific rate of return on all of its existing and new investments. However, the Tribunal believes that its determination takes account of the interests of both customers and shareholders, and will provide appropriate returns over the longer term.

6.1.2 Expected outputs and deliverables

This determination has had regard to the fact that over the four year price control period, Sydney Water will:

- need to at least maintain existing standards of services under its Operating Licence
- meet higher drinking water quality standards
- improve environmental quality to achieve some specified existing standards and specified anticipated standards.

Expected environmental and health outcomes over the next four years are as follows:

Existing standards

- Existing EPA licence conditions on sewage treatment plants (STPs).
- Sewer surcharge: the requirements of its operating licence will be met.

Future standards

- Hawkesbury/Nepean standards: Nitrogen levels in effluent from existing STPs will fall to 7 mg/litre (50 percentage quartile) and phosphorus levels will fall to 0.15 mg/litre (50 percentage quartile) to meet anticipated EPA requirements and to avoid sewage-induced algal blooms in the Hawkesbury Nepean River.
- North Head, Malabar and Bondi Ocean STPs: By the year 2001, engineering design work will have been completed and construction of the necessary facilities will have commenced to meet anticipated EPA requirements for the elimination of floatable and settleable solids.
- Warriewood and Cronulla Ocean STPs: Bathing water quality at nearby beaches will meet anticipated EPA requirements based on the ANZECC standards on bathing waters better than 90 percent of the time. Work at both STPs will be completed by 2001/02.
- Illawarra STPs: The Illawarra strategy and the detailed design of some facilities will have been completed. Effluent disinfection will have commenced and, as a consequence, bathing water quality at all beaches near Wollongong, Shellharbour and Bombo will meet anticipated EPA requirements based on the ANZECC standard better than 90 percent of the time.
- STPs: Future licence conditions that will be set through the EPA's current pollution reduction programs will have been met.
- Potable reuse plant: The plant will have been constructed and will be operating. Trials proving reliability and ability to continuously meet drinking water standards will have

commenced. The costs of producing drinking water from effluent will have been better defined.

- Drinking water quality: NHMRC's 1987 drinking water guidelines will be met through the installation and operation of the water filtration plants.
- Sewer overflows:
 - * Sydney Water will spend some \$63m from 1996/97 to 1999/2000 to help contain dry weather discharges from cracked pipes. Of this approximately \$50m is operating expenditure (provided for within an asset maintenance provision) and \$13m related to capital expenditure. This spending will meet "existing standards" and expenditure will be prioritised to target areas where pipe conditions also makes a significant contribution to wet weather overflows.
 - * Approximately \$14m of operating and \$5m of capital costs have been allowed to meet anticipated EPA wet weather overflow requirements. The overall level of expenditure that may be needed is unknown and will depend on the requirements specified by the EPA through the licensing process. However, the bulk of the wet weather overflow program could involve expenditure of over \$1.6bn over the next 25 years.

6.2 Expenditure Projections

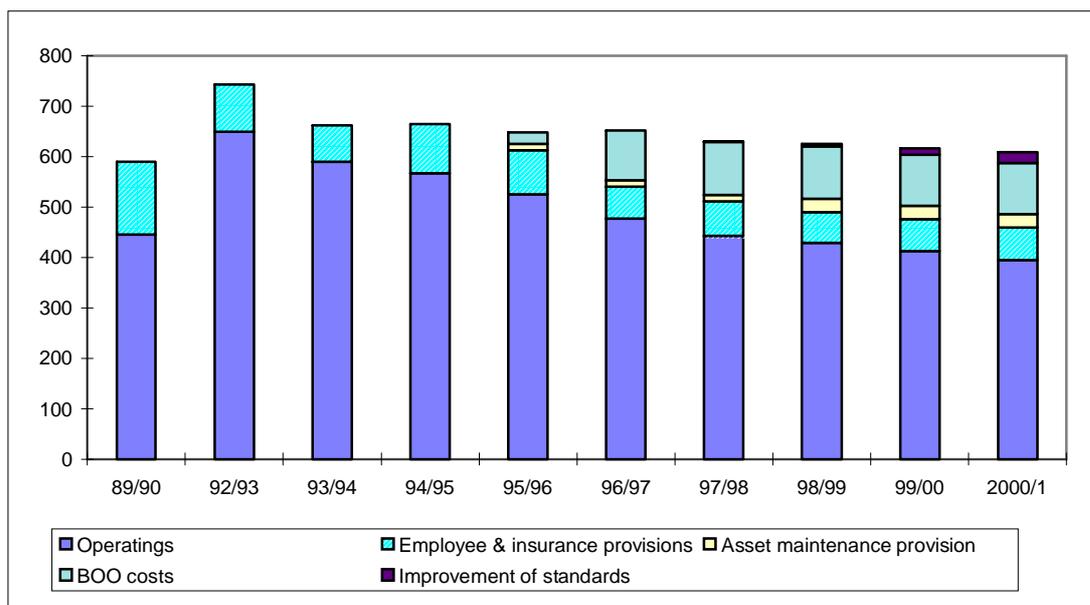
The Tribunal believes that its determination provides sufficient revenue to finance the operating and capital expenditure that is required to achieve the above outcomes and provide a reasonable return to the owner.

6.2.1 Operating expenditure

Figure 6 shows the operating expenditure allowed for by the Tribunal in determining the medium term price path. It shows that:

- Sydney Water will be able to provide its existing levels of service at lower costs. There will be a reduction in underlying operating costs for existing services of 20% in real terms from 1996 to 2000.
- new obligations and quality improvements, especially those associated with the water treatment plants, will involve increases in operating cost above the level that would otherwise have occurred.
- overall operating costs will only marginally decrease once allowance is made for the cost of achieving higher quality standards.

Figure 6: Projected Operating Cost (1995/96\$m)



6.2.2 Capital expenditure

Capital expenditure of \$1.1bn over the four years has been forecast. It is anticipated that this will be spent as shown in Table 6.

Table 6: Capital expenditure projections by major business drivers (1995/96 \$m)

Category	1995/96	1996/97	1997/98	1998/99	1999/2000	4 years total
Existing operational standards	148	116	126	122	113	477
Existing environmental standards	31	46	68	75	45	234
Anticipated standards	6	15	48	88	117	268
Growth	20	11	11	15	8	45
Government commitments	8	24	44	26	13	107
Total	213	212	297	326	296	1,131

Note: Capital expenditure relating to growth excludes Rouse Hill infrastructure

Future capital expenditure will be dominated by wastewater. Expenditure required to meet upgraded standards will have a significant effect in the later years. Major projects accounting for 47% of projected total capital expenditure, include:

- Major ocean sewage treatment plants (STPs)
- Hawkesbury Nepean STPs
- Sewerage backlog
- Sewer overflows
- Water Factory (potable reuse).

6.3 Revenue projection

6.3.1 Revenue Projection

The revenues forecast for 1996/97 and the three years to 1999/2000 are as follows:

Table 7: Revenue Projection ⁽¹⁾ (\$m of year)

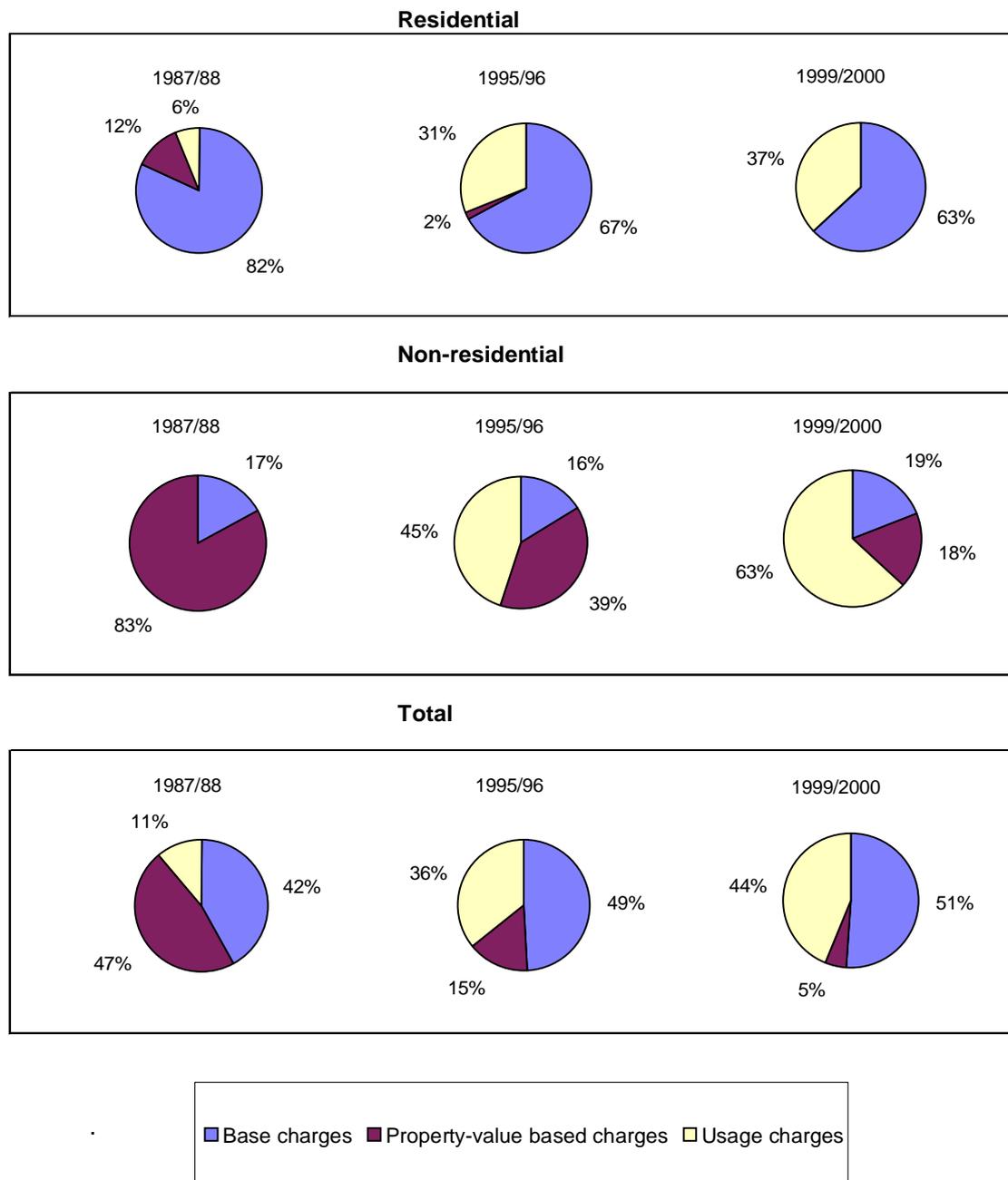
	95/96	96/97	97/98	98/99	99/00
Residential					
- service charges	445	460	478	491	504
- usage charges (water)	205	237	254	272	291
- property-value based charges	15	-	-	-	-
- total	664	697	732	763	795
Non-residential					
- service charges	56	58	60	62	63
- usage charges (water and wastewater)	160	175	186	198	210
- property-value based charges	141	121	101	81	61
- total	356	354	347	340	334
Total revenue	1,020	1,051	1079	1,103	1,129

Notes:

1. Based on normalised seasonal conditions.
2. Includes pensioner rebates. These are reimbursed by the Government as CSO receipts.
3. Charges for exempt properties are reimbursed as CSO receipt.

As a result of this determination, revenue from user charges will become more important for Sydney Water, increasing to 44% of total revenue by 1999/2000. The shares of property tax, service charges and usage revenue in 1987/88, 1995/96 and 1999/2000 are shown in Figure 7.

Figure 7: Components of Revenue

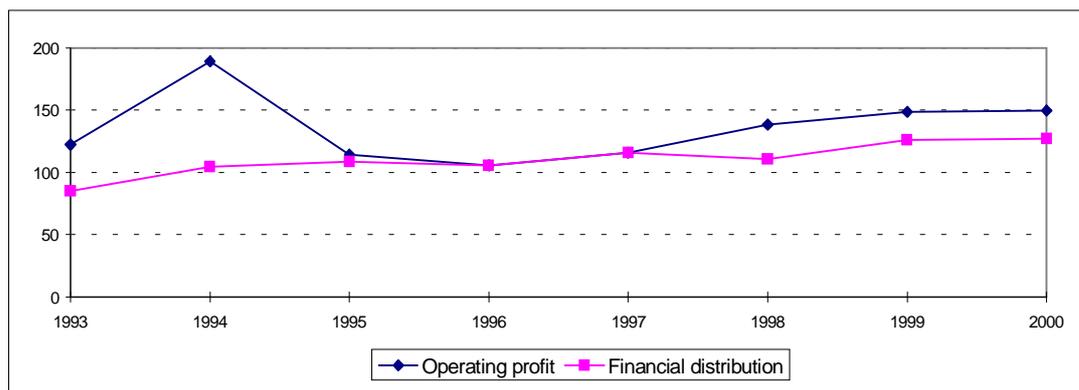


Source: Sydney Water

6.4 Financial performance

The Tribunal's determination is considered to maintain the financial integrity of SWC. Projected operating profits and financial distributions over the next four years are shown in Figure 8.

Figure 8: Financial Projections



Note: Financial distribution includes the amount provided for tax equivalent and dividends but excludes sales tax equivalent and land tax.

Profitability will improve in nominal terms. Sydney Water will also be able to maintain its financial distribution in real terms to its shareholders (i.e. the government) through taxation and dividends.

The rate of return (EBIT excluding investment income) on the regulatory asset base will be maintained at around 5%. If EBITD is used as a measure of returns, the return will increase from around 8.6% in 1996/97 to 9.2% in 2000/01. This is consistent with Sydney Water earning its targeted 7% on new investments.

6.5 Property-valuation based charges and cross subsidies

Sydney Water has proposed that \$80m of the remaining \$141m of the property-value based charges should be removed over the four years from 1996/97 to 1999/2000.

The Australian Business Chamber argued that a faster reduction could be achieved and that this might be funded by lower dividends to the government and accelerated efficiency improvements.

In deciding the rate at which the remaining property taxes can be removed, the Tribunal considered:

- the scope for further cost reduction
- the impact of reduced property-value based charges on the financial viability of Sydney Water and returns to the owner
- the effects on customer groups if other charges were increased to compensate for the reduction of revenue which would result from a faster reduction in property-value based charges
- other demands on Sydney Water, particularly the need to fund capital and operating costs associated with higher quality output.

The reduction in non-residential property-value based charges that has taken place in recent years has substantially reduced the cross-subsidy that previously existed from non-residential to residential customers. Sydney Water estimates that this cross-subsidy now

stands at \$120m¹⁸ - a 67% reduction from the peak of \$300m in 1992/93. As a result of the price reforms that have been pursued by Sydney Water, average non-residential revenue per customer in Sydney in 1995 compares favourably with the ACT, Melbourne and Brisbane.

The Tribunal has considered scenarios for a faster reduction in revenue to permit a further reduction in property-value charges than proposed by Sydney Water. This would result in declining profits, a dwindling cash position and a reduced financial distribution to government.

The Tribunal does not consider this to be an acceptable outcome in all the circumstances. Moreover, the Tribunal wishes to ensure that Sydney Water has the capacity to fund new obligations that may arise from higher quality standards in future years.

The Tribunal has concluded that a total of \$80m (or \$20m a year) in non-residential property-based value charges should be removed over the next four years. The remaining non-residential property-value based charges will be considered in the next review. It is anticipated that the remaining charges (\$61m) will be removed during the early years of the next price control period.

Table 8: Property-value Based Charges

	Reduction in charges (\$m)	Remaining Charges (\$m)
Achieved		
92/93		418
93/94	60	358
94/95	95	263
95/96	107	141
	(122 full year effect)	
Future reduction		
96/97	20	121
97/98	20	101
98/99	20	81
99/00	20	61

6.6 Water pricing

6.6.1 Cost pass through of water filtration plants

The Tribunal commenced its consideration of the extent to which the costs of new water filtration plants should be reflected in prices as part of its 1995 determination for Sydney Water. The Tribunal concluded that:

- the water treatment plants are meeting standards that have been set by government
- the awarding of the BOO contracts for the plants was subject to a competitive tender process

¹⁸ Sydney Water estimated that of the remaining \$141 non-residential property-value charges, the cross subsidy (i.e. the extent of over-charging) from the business sector to the domestic households is approximately \$120m in 1995/96.

- the contract is not unreasonable in its allocation of risk between the private sector participants and Sydney Water¹⁹.

However, the key question is whether the water treatment plants are a cost effective means of improving drinking water quality. To assist it in understanding the issue, the Tribunal engaged a consultant to evaluate the adequacy of the studies that were available to the (then) Sydney Water Board leading to the letting of contracts for the water treatment plants. The consultant submitted a report to the Tribunal in August 1995.

The main findings of the review were as follows:

- the results of the economic analyses provide a credible demonstration of a significant welfare gain; and options without filtration would not satisfy the health related components of the 1987 NHMRC guidelines
- the weight of evidence suggests that there is a willingness to pay for improved water quality significantly in excess of the cost of providing it
- the "Dwyer Leslie Report"²⁰ failed to make sufficiently explicit how catchment management and demand management strategies were assessed in the evaluation process. However, these activities are complements to the drinking water quality program, and not substitutes for it.

The report also noted that:

- the Dwyer Leslie report provided an *ex-post* justification for the water treatment program and confirmation of the choices; rather than an input to the selection process for choosing between the options
- the risk analysis did not provide explicit analysis of the capacity of increased catchment management to reduce risk events with and without filtration
- the risk and cost effectiveness components of the Dwyer Leslie study do not give a clear and unambiguous explanation as to why the only options selected for final consideration were ones that at least meet the 1987 guidelines
- gains can be made in water quality by combining improved catchment management plans with other system improvements. However, outer catchment management is largely outside the control of Sydney Water. Water treatment is under its control through contracts with the treatment companies.
- the authors of the Dwyer Leslie studies and the expert group that reviewed the studies appear to be of the view that the gains potentially available through improved catchment management would still not meet the health-related components of the 1987 guidelines. Unfortunately, it was not explained whether the inability of enhanced catchment management to meet the guidelines:
 - * would persist at any level of expenditure on catchment management; or
 - * arose through an inability to reach the guidelines with adequate certainty; or
 - * arose through an inability to reach the guidelines in a reasonably short time.

¹⁹ The Auditor General has identified the risk allocation as an accounting issue in the context of whether the contractual obligations of Sydney Water in these BOO agreements should be recognised on the balance sheet.

²⁰ Dwyer Leslie Pty Ltd, Drinking Water Quality Economic Evaluation, 1992.

This report was sent for comment to a number of government departments, customers and interest groups. Responses have been received from the Treasury, NSW Health Department, Chamber of Manufactures and Friends of the Earth. In response to the review report, the following comments were made:

- The Chambers of Manufactures were concerned about the impact on water charges.
- The Friends of Earth considered that the Dwyer Leslie report had failed to respond to the causes of low quality. Without examining the costs of improved catchment management, demand management and piping, there can be no real comparison between mooted purification technologies and alternative strategies.
- Treasury considered that the consultant's report supports the case for water prices to reflect the additional costs of water filtration.

The Prospect and Macarthur water filtration plants have been the subject of a recent review by the Auditor General. The issue is whether the liabilities arising from BOO arrangements should be recognised on Sydney Water's balance sheet because of the risks accepted by Sydney Water. In the Auditor General's opinion, the majority of risks and benefits incident to ownership of the plants lie with Sydney Water. Therefore, the availability charge component of the BOO transaction should be considered to be a financing arrangement. This should be recognised in the balance sheet.

The review also tested accounting controls, including the analysis of needs, the process for approval by the Capital Works Committee of Cabinet, and the control environment. Whilst the overall assessment of controls was satisfactory, a number of weaknesses were identified. The Audit Office was concerned about a number of aspects including market testing procedures; and documents prepared for the Government for the purpose of obtaining approval to enter into the BOO transaction.

The Tribunal has carefully considered the report of its consultant and the comments on this report. The process leading up to the decision to build the water treatment plants was unsatisfactory in a number of respects including:

- identification and evaluation of options
- planning and monitoring of the program
- accountability and quality control of key decision points
- project management practices.

On balance, the Tribunal accepts that the water treatment plants were necessary to meet the health-related components of the 1987 NHMRC drinking water quality guidelines and that the costs associated with improvements to drinking water standards should therefore form part of the cost of service provision. The costs will be progressively reflected in water pricing over the next four years to minimise the impact on customers' bills. Sydney Water will experience a degree of financial stress over the next four years because of the progressive absorption of the water treatment costs within the overall revenue cap and the reduction in property taxes. The rate of return will show little improvement over the price control period. Thus, the cost of the water treatment plants will be shared between customers and the owner during the price control period.

6.6.2 Future water charges

As a result of the introduction of the new water pricing structure from 1 January 1994, the drought and Sydney Water's demand management program, there has been improved customer awareness of water conservation. This is supported by Sydney Water's customer research. Customers now have greater control over their water bills.

The Tribunal considers that greater reliance on usage charges will further encourage customers to conserve water. People who save water will be rewarded with lower bills.

Sydney Water has proposed that the costs of water treatment should be recovered through increased usage charges for water.

In their submission, the peak environmental groups submitted that:

"...We oppose the inclusion of the costs of the BOO drinking water treatment plants in the fixed charges component of bills. If the costs of the plants are now to be passed onto customers those costs must be quarantined in the usage component of customers' bills"

The Tribunal has considered carefully the reasons for the proposed increase in the usage price for water and the effects of the proposed increases on different customer groups. On balance, the Tribunal accepts Sydney Water's pricing proposal for water service and usage charges. Water charges during the four years from 1996/97 to 1999/2000 will therefore be as follows:

Table 9: Water Charges

	95/96	96/97	97/98	98/99	99/00
Tribunal determination					
\$ of the year					
Water service charge (\$ per annum)	80	80	80	80	80
Water usage price (c/kl)	70	76	80	85	90
Real 1995/96 dollars equivalent					
Water service charge (\$ per annum)	80	76.4	73.7	71.5	69.4
Water usage price (c/kl)	70	73	74	76	78

Sydney Water estimates that the marginal capacity cost component of the water price is about 47 cents/kl (in 1994/95 dollar terms). The usage price for water appears to exceed the readily identifiable marginal costs of providing water and may be thought of as including a component to recover the environmental costs associated with the storage, provision and use of water services.

6.6.3 Charges for different quality of water

Sydney Water has proposed separate prices for bulk raw water, unfiltered potable water, filtered water and water for shipping.

Sydney Water has proposed a small increase in the bulk water price to reflect the fact that when augmentation is required (this is currently expected to be around 2030), the cost of providing new capacity will be around 47 cents a kilolitre. Rather than having a sudden jump in water prices when capacity is required, Sydney Water prefers a gradual increase in *bulk* water prices.

Sydney Water proposes a reduction in the real price of *unfiltered* water. This is because of efficiency gains in the transportation, reticulation and retail functions. As noted, the prices for *filtered* water will need to increase because water filtration costs will progressively be included in this price.

The Tribunal therefore has determined the usage prices for water of different quality to be as follows:

Table 10: Water usage charge (c/kl)

	95/96	96/97	97/98	98/99	99/00
Tribunal Determination					
\$ of year					
Filtered water	70	76	80	85	90
Unfiltered water	na	70	71	71	71
Bulk raw water	36	38	40	42	44
Water for shipping	104	107	110	113	115
Real 1995/96 dollar equivalent					
Filtered water	70	73	74	76	78
Unfiltered water	na	68	66	65	63
Bulk raw water	36	37	38	39	39
Water for shipping	104	103	103	103	101

6.7 Sewerage charges

At present, Sydney Water has a standard sewerage service charge for residential customers. Non-residential customers pay a service charge (which is adjusted to reflect the level of their discharge), a property-value based charge (where the Assessed Annual Value exceeds \$2,500) plus a usage charge (for discharges above 500kl a year) plus trade waste charges, where relevant.

The peak environmental groups argued that the present system for charging residential households for sewerage in Sydney should be replaced by the system which is used in the Hunter in which it is assumed that a fixed proportion (currently 50%) of the household's intake of water is discharged to sewer. This would provide financial benefits to households which install water saving devices and reduce discharge to sewer.

Sydney Water has also put forward proposed future sewerage charges. Their proposal is based on integrated wastewater charging arrangements and the development of a managed wastewater pricing path:

- the service charge is made up of two components - a capacity cost component and a notional usage charge component to recover the cost of treating up to the first 500kl a year of sewerage discharge. However, residential properties will not pay for usage directly.
- continued application of a discharge factor to non-residential service charge is proposed to reflect differences in the costs of treating wastewater.
- sewage usage charges (payable by non-residential properties) which reflects the costs associated with the collection, transportation and treatment of large volumes of domestic strength wastewater

- trade waste charges which are applied to those non-residential properties which discharge conventional domestic substances at levels greater than domestic strength.
- these charges are intended to be cost-reflective and will be phased in over a number of years.

Sydney Water's proposed sewerage service and usage charges are shown in the table below:

Table 11: Sydney Water - Sewerage Charges

	95/96	96/97	97/98	98/99	99/00
Nominal \$					
Annual service charge (\$)	263.0 ⁽¹⁾	271.6	280.4	285.6	290.4
Non-residential usage price (cents/kl)	83	87	90	93	96
Real \$					
Annual service charge (\$)	263.0 ⁽¹⁾	259.41	258.26	255.39	252.11
Non-residential usage price (cents/kl)	83	83	83	83	83

Note:

1. Full year effect of the quarterly sewerage service charge (\$65.75 per quarter from 1 October 1995)

The reduction in the service charges in real terms is possible because of greater efficiency in sewerage collection and transportation.

In the report of its "Inquiry into Water and Related Services" and in subsequent determinations, the Tribunal has identified a number of difficulties in applying sewerage usage charges for *residential* customers. Hunter Water, in its 1996 submission, stated that:

"Because of the relationship between imputed sewer use and actual water use, sewer-use charges have been criticised frequently as being little more than an additional, but poorly understood water-use charge."

Because of these difficulties, the Tribunal does not intend to introduce a usage charge for residential households at this stage.

The Tribunal therefore supports Sydney Water's proposals for sewerage charges.

6.7.1 Trade waste charges

Trade waste charges include a component to recover the costs of Sydney Water in treating water which is in excess of domestic strength and another component (a pollution tax) which recovers the environmental costs associated with the discharge of certain substances into waterways. An independent working party was established in 1995 to further examine trade waste charges.

In its submission, EPA stated its position:

" that the trade waste charges currently in place is a pollution tax and should definitely not be redefined to shift that tax to operating revenue of SWC. At a minimum, no changes would be made until the established Working Party makes its recommendation to Government."

Pending completion of the final report of the Working Party on Trade Waste, the Tribunal has determined that trade waste charges should remain at the existing level.

6.7.2 Sewer mining

The Tribunal intends to introduce a new charge for "sewer mining" (i.e. extraction of wastewater prior to any treatment). This will require Tribunal declaration of the relevant service and resolution of issues such as access to Sydney Water's sewer main. The initial price will be set at "zero" or at a "at cost" charge until reuse increases to 20% of total water use.

6.8 Quality enhancement, environmental standards and pricing

In its report on "Inquiry into Water and Related Services" in 1993, the Tribunal was concerned about the extent of pressures then existing for increased water bills. The Tribunal recommended that the setting of environmental objectives should include a process to ensure that the community is well-informed about the options, the costs and benefits of each option, and the implications for bills. Changes in licence conditions should also be subject to economic evaluation.

At present, two types of standards are set: ambient environmental objectives (water quality and river flow objectives) consistent with the broad direction of the National Water Quality Management Strategy; and EPA licence conditions. The NSW government has made progress towards setting water quality and river flow objectives. This is being done in two stages:

- Stage 1 will produce interim objectives based on community preferences, current scientific knowledge and a broad economic analysis.
- Stage 2 involves an independent public inquiry for priority catchments by the Healthy Rivers Commission. The first inquiry into the Williams River began in March 1995.

The EPA has argued that decisions to upgrade licence conditions already have regard to formal or informal economic analysis. The Tribunal is encouraged by the progress which has already taken place. It believes, even so, that the relationship between the process for setting water quality objectives and that for setting licence conditions require careful attention to ensure that the views of customers are adequately considered especially in deciding how rapidly enhanced licence conditions are to be phased in for Sydney Water and the other water agencies. The Tribunal recommends that the government further consider this issue.

The Tribunal anticipates that the standard-setting process will be further developed and that this will reduce the uncertainty facing the water agencies. In the meantime, the Tribunal will make pricing decisions on the basis of information available to it. In this determination, the Tribunal has taken account of both existing environmental standards and Sydney Water's "best guess" about standards anticipated over the next four years.

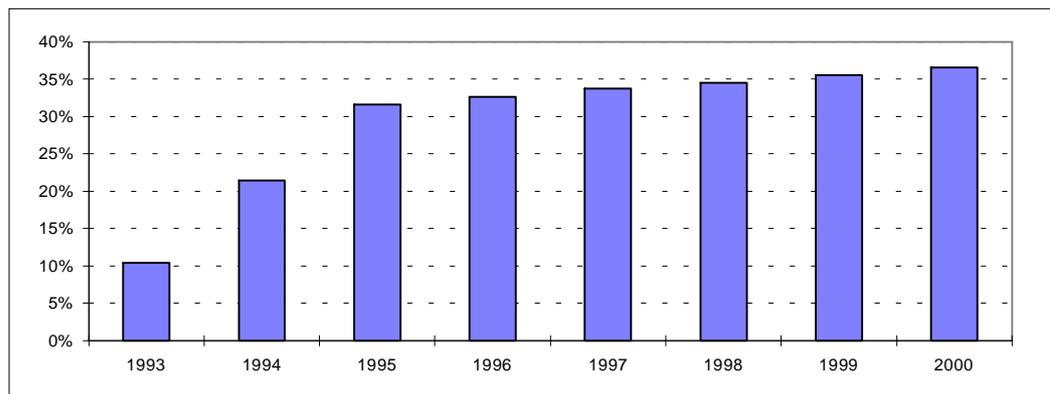
As discussed earlier, the Tribunal accepts that the costs associated with higher standards, including returns on any such investments, should be included in Sydney Water's cost base for the purpose of price determination. However, prices should include only the minimum costs of meeting environmental standards. Moreover, the Tribunal is unable to guarantee

that a commercial rate of return will always be earned on such investment. This reflects the commercial realities of the market place.

6.9 Demand management

This determination will support Sydney Water's demand management objectives. Figure 9 shows the usage composition of a typical Sydney household's water bill from 1992/93 to 1999/2000. Usage charges have risen from 10% of a typical household's bill in 1992/93 to about 37% in 1999/2000.

Figure 9: Usage Component of Water and Sewerage Bill for a Typical Household



As noted earlier, the Tribunal considers that the relative importance to be placed on price and non-price measures to achieve demand management requires further consideration by Sydney Water over the price control period.

The Tribunal requests Sydney Water to review:

- progress in implementing the \$10m non-price demand management program targeted at pensioners and low income households who are higher water users
- progress in applying the water demand management framework to the assessment of options for non-price demand management.

Sydney Water should report to the Tribunal by 30 November 1996.

6.10 Customer Impacts

6.10.1 Residential impacts

Despite the substantial costs associated with improved drinking water quality, Sydney Water has managed to minimise the impacts on residential customers.

As a result of the price changes in this determination, the water and sewerage bill for the "average" household consuming 240 kL a year will increase in 1996/97 by less than the inflation rate of 5.3% for the year ended March 1996. There will be an increase of 46 cents per week in 1996/97 and an increase of 34 cents a week on average in the next three years to 2000 for the typical household.

Factors affecting residential bills

Table 12 shows the change from 1995/96 to 1999/2000 in average residential customers' bills.

**Table 12: Projections of Average Residential Bills⁽¹⁾ in 2000
(1995/96 dollars)**

	1995/96 \$
Current bills	505
Projected bills in 2000 ⁽²⁾	504
Change in bills mainly due to:	
Productivity improvement	-60
Higher drinking water quality standards ⁽³⁾	+29
Higher wastewater standards ⁽⁴⁾	+8
Return on new investments ⁽⁵⁾	+22
Change	-1

Notes:

1. The table shows the change from 1995/96 to 1999/2000 in average residential bills, in real terms for water, sewerage and drainage services
2. In nominal terms, the average residential bill will be \$571 per property (in dollars of year) in 1999/2000. This is an illustrative average; actual increases in bills for residential customers will depend on the level of water consumption.
3. If all the BOO costs are passed through, the total impact will be approximately \$44 per residential property.
4. Projected increase in operating costs of \$14m in 1999/2000 associated with enhanced standards anticipated by Sydney Water
5. This is calculated based on a 5% return on \$500m capital investments to meet existing and anticipated environmental standards and incremental return on \$477m asset replacements to meet operational standards.

The table illustrates the fact that average domestic bills would increase more rapidly in the absence of productivity improvement by Sydney Water. But because of the productivity performance which Sydney Water expects to achieve over the price control period, it will be possible to fund improvements in drinking water and some limited enhancement to environmental standards while holding the increase in domestic bills just below the increase in the CPI.

6.10.2 Pensioner rebates

This is a matter for the Government. Pending a full examination of pensioner charges by the Government, Treasury has agreed with Sydney Water's proposal that the current transitional rebates should continue.

The Tribunal notes that, as has been argued by the Pensioners and Superannuants Association, the increase in water usage pricing has generally unfavourable impacts on pensioners. This issue arises because pensioners are granted rebates on base service charges but not usage charges. This issue will be addressed as part of the Government's review.

6.10.3 Water only properties

Transitional rebates for water only properties will be phased out in June 1996. The water bill for an average "water only" household which consumes 240 kL a year will increase by 46 cents a week in 1996/97 and by 22 cents a week on average in the following three years.

6.10.4 Units and flats

The 1995 determination led to a reduction in bills for 90% of units and flats because of the move to water service charging which is now based on meter size. Overall, there will be a real reduction in total bills for units and flats over the next four years. In nominal terms, there will be an average increase of 24 cents a week a year.

6.10.5 Residential Safety nets

Sydney Water has introduced a number of programs to assist the disadvantaged, including: pensioner rebates; payment assistance scheme (PAS); extended payment arrangements and the deferred payment plan; flexipay card; and demand management assistance for low income households. Sydney Water has also improved its communication with welfare groups via community group liaison/contact. Notable developments have been:

- The decrease in expenditure on PAS from 1992/93 (\$735,000) due to improved labour market conditions.
- The Flexipay card will be introduced in July 1996 in response to requests from welfare groups. This is a pre-payment arrangement (minimum of \$10) targeted for specific groups.

The effect of this determination on households is summarised in Tables 13(a) and 13(b).

Table 13(a): Impacts on Households - Annual Bill (\$ of year) ⁽¹⁾

Usage pa ⁽²⁾	1995/96	1996/97	1997/98	1998/99	1999/2000
Households- Water, sewerage & drainage					
100 kL	426.0	442.1	455.4	465.4	475.2
200 kL	494.8	516.6	534.4	549.1	563.9
240 kL	522.3	546.4	566.0	582.6	599.4
300 kL	563.5	591.1	613.4	632.9	652.7
400 kL	632.3	665.6	692.4	716.6	741.4
500 kL	701.0	740.1	771.4	800.4	830.2
Households - Water and sewerage					
100 kL	410.3	426.1	439.4	449.4	459.2
200 kL	479.0	500.6	518.4	533.1	547.9
240 kL	506.5	530.4	550.0	566.6	583.4
300 kL	547.8	575.1	597.4	616.9	636.7
400 kL	616.5	649.6	676.4	700.6	725.4
500 kL	685.3	724.1	755.4	784.4	814.2
Households - Water only					
100 kL	138.8	154.5	159.0	163.8	168.8
200 kL	207.5	229.0	238.0	247.5	257.5
240 kL	235.0	258.8	269.6	281.0	293.0
300 kL	276.3	303.5	317.0	331.3	346.3
400 kL	345.0	378.0	396.0	415.0	435.0
500 kL	413.8	452.5	475.0	498.8	523.8
Pensioners - Water, sewerage & drainage ⁽³⁾					
100 kL	139.4	150.3	159.2	166.6	174.0
200 kL	208.1	224.8	238.2	250.3	262.7
240 kL	235.6	254.6	269.8	283.8	298.2
300 kL	276.9	299.3	317.2	334.1	351.5
400 kL	345.6	373.8	396.2	417.8	440.2
500 kL	414.4	448.3	475.2	501.6	529.0
Pensioners - Water & sewerage ⁽³⁾					
100 kL	131.5	142.3	151.2	158.6	166.0
200 kL	200.3	216.8	230.2	242.3	254.7
240 kL	227.8	246.6	261.8	275.8	290.2
300 kL	269.0	291.3	309.2	326.1	343.5
400 kL	337.8	365.8	388.2	409.8	432.2
500 kL	406.5	440.3	467.2	493.6	521.0
Pensioners - Water only ⁽³⁾					
100 kL	45.9	49.7	52.7	55.9	59.2
200 kL	91.7	99.4	105.4	111.7	118.4
240 kL	110.1	119.3	126.5	134.1	142.1
300 kL	137.6	149.1	158.1	167.6	177.6
400 kL	206.3	223.6	237.1	251.3	266.3
500 kL	275.1	298.1	316.1	335.1	355.1

Note:

- (1) Total charges from 1996/97 are calculated based on new charges which will be reflected on households' bills on or after 1 October 1996.
- (2) About 54% of households consume 240 kL or less and 17% consume between 240-300kL.
- (3) Pensioners: the bills from 1996/97 are calculated assuming the same value of transitional rebates (\$68) as in 1995/96. The same rebate level for water only pensioners (i.e. 1/3 of water usage charges up to a maximum of that for a usage equivalent of 75 kilolitres per quarter) has also been assumed.

Table 13(b): Increase in Bills - Cents per Week (\$ of year) ⁽¹⁾

Usage pa ⁽²⁾	1996/97	1997/98	1998/99	1999/2000
Households- Water, sewerage & drainage				
100 kL	31	26	19	19
200 kL	42	34	28	28
240 kL	46	38	32	32
300 kL	53	43	37	38
400 kL	64	52	47	48
500 kL	75	60	56	57
Households - Water and sewerage				
100 kL	30	26	19	19
200 kL	42	34	28	28
240 kL	46	38	32	32
300 kL	53	43	37	38
400 kL	64	52	47	48
500 kL	75	60	56	57
Households - Water only				
100 kL	30	9	9	10
200 kL	41	17	18	19
240 kL	46	21	22	23
300 kL	52	26	27	29
400 kL	63	35	37	38
500 kL	75	43	46	48
Pensioners - Water, sewerage & drainage ⁽³⁾				
100 kL	21	17	14	14
200 kL	32	26	23	24
240 kL	36	29	27	28
300 kL	43	34	32	33
400 kL	54	43	42	43
500 kL	65	52	51	53
Pensioners - Water & sewerage ⁽³⁾				
100 kL	21	17	14	14
200 kL	32	26	23	24
240 kL	36	29	27	28
300 kL	43	34	32	33
400 kL	54	43	42	43
500 kL	65	52	51	53
Pensioners - Water only ⁽³⁾				
100 kL	7	6	6	6
200 kL	15	12	12	13
240 kL	18	14	15	15
300 kL	22	17	18	19
400 kL	33	26	27	29
500 kL	44	35	37	38

Note:

- (1) Total charges from 1996/97 are calculated based on new charges which will be reflected on households' bills on or after 1 October 1996.
- (2) About 54% of households consume 240 kL or less and 17% consume between 240-300kL.
- (3) Pensioners: the bills from 1996/97 are calculated assuming the same value of transitional rebates (\$68) as in 1995/96. The same rebate level for water only pensioners (i.e. 1/3 of water usage charges up to a maximum of that for a usage equivalent of 75 kilolitres per quarter) has also been assumed.

6.11 Impacts on non-residential customers

The reduction in property-value based charges of \$80m over the next four years will benefit non-residential customers. The average annual bill is projected to fall from \$3,573 in 1995/96 to \$3,210 in 1999/2000. This represents a further reduction in non-residential customers' bills compared with \$6439 (\$1995/96 dollars) in 1992/93.

The majority of businesses that are currently paying property-value based charges will experience a real decrease in their bills. Over 90% of the business customers' bills will decrease in real terms in each of the year from 1996/97 to 1999/2000. Large water using firms are an exception. The reduction will vary between businesses depending on the property value. The overall impact on the business sector is summarised below:

**Table 14: Impacts on Non-residential Bills
Annual Change in Bills 1996/97-1999/2000**

	Percentages of properties			
	1996/97	1997/98	1998/99	1999/2000
Real decrease in Bills				
0 - 5%	51	62	61	61
5 -10%	30	20	18	18
10 -20%	6	4	4	4
20% and above	8	8	8	8
Real increase in Bills ⁽¹⁾				
0 to 2.5%	4	6	8	8
2.5 - 5%	1	0	1	1
5 and above	0	0	0	0
Total	100	100	100	100

Note:

(1) Those properties having increases have low AAVs (Annual Assessed Value for calculating property-value base charges) and currently pay little or no property-value based charges.

6.12 Other pricing issues

6.12.1 Stormwater drainage area charges

Sydney Water's proposal to maintain stormwater revenues at the current level (in nominal terms) over the four year price control period is accepted.

6.12.2 Pricing proposal for backlog sewerage program

Sydney Water has put forward a proposal for recovering the costs of providing sewerage services to four backlog areas (Picton/Tahmoor/Thirlmere; Gerringong/Gerroa; Bundeena/Maianbar and extension of Winmalee STP to service backlog lots within the Blue Mountains). The estimated capital cost of the program is \$98m and the ongoing operating cost is \$2.5m a year. Sydney Water's financial evaluation concluded that the total cost of the project to Sydney Water greatly exceeded the financial benefits.

Sydney Water's preferred option to recover the costs of these projects is to increase sewer service charges for sewer users in Sydney overall. Sydney Water does not favour area-specific charges for the backlog projects. Under the preferred option, the additional quarterly sewerage charge would be (\$ of year):

1996/97	97/98	98/99	99/00
\$0.10	\$0.48	\$1.36	\$1.92

The construction of backlog sewerage projects in country towns is subsidised by the Department of Land and Water Conservation. Moreover, the funding of the Hunter Sewerage Project is being shared equally shared between the Government and the Hunter Water Corporation.

The peak environmental groups argued that there should be no hidden subsidy for the backlog programs.

The Tribunal understands that the sewer backlog policy is currently being reviewed by the Government. It will further consider Sydney Water's proposal after this review.

6.12.3 Rouse Hill charges

Sydney Water has reviewed the Rouse Hill charges in the light of improved efficiency of the Rouse Hill sewerage treatment plant. A small reduction in the buy-in charges is proposed.

The Department of Urban Affairs and Planning proposed that the sewerage buy-in charge should be assessed on a per hectare basis to avoid cross subsidy from high density to low density development. Sydney Water responded that the amount of waste contributed by a dwelling does not necessarily depend on density. Discharges are more a function of occupancy rates. Increasing density per hectare may in fact increase flows per hectare. Further, the sewerage buy-in charge is intended to recoup the higher operating costs expected to be incurred in the Rouse Hill area rather than the capital cost.

The Tribunal has determined that the following charges should apply in the Rouse Hill Development Areas in addition to the normal recurrent water and sewerage charges:

- Rouse Hill charges (drainage and access for recycled water) will be \$110 in 1996/97 and indexed by CPI thereafter
- the usage charge for recycled water will be 30% of the potable water price
- the sewerage buy-in charge for residential properties will remain at \$924 in 1996/97 and then indexed by CPI
- the sewerage buy-in charge for non-residential properties will be set at levels subject to meter size.

The rate of development of the Rouse Hill area has been and is likely to continue to be significantly lower than was originally anticipated. The Tribunal notes that there are still considerable uncertainties, particularly regarding the cost of stormwater and recycled water systems. Future reviews of costs and the scope for productivity improvement will be required.

6.12.4 Charging for recycled water

Sydney Water's proposed methodology for setting wholesale prices for recycled water is noted. The markets for recycled water and for effluent reuse are still evolving. There are other issues that need to be considered including:

- the terms for access by third parties to allow competition in the recycled water business; and
- whether the discounted prices should apply where large quantities of recycled water are taken under contract.

The Tribunal will examine Sydney Water's methodology in greater detail and will consider any pricing arrangement that may be submitted to it.

As recommended by the environmental groups, the Tribunal will establish a forum to consider the issue of greater reuse of wastewater.

6.12.5 Water supply to BHP

BHP is Sydney Water's largest industrial customer. It consumes 40 megalitres per day of fresh water from the Illawarra water supply system. In the past two years, water consumption by BHP has fallen as a result of a number of initiatives including service audits, water reuse and drought response activities.

Of the amount of water supplied to BHP, 92% is used as process water in steel manufacturing, with the remainder for potable water use.

Following its decision to build the water treatment plants, Sydney Water wrote to BHP about two possible options of water supply: supply of filtered water only or a dual supply of both filtered and unfiltered water. BHP subsequently accepted the concept of dual supply. It also agreed to modify its internal reticulation system and pay for the cost of adjustments to Sydney Water's reticulation system. However, BHP believes that it will suffer from significant cost increases because of the capital works required for a dual water supply system.

The Tribunal has determined a price for unfiltered water which will fall in real terms, reflecting the projected productivity improvements by Sydney Water.

BHP wishes to enter a supply contract arrangement with Sydney Water which would take account of the lower costs of supplying large customers.

In principle, the Tribunal accepts that water agencies should be able to negotiate individual contracts with very large customers provided that:

- water agencies publish clear guidelines explaining the basis for negotiating individual contracts
- the prices set under negotiated agreements at least cover the costs of the services supplied.

The Tribunal considers that a framework should be developed by agencies and that the principles adopted should be consistent between water agencies. The Tribunal will facilitate the development of such a framework.

6.12.6 Miscellaneous customer services charges

In 1993/94, Sydney Water undertook a full review of various customer services charges. These new charges were set on a cost reflective basis. Sydney Water has undertaken a similar review in 1996. New charges were included in the 1996 pricing submission as follows:

Proposed price per service in 96/97	Number of services
Remains the same	15
Increases	38
Decreases	2
New services	9
Total services available	64

The Tribunal considers that relevant interest groups should be involved in a review of these charges. At the request of the Tribunal, Sydney Water is currently seeking comments from customer groups. A separate determination on miscellaneous charges will therefore be made at a later date. In the meantime, these charges will remain at the existing levels.

6.13 Regulatory issues

6.13.1 Form of regulation

The Inquiry into Water and Related Services²¹ resolved that the most appropriate form of price regulation for water and related services was a CPI+X cap applied to average revenue per property. This form of regulation encourages continuing efficiency gains.

The revenue path determined for Sydney Water is equivalent to CPI-2.4% a year for the next four years from 1996/97 to 1999/2000. The relevant CPI measure is the increase in the average CPI for the four quarters to March compared with the four quarters to the preceding March.

As discussed earlier, the Tribunal has considered Sydney Water's proposed alternative form of regulation - the income entitlement approach. Whilst the Tribunal will continue to consider the outcomes produced by this approach, it does not give appropriate regards to the various aspects of Section 15 of the Tribunal's Act, and it may not provide ongoing incentives for continuing cost improvements.

6.13.2 Compliance

Compliance with Tribunal determinations is an issue that will need to be addressed under section 18 of the Independent Pricing and Regulatory Tribunal Act 1992. Sydney Water will need to provide evidence of compliance on an annual basis for the duration of the price determination.

²¹ Government Pricing Tribunal, *Inquiry into Water and Related Services*, October 1993.

The allowed revenue path does not provide for rebates to customers due to service interruptions. This implies that actual revenue outcomes will be grossed up to include the amount of rebates (i.e. the revenue foregone) for purpose of compliance review.

7 NEXT PRICE DETERMINATION

Price caps have been set for 4 years ahead. It is not the intention of the Tribunal to revisit these price caps during the price control period. However the opportunity exists, as part of a mid-term review to be held in 1998, to consider any new issues that may have arisen subsequent to the date of this determination. If new environmental obligations arise, for example in respect of sewer overflows, prices to customers may need to be further increased. This would be considered by the Tribunal in terms of the various section 15 requirements.

The Tribunal's determinations of the individual maximum prices and the commencement dates for their applicability are attached with this report.

Thomas G Parry
Chairman
17 June 1996

Attachment - Summary of Submissions

Submissions were received from:

Environment Protection Authority

- Environmental standards and transparency
 - * The state of NSW has a transparent process for establishing and evaluating environmental objectives and pollution control limits.
 - * SWC should include environmental works in the assessment of price movements.
 - * The Tribunal should allow cost pass through to prices if SWC can demonstrate that it has considered the most cost effective options for achieving licence conditions.
 - * Sydney Water's insistence on complete certainty in environmental standards in a business environment is unjustified. Lead times for changes in standards can be as long as six to eight years.
- Environmental damage costs and their remedies should be taken into account in prices for water and related services.
- The trade waste charges currently in place are a pollution tax and should definitely not be redefined to shift that tax to operating revenue of SWC. No changes should be made until the established Working Party makes its recommendation to Government.
- Assuming prices reflect costs, reducing the demand for water should not compromise SWC's capacity to meet its statutory objectives of protecting public health, the environmental and being a successful business.

Peak Environment Groups, NSW

- No immediate five year price determinations
 - * There is no evidence that agencies are in a position to allow removal from public scrutiny for more than one year. Important issues need to be examined: re-use markets; water conservation; implementation of previous Tribunal recommendations; ecologically sustainable development (ESD).
- Setting a framework for achieving ESD
 - * Environment groups wish to know what steps the Tribunal has taken to meet the Section 15 requirements of its Act, especially regarding ESD.
- The need to remove pricing barriers to competition
 - * Support a uniform water, sewerage and drainage pricing terminology across agencies. The Tribunal is requested to create one set of terms for water, sewerage and drainage pricing in NSW.
 - * Insert new, and amend existing, pricing categories as outlined in Attachment 1 of submission.
 - * Remove current price barriers to competition. Pricing may create barriers to recycling, reuse and customer self sufficiency.
 - * Insert a new category of pricing for sewer mining. The Tribunal should recommend a zero or 'at cost' price for sewer mining as an incentive for re-use schemes.

- Issues relating to fixed charges
 - * Fixed charges for water, sewerage and drainage should be reduced. There needs to be greater clarity in the rationale for arriving at the current fixed charges.
 - * Remove 100% discharge factor from fixed sewerage charge or set at 50% adopted by Hunter Water Corporation.
 - * Costs should be passed on as part of fixed charges
 - * Seek clarification on contractual arrangements for BOO plants
- Demand management
 - * All water agencies should move toward a single price for water. Water restrictions should be maintained, particularly given community education objectives.
- Evidence required before price determination
 - * The environment groups would like access to further information which they consider essential if they are to maximise their limited resources and continue to make submissions.

Australian Business Chamber

- The remaining non-residential property-value based charges should be removed by 1998 as recommended in the Water Final Report. The faster reduction can be funded by lower dividends rather and efficiency improvements
- Any additional requirements imposed by health and environmental standards should be funded transparently through lower dividends
- Sydney Water proposal of full cost through associated with BOO water filtration implies industrial customers are continuing to subsidise quality improvements that are not required/wanted by business.
- Further dividends to government should be capped, say at \$26m projected in 1995/96

Picton Sewerage Community Working Group

- There should not be differential pricing. The Group expressed support of Sydney's preferred option of spreading the costs over all customers.
- The reserve for sewer backlog was transferred from Sydney Water during the Wran government, leaving no funds for the remaining backlog areas. There is a moral obligation to provide sewerage service.

BHP

- The decision by SWC to install a water treatment plant in Illawarra exposes BHP to significant increases in water costs. BHP will take separate filtered (potable use) and unfiltered (process use) water supplies on the basis that this was the least cost option. However, the effective price of unfiltered water would rise from current charge of 70 c/kl to around 83 c/kl. This together with the proposed increase for filtered water would see the water cost increase by 17% in 1996/97. It believed that the postage stamp approach is inappropriate and represents a large cross subsidy by BHP to other users.
- They recommend the Tribunal to:
 - * further review the cost structure of Sydney Water
 - * review the application of CPI in price regulation and rates of return targets

- * recommend the Government to ease the burden of tax equivalent and dividend payments that currently impact on prices.

The NSW Treasury

- When new investments relating to environmental standards and drinking water quality are made, further price increases above the CPI movement should be allowed.
- Support Sydney Water's submission subject to further tariff increases to cover environmental and water quality related investment.
- Support the continuation of the current transitional rebates pending a full examination of pensioner charges by the Government.
- An environmental charge should be set to explicitly reflect costs of environmental works.

Royal Botanic Gardens Sydney

- Disagreement over water pricing between the Garden and Sydney Water. The Garden considers the current price of 70 c/kl for potable water excessive given its commitment to water conservation, public education and advanced horticultural management techniques.
- Suggestion on prices for potable price to be fixed between 40 and 60 cents per kilolitre and that bulk raw water supplied to the Gardens from the Upper Canal be fixed at a price between 10 and 20 cents per kilolitre.

NSW Department of Urban Affairs and Planning

- The Rouse Hill charges should be applied per hectare rather than per dwelling basis.

Combined Pensioners and Superannuants Association of NSW

- Rebates should be increased to offset the adverse impact of increased usage charges on pensioners' bills
- Raised a concern about new tenancies (including older people on fixed incomes) on the private rental market who are obliged to pay for water usage charges
- Raised an issue of older people living in older style flats and units with no individual water meters.

Wollondilly Shire Council

- Support the common sewerage availability charge to fund the Picton Sewerage Scheme.

Other submissions from individual customers

- Support Sydney Water's pricing proposal on backlog sewerage
- Objection to Sydney Water's proposed increase in water costs
- Request for the undertaking of a report on the effect of airport, traffic, factory, landfill and quarry pollution on the future cost of Sydney drinking water
- Question about the ability of unit owners to control their water bills.



**INDEPENDENT PRICING AND REGULATORY
TRIBUNAL**

OF NEW SOUTH WALES

**DETERMINATIONS UNDER SECTION 11 (1) OF THE INDEPENDENT PRICING
AND REGULATORY TRIBUNAL ACT, 1992**

Matter No.: SRD/96/04
Determination: No 6, 1996
Agency: Sydney Water Corporation Ltd
Services: Water supply, sewerage and drainage services.

Declaration of government monopoly services under Section 4 of the Act:

Order dated 27 August 1992 - page 6431, Gazette No. 105

**Maximum prices determined under Section 14 of the Act to be charged from
1 July 1996 for water, sewerage and drainage monopoly services.**

The maximum prices to be charged from 1 July 1996 and the commencement dates for their applicability are shown below. Each price applies from 1 July in each year unless otherwise specified.

**Quarterly Service and Availability Charges (to apply from 1 July in each year
unless otherwise specified) (See Note 1)**

		1996/97	1997/98	1998/99	1999/2000
		\$ of year			
Water	Standard Charge	20.00	20.00	20.00	20.00
	Unmetered Residential	67.00*	70.00*	73.00*	76.00*
	Vacant Land (unconnected)	20.00	20.00	20.00	20.00
Sewerage	Standard Charge	67.90	70.10	71.40	72.60
	Vacant Land (unconnected)	43.00	43.00	43.00	43.00
Stormwater	Residential and Vacant Land	4.00	4.00	4.00	4.00
	Non-Residential	14.20	14.20	14.20	14.20

***Note: To apply from 1 October in each year**

Property Value-Based Charges - (See Note 2)

		1996/97	1997/98	1998/99	1999/2000
		Cents in the AAV Dollar (\$ of year)			
Water	Non-Residential (on AAV > \$2,500)	0	0	0	0
Sewerage	Non-Residential (on AAV > \$2,500)	1.288	1.034	0.787	0.547
Stormwater	Non-Residential (on AAV > \$2,500)	0.327	0.322	0.317	0.313

Note 1 The standard charges for water and sewerage are for properties with 1x20mm meter. Non-residential properties pay water and/or sewerage charges which reflect the size(s) of meter(s) fitted to the property - see section dealing with quarterly meter size water service charges and quarterly sewerage service charges. For flats and home units which share common metering arrangements and are not individually metered, water service and availability charges will reflect the size(s) of water meter(s) serving the complex. The meter size charges will be as for non-residential base charges.

Note 2: State Government owned and occupied properties (and properties owned and occupied by the Australian Broadcasting Corporation), are liable for payment of service or availability charges, but are not subject to property value-based charges. These properties are liable for all other charges applicable to non residential properties, including the appropriate meter size charges for water and sewerage.

Usage Charges - (See Note 3)

		1996/97	1997/98	1998/99	1999/2000
		Cents per kilolitre (\$ of year)			
Water	Filtered Water	76	80	85	90
	Unfiltered Water	70	71	71	71
	Water for Shipping	107	110	113	115
	Bulk Raw Water	38	40	42	44
Sewerage	Non residential discharges above 1.37 kl/day.	87	90	93	96

Note 3: Charges will apply to meter reading periods commencing on or after 1 July of each year and concluding on or after 1 October.

Quarterly Meter Size Water Service Charges

	1996/97	1997/98	1998/99	1999/2000
	\$ of year			
Meter Size				
20mm	20.00	20.00	20.00	20.00
25mm	31.25	31.25	31.25	31.25
30 or 32mm	51.20	51.20	51.20	51.20
40mm	80.00	80.00	80.00	80.00
50mm	125.00	125.00	125.00	125.00
80mm	320.00	320.00	320.00	320.00
100mm	500.00	500.00	500.00	500.00
150mm	1,125.00	1,125.00	1,125.00	1,125.00
200mm	2,000.00	2,000.00	2,000.00	2,000.00
250mm	3,125.00	3,125.00	3,125.00	3,125.00
300mm	4,500.00	4,500.00	4,500.00	4,500.00

Quarterly Meter Size Sewerage Service Charges

	1996/97	1997/98	1998/99	1999/2000
	\$ of year			
Meter Size	with 100% discharge factor			
20mm	67.90	70.10	71.40	72.60
25mm	106.09	109.53	111.56	113.44
30 or 32mm	173.82	179.46	182.78	185.86
40mm	271.60	280.40	285.60	290.40
50mm	424.38	438.13	446.25	453.75
80mm	1,086.40	1,121.60	1,142.40	1,161.60
100mm	1,697.50	1,752.50	1,785.00	1,815.00
150mm	3,819.38	3,943.13	4,016.25	4,083.75
200mm	6,790.00	7,010.00	7,140.00	7,260.00
250mm	10,609.38	10,953.13	11,156.25	11,343.75
300mm	15,277.50	15,772.50	16,065.00	16,335.00

Minor Miscellaneous Charges

	1996/97	1997/98	1998/99	1999/2000
	\$ of year			
Sewerage Services Rendered to Exempt Properties				
Quarterly charge per WC or UC	16.60	17.10	17.40	17.70
Metered Standpipe Charges				
Annual charge - 25mm outlet	125.00	125.00	125.00	125.00
Annual charge - 32mm outlet	204.80	204.80	204.80	204.80
Usage Charge \$/kl (from 1 October)	0.76	0.80	0.85	0.90
Blue Mountains Septic Pump Out				
Quarterly Fee	83.00	85.00	87.00	88.00
Usage Charge \$/kl 80-100kl p.a.	8.00	8.00	8.00	8.00
above 100kl p.a.	16.00	16.00	16.00	16.00
Penrith and Hawkesbury Sewerage Schemes				
Increase in service charges is not to exceed previous years equivalent charge by:				
Non Residential Properties	+15%	+15%	+15%	+15%
Residential Flats (private)	+10%	+10%	+10%	+10%
NOTE: The limits on increases cease to apply upon change of ownership, subdivision of land or building alteration.				

Rouse Hill Development Area

	1996/97	1997/98	1998/99	1999/2000
	\$ of year			
<i>Sewerage buy-in charges (payable once only)</i>				
1. Residential land	924	958	987	1,017
2. Non-residential land				
Charge for each meter appropriate to the property having regard to likely water demands.				
Meter Size:				
20mm	924	958	987	1,017
25mm	1,444	1,497	1,542	1,589
30 or 32mm	2,079	2,156	2,221	2,288
40mm	3,696	3,832	3,948	4,068
50mm	5,775	5,988	6,169	6,356
80mm	14,784	15,328	15,792	16,272
100mm	23,100	23,950	24,675	25,425
150mm	51,975	53,888	55,519	57,206
200mm	92,400	95,800	98,700	101,700
250mm	144,375	149,688	154,219	158,906
300mm	207,900	215,550	222,075	228,825

Recycled Water Usage Charge 0.23 0.24 0.26 0.27
 \$/kl to apply for meter reading periods commencing on or after 1 July in each year and concluding on or after 1 October in each year.

Quarterly Rouse Hill Charges

Residential Properties

River Management Charge*

- Drainage	22.25	23.00	23.75	24.50
- Recycled Water (access)	5.25	5.50	5.50	5.75

*Note: For non-residential land with an area not greater than 1,000m² the same combined charge shall apply as applies for residential properties. For larger areas of land each applicable Rouse Hill Charge will be payable according to the land area

Miscellaneous customer services

Charges for miscellaneous customer services will be determined at a later date. Prior to such determination being made, those charges will continue to be made at prices applicable as at 30 June, 1996.

Trade waste services

The maximum prices for trade waste services will continue at prices applicable as at 30 June 1996 unless otherwise determined.

Developer Charges

The maximum prices for developer charges for the provision or upgrading of water supply, sewerage, and where required drainage facilities will be calculated by applying the methodology contained in Determination No 9, 1995 (matter SRD 95/4).

REBATES FOR PENSIONERS

Pensioners - Standard Rebates	1996/97 to 1999/2000
Water	100% of service and availability charge
Sewerage	50% of service and availability charge
Stormwater	50% of service and availability charge
Pensioners - Transitional rebates	
Residences with only water available	33% of water use to 75kl/quarter
Residences with water and sewerage available	\$17 per quarter