Water Industry Overview 2001

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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1 INTRODUCTION

1.1 Background

The metropolitan water agencies (Sydney Water Corporation, Hunter Water Corporation, Gosford City Council, Wyong Shire Council and Sydney Catchment Authority) supply water, wastewater and stormwater services within their respective areas of operation. These services are important to public health, the environment and the economy.

The agencies serve a combined population in excess of 6.5 million, manage assets with a book value of around $17.2 billion and generate revenues greater than $1.5 billion per annum.

The Independent Pricing and Regulatory Tribunal (the Tribunal) has a dual role in regulating Government owned water agencies in NSW. The Tribunal determines the maximum prices charged by the agencies for their services. Sydney Water Corporation (SWC), Sydney Catchment Authority (SCA) and Hunter Water Corporation (HWC) operate under licences issued by the State Government. The Tribunal also acts as the licence regulator of these licences.

In November 2000, the Government appointed the Tribunal as Licence Regulator for SWC, HWC and the SCA. The Licence Regulator's role is to audit and report on these agencies' performance against their respective operating licences. The Operating Licences require the agencies to meet certain performance obligations, standards and targets. These obligations encompass core aspects of the utilities' operations, including customer service, system performance and environmental protection.

The Tribunal's overview report is published annually (the data in this report covers the period to 30 June 2001) and its purpose is to report on both the financial and service performance of the five utilities regulated by the Tribunal. To avoid invalid comparisons, the overview presents SCA's results separately because its operations are different to the other utilities (ie SCA is a wholesaler of water while the other agencies include retail operations).

1.2 Sources of information

Most of the pricing and financial data used in this report has been drawn from annual information returns (AIRs) which require agencies to supply information to the Tribunal regarding physical performance measures, service standards, and financial data on an actual and projected basis.

For some information in the earlier years of the review, the Tribunal has found it necessary to adopt estimates for the councils so that comparisons with later years can be made. All data in the overview is reported on a financial year basis and adjustments were needed because the two councils changed their reporting periods from a calendar year basis to a financial year basis in 1993.

As well, some of the water businesses compete in areas of business where they do not have a monopoly. Wherever possible, data used in this report relates solely to the monopoly activities regulated by the Tribunal.

2 SUMMARY

This summary is designed to provide an outline of the issues raised in greater detail in the body of the report.

2.1 Pricing and financial performance

Since the IPART's inception in 1992, the Tribunal has worked to improve the tariff structure of the metropolitan water agencies, introducing two-part tariffs incorporating fixed access charges and usage charges. This structure has replaced previous pricing regimes which emphasised large fixed charges which were based on property values. The Tribunal believes that tariffs which incorporate significant usage components encourage water conservation and give individual consumers greater control over their bills.

The relatively flat trend in residential water consumption since 1993 provides some evidence to support the Tribunal's tariff structure proposals, although it is acknowledged that year to year consumption is more heavily influenced by prevailing weather conditions rather than the cost of water itself.

As a result of reductions in property based and fixed charges, total bills (water and sewerage charges) for a 'typical' residential consumer[1] have declined considerably in real terms since 1993. Although clear trends are harder to ascertain for non-residential customers given the considerable variance in consumption patterns, total bills have also fallen for many non-residential customers.

Due to general reductions in real prices over the review period, water agency revenues have declined since 1993. Despite this, all of the water agencies remain financially sound. In particular, the agencies' financial ratios indicate that they are well placed to service and repay existing debt.

The metropolitan water utilities have placed increasing emphasis on generating greater efficiencies and reducing costs. Operating expenditure for water and wastewater activities measured on a per property basis has fallen for all agencies since 1993, with the exception of Gosford Council whose costs have remained steady over this period.

The operating expenditure savings achieved by the agencies have been offset to some degree by increases in capital expenditure, particularly from 1997 onwards. This expenditure has been necessitated largely due to increasing environmental standards and to service residential growth.

In summary, the water utilities have been able to maintain strong financial positions during a period of significant re-structuring of prices, reductions in revenues, increasing emphasis on greater efficiency and growing pressure to increase capital expenditure programs.

[1] Assumes the use of 250 Kilolitres of water by the household per annum.

2.2 Service performance

The provision of high quality drinking water is among the most fundamental obligations for water utilities. All of the metropolitan agencies monitor and report on water quality against the 1996 Australian Drinking Water Guidelines as specified by the National Health and Medical Research Council (NHMRC). Over the current review period all agencies have exhibited a very high level of compliance with the Guidelines.

All of the agencies measure other aspects of service delivery such as water pressure, reliability of water supply and sewer surcharges. Although the agencies generally have performed strongly against the particular standards or indicators used, the manner in which performance is measured differs greatly between the different agencies. This makes comparing service performance between agencies difficult.

2.3 Sydney Catchment Authority – pricing and financial performance

In October 2000, the Tribunal determined a 5-year price path for the SCA until 2005 but also foreshadowed that it might conduct a mid-term review. The SCA's pricing arrangements provide for funding on a 50/50 basis from both access and usage charges.

Financially, the Catchment Authority is performing strongly, with proportionally higher profits than SWC. The SCA's financial ratios are also very sound, scoring at least AA for each ratio. However, it is important to note that the Authority has only been in existence since July 1999 and as such its expenditure requirements may not yet be settled.

2.4 Sydney Catchment Authority – service performance

In common with both SWC and HWC, the Catchment Authority has an Operating Licence which establishes a wide range of performance obligations. The nature of these obligations reflects the role of the Authority as bulk water supplier and in catchment management. Under the Licence, the SCA is required to:

- Monitor and report against a variety of bulk water quality standards.
- Implement a Risk Management Plan identifying and addressing pollution sources and opportunities to improve the operation of the Catchment Infrastructure Works.
- Carry out Catchment Management activities, including enforcement of State Environmental Planning Policy 58 and Regional Environmental Plan.
- Effectively manage its Catchment Infrastructure Works.

The recent 2000/2001 Audit of the SCA found that the Authority had generally made sound progress against its Licence objectives. The Audit did however, raise concerns about the failure of the SCA to meet the security of supply criteria set out in the Licence.

3 PRICING

3.1 The structure of prices

The Tribunal believes that a two-part tariff structure, incorporating a fixed component and a component that varies with usage, is the best mechanism to accurately recover costs and help ensure that customers only pay for their own costs.

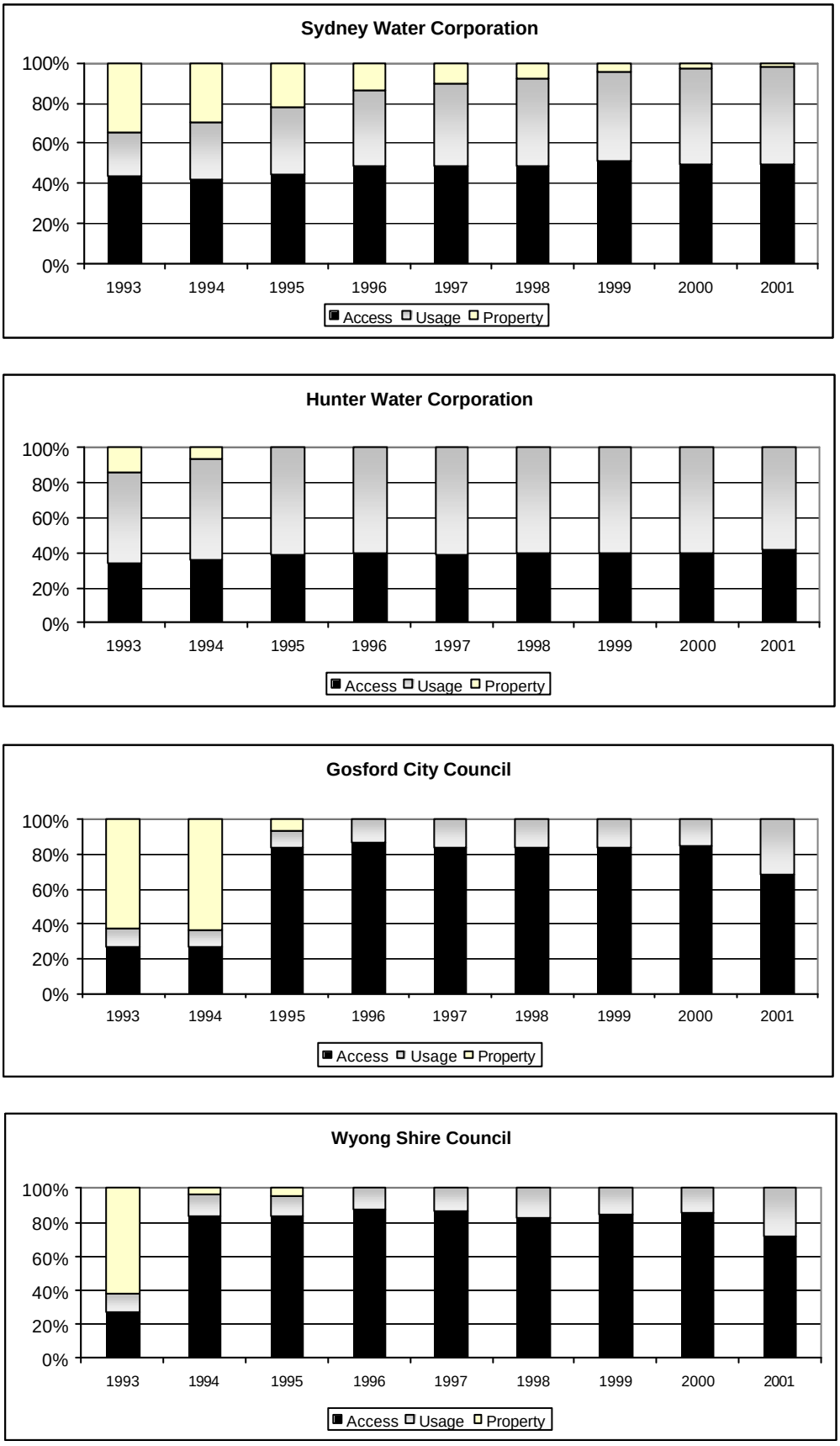
A usage component in water pricing makes customers aware that higher usage results in higher bills and so encourages customers to conserve water. Because of the availability of meters that can accurately measure water consumption, all utilities levy water usage charges together with fixed charges. The technology for measuring flows of wastewater is not so advanced. Consequently the utilities have fixed charges for residential wastewater, with only HWC having sewer usage charges. Significantly, even this usage charge relies on the amount of water entering the residence as a proxy for the amount of wastewater leaving the property.

Since the Tribunal became responsible for regulating prices in 1992, it has gradually moved the water businesses towards a two-part tariff structure. In 1992 the pricing structures of the four water retailers had a mixture of components including property-based charges, pre-paid water allowances, fixed charges and usage charges. All pre-paid water allowances were removed in the 2000 determinations and property based charges presently provide only a small portion of revenue.

Figure 3.1 shows how revenue is now almost completely sourced from access (fixed) and usage charges compared to the beginning of the survey when property-based charges were significant.

Figure 3.1 also shows the results of removing pre-paid water allowances. The removal of the councils' pre-paid allowances in 2000 accounts for the change in the proportions of the two councils' revenues in 2001 with a higher percentage coming from usage charges (the pre-paid water allowances show up as part of the access charge in the years before 2001).

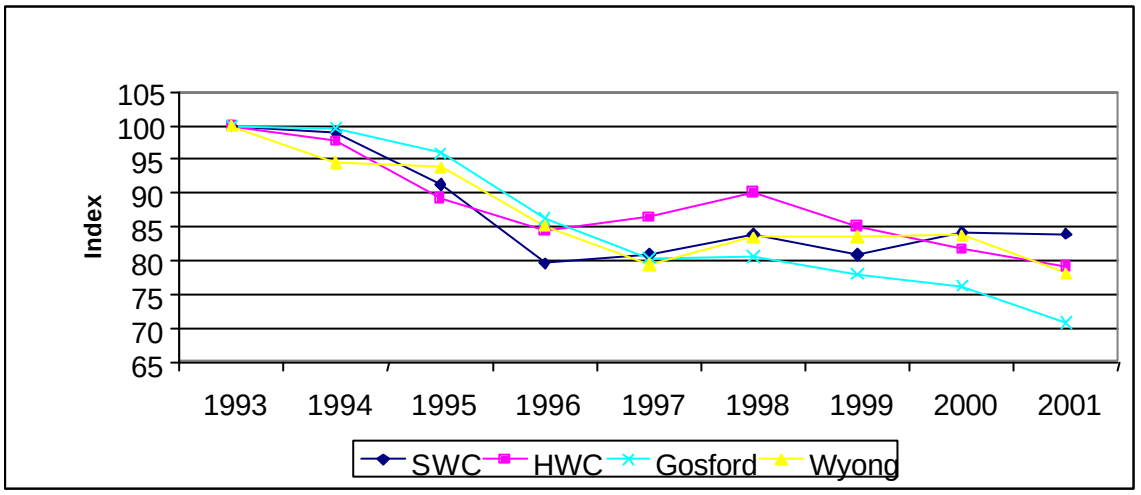
Figure 3.1 Sources of revenue (water and wastewater)



3.2 Impacts of pricing reform

Although customer numbers have risen since 1993, Figure 3.2 shows that the total revenue of each utility has fallen. Revenue is determined by multiplying the price of services by the quantity consumed. Consumption has varied because of factors such as weather variations (note the increase in revenue in 1998 which was a year of lower than average rainfall). The major reduction in prices has come about by the removal of property based changes which are not related to water usage.

Figure 3.2 Index of total tariff revenue (real, 1993=100)



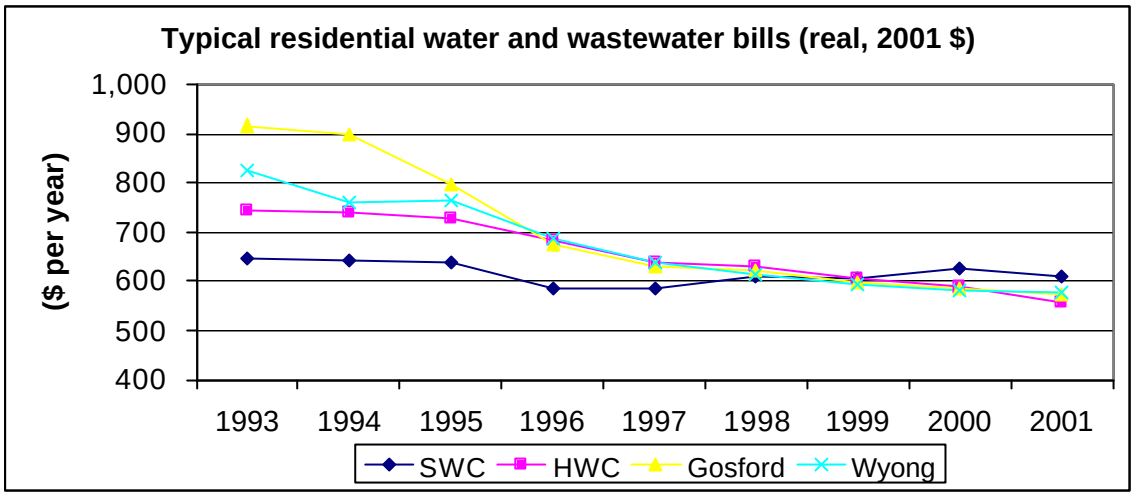
3.2.1 Residential prices

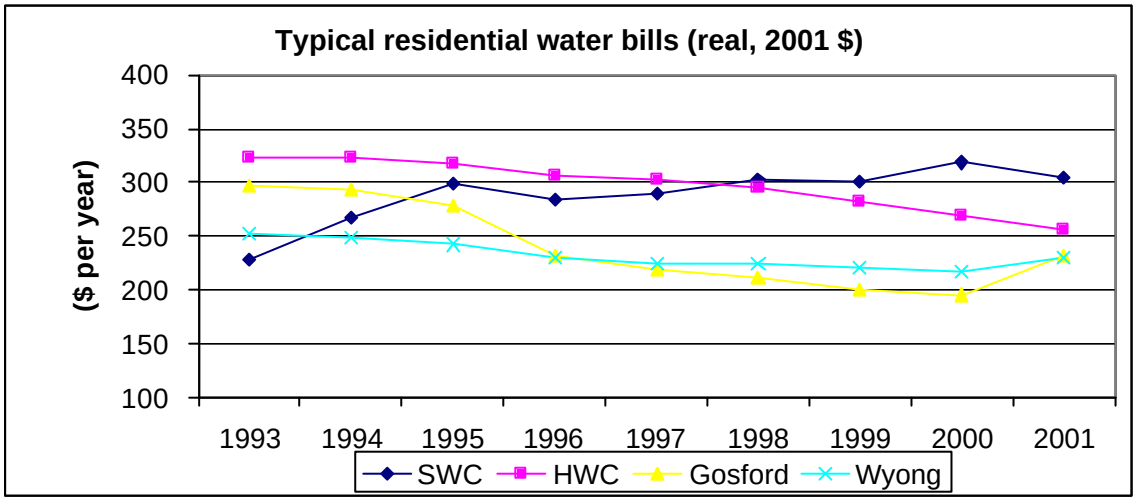
The combined water and wastewater bill for a typical residential customer using 250 kilolitres of water per year (see Figure 3.3) has declined considerably since 1993 in real terms.

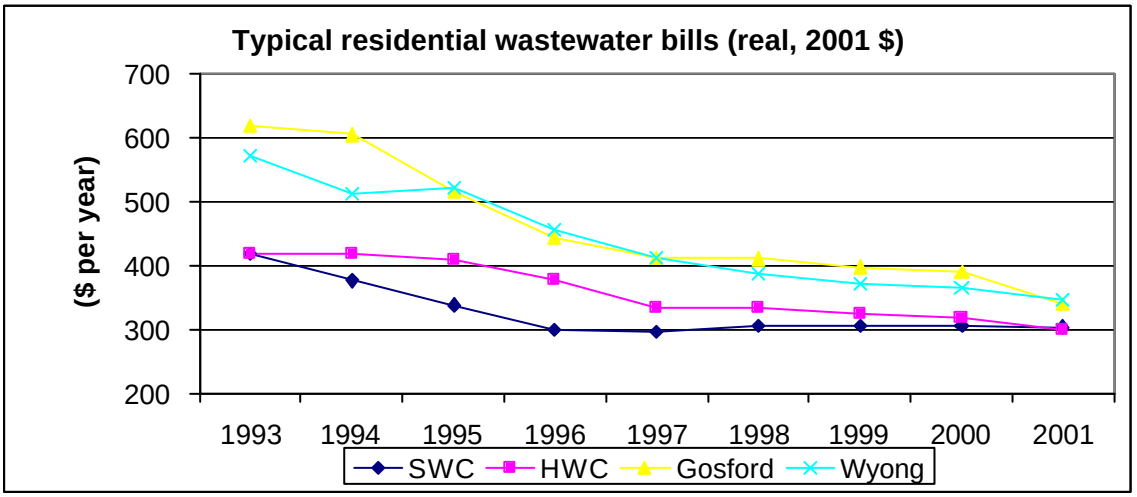
Only SWC water bills have increased since 1993. This is a result of higher usage prices. HWC's water bills have fallen because reductions in the fixed portion of bills were greater than increases in the usage portion. Water bills for council customers have also fallen in real terms.

Residential wastewater bills for all utilities have declined although this declining trend levels out somewhat from 1997 onwards. The reductions in sewerage bills have resulted from the removal of property based charges and a gradual decrease in the level of fixed charges (currently only HWC has usage and fixed charges). SWC bills have remained steady in real terms following the removal of property based charges in 1993 and 1994. HWC bills have declined as a result of the removal of property charges. Gosford and Wyong have also reduced their total bills, as the result of the elimination of property based charges in 1995 and reductions in fixed charges.

Figure 3.3 Residential prices







3.2.2 Non-residential prices

Consumption by non-residential customers varies widely and, compared to residential customers, there are relatively few customers to average. Therefore determining what represents an average non-residential customer is difficult and caution must be exercised when analysing changes in average revenue or average bills.

Figure 3.4 shows that revenue per property has fallen between 1993 and 2001 for all agencies. The decrease to 1996 is associated with the reduction in revenue from property based charges.

Figure 3.5 shows that for customers consuming 1500 kilolitres per annum; total bills have fallen for all customers; water bills have fallen for HWC and Gosford and Wyong Councils' customers; and sewerage bills have fallen for SWC and Gosford and Wyong Councils' customers.

Figure 3.4 Non-residential water and wastewater revenue per property (real, 2001 $)

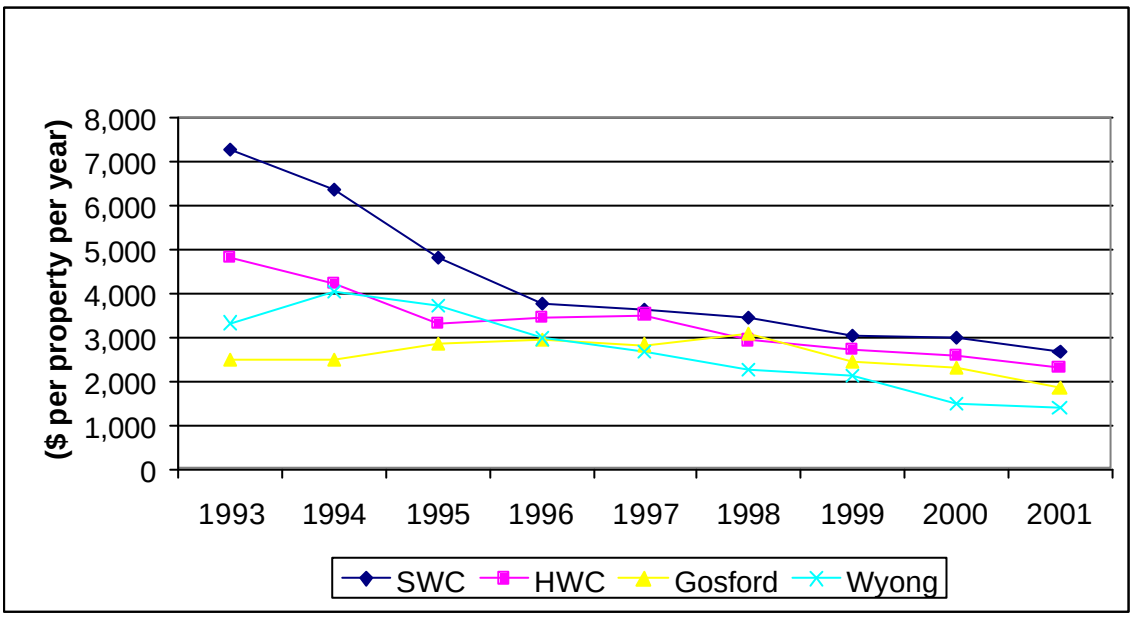
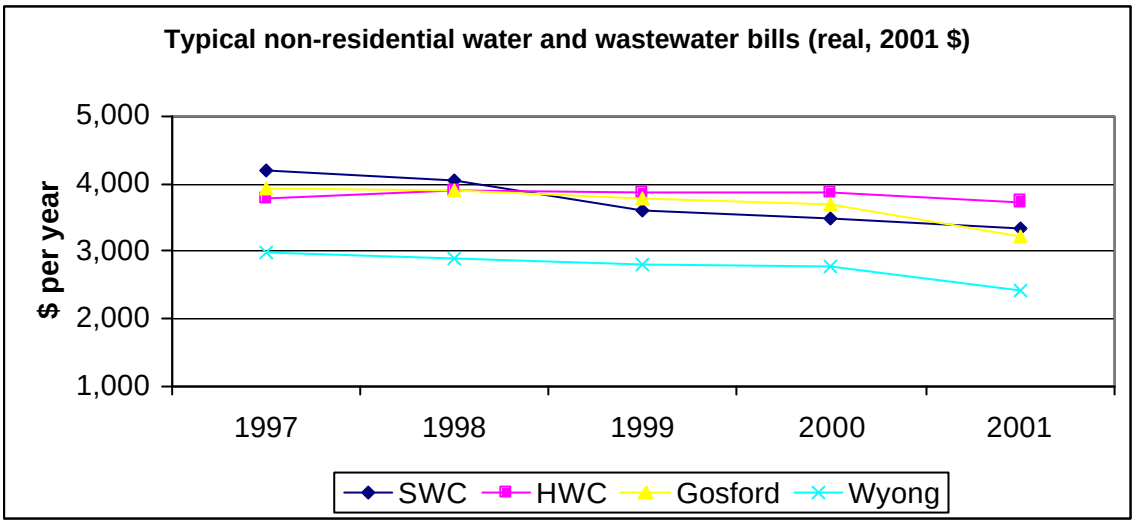
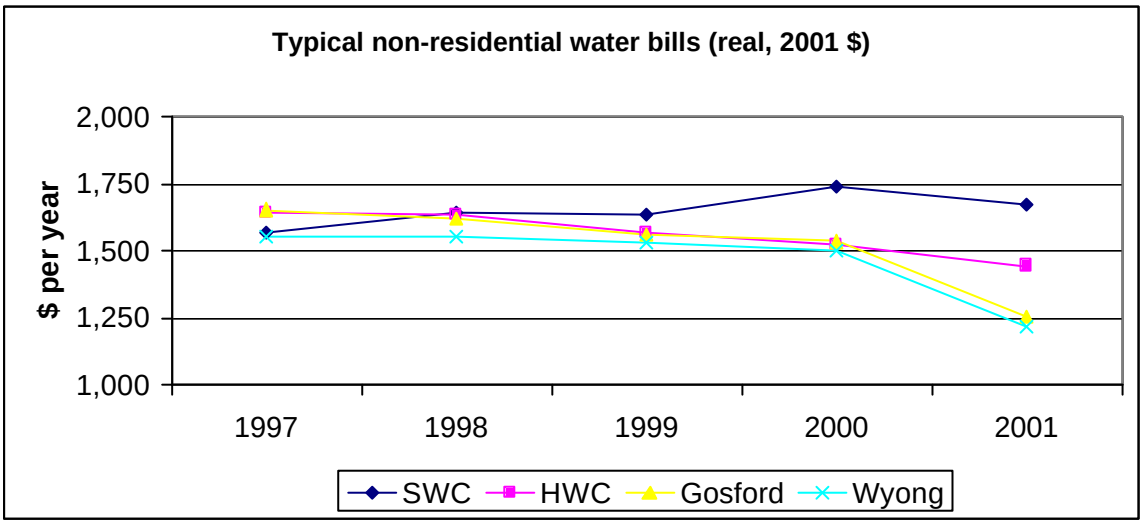
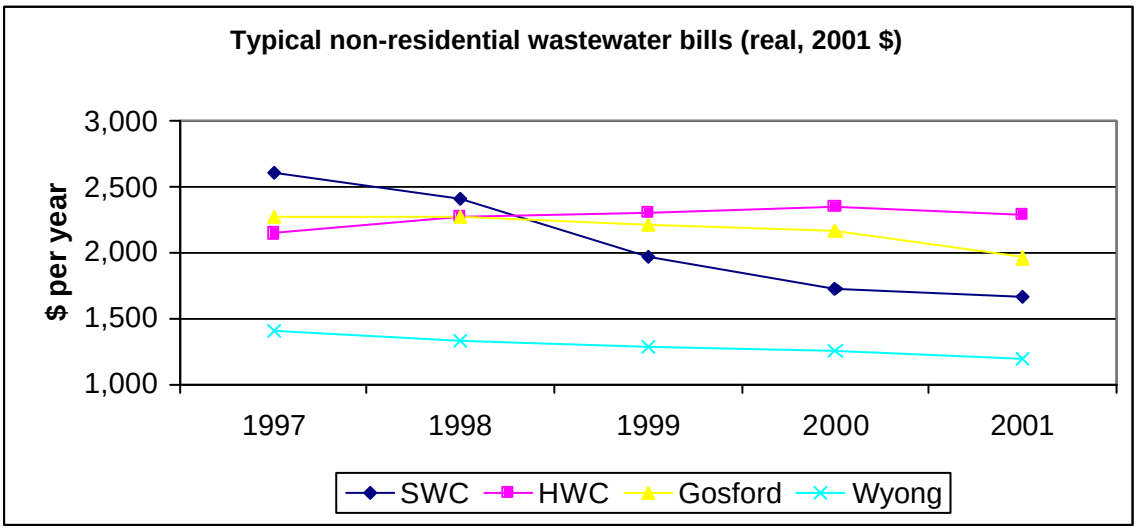


Figure 3.5 Non-residential prices







3.3 Stormwater charges

There has been little change in stormwater charges over the review period. Stormwater charges are a relatively minor source of revenue to the agencies. Stormwater systems collect the run-off from land, streets and house roofs whilst wastewater systems collect internal flows from bathrooms, kitchens and laundries etc.

The structure of stormwater charging varies greatly between the four water businesses. SWC and HWC levy a fixed charge on residential customers while their non-residential customers are levied fixed charges and in some instances, a charge based on property valuation. It is important to note that the majority of stormwater assets within both SWC's and HWC's area of operations are owned by local councils rather than the Corporations themselves. As a result, only customers directly utilising the stormwater assets are levied charges by the Corporations.

The councils have removed all property based charging from their structures. Gosford Council has a fixed drainage levy that was introduced in 1991 to assist in funding a backlog of drainage capital works but operates most of its drainage functions from its general council business and not its water and sewerage business. All of operating and maintenance costs and most of the capital costs are funded through the General Fund of Council.

Wyong Council does not have a separate charge for stormwater services. Capital expenditure is funded through sewerage charge revenue while operating expenditure is funded through the General Fund of Council. Like Gosford Council, Wyong Council has indicated that it has a significant backlog in stormwater works.

4 FINANCIAL PERFORMANCE OF METROPOLITAN WATER SUPPLIERS

This chapter compares the financial performance of the four metropolitan water agencies by examining their overall financial results, the financial indicators calculated from those results, their revenues and expenditures.

However, when comparing financial performance, differences in the financial, technical and institutional settings of the water agencies must be taken into account. SWC and HWC are required to pay tax equivalents and dividends to the State Government because they are State Owned Corporations. The Tribunal takes into account this additional expenditure when determining how much revenue each utility needs. There are differences in the infrastructure networks of each utility, which in turn effect maintenance, capital programs and hence expenditure.

Therefore, while directly comparing the financial performance of the four water utilities is useful, in many cases, individual circumstances can significantly affect the final results.

4.1 General financial characteristics

Table 4.1 presents a number of financial measures useful for examining the financial health of each organisation. The key measures of earnings and cashflows are strongly positive for all agencies indicating that the organisations are financially strong.

Table 4.1 shows:

- In real terms, revenues have not varied greatly over the five years although there is some falling away in 2001.
- Operating expenditures have remained reasonably steady with SWC and Gosford Council rising somewhat and HWC and Wyong Council decreasing.
- SWC's operating cashflows are the most variable on a year-to-year basis.
- The two corporations have used operating cashflows and increasing net debt to fund capital expenditure. The two councils have been able to successfully pursue a policy of debt retirement. However, all debt levels are low compared to the level of revenue.
- While the number of metered properties has risen, revenues have been static.

All of the businesses are in a sound financial position.

Table 4.1 Financial characteristics ($m, 2001)

Sydney Water financial characteristics

	1997	1998	1999	2000	2001
Total revenue (excludes dev charges)	1,225	1,257	1,223	1,260	1,230
Operating and misc expenditure	696	699	726	816	763
Net interest payments	153	146	168	133	140
Depreciation and amortisation	185	190	192	174	180
Abnormal items	35	45	-60	16	0
Earnings before interest, tax, abnormals	344	368	306	270	288
Tax paid	122	104	98	63	114
Dividends paid	44	160	171	104	104
Property, plant & equip (book value)	14,021	14,365	13,596	13,218	13,102
Total assets (book value)	15,087	15,324	14,255	13,717	13,436
Net debt (debt less investments)	1,139	1,249	1,503	1,674	1,866
Total liabilities	2,747	2,715	2,640	2,538	2,552
Operating cashflow	250	323	183	142	294
Capital expenditure	154	209	439	550	430
Number of metered properties(000s)	1,416	1,443	1,471	1,501	1,531
Number of employees	4,763	4,629	4,470	3,766	3,676

Hunter Water financial characteristics

	1997	1998	1999	2000	2001
Total revenue (excludes dev charges)	126	131	124	120	116
Operating and misc expenditure	60	60	57	57	55
Net interest payments	1	1	2	3	4
Depreciation and amortisation	30	30	28	29	27
Abnormal items	20	5	2	12	-1
Earnings before interest, tax, abnormals	35	42	39	34	33
Tax paid	3	15	16	16	13
Dividends paid	32	39	42	47	28
Property, plant & equip (book value)	2,059	2,082	2,092	1,984	1,950
Total assets (book value)	2,212	2,235	2,233	2,076	2,020
Net debt (debt less investments)	-33	-23	-8	33	46
Total liabilities	208	203	215	181	170
Operating cashflow	68	51	53	51	42
Capital expenditure	18	41	39	64	43
Number metered properties (000s)	179	189	193	196	199
Number of employees	620	555	543	541	532

Gosford Council financial characteristics

	1997	1998	1999	2000	2001
Total revenue (excludes dev charges)	44	44	44	43	39
Operating and misc expenditure	19	21	22	21	24
Net interest payments	7	5	4	3	1
Depreciation and amortisation	10	11	10	10	10
Abnormal items	0	0	0	0	0
Earnings before interest, tax, abnormals	15	13	11	11	5
Tax paid	0	0	0	0	0
Dividends paid	0	0	0	0	0
Property, plant & equip (book value)	583	576	562	548	514
Total assets (book value)	640	639	625	613	573
Net debt (debt less investments)	65	48	33	10	-3
Total liabilities	110	95	77	58	40
Operating cashflow	15	21	17	18	15
Capital expenditure	5	3	6	6	4
Number of metered properties (000s)	59	60	61	62	62
Number of employees	217	203	163	162	162

Wyong Council financial characteristics

	1997	1998	1999	2000	2001
Total revenue (excludes dev charges)	36	38	36	36	33
Operating and misc expenditure	19	21	17	18	17
Net interest payments	4	3	3	1	1
Depreciation and amortisation	11	11	11	11	11
Abnormal items	0	5	1	0	0
Earnings before interest, tax, abnormals	5	7	8	7	6
Tax paid	0	0	0	0	0
Dividends paid	0	0	0	0	0
Property, plant & equip (book value)	549	550	551	547	527
Total assets (book value)	569	571	575	578	564
Net debt (debt less investments)	39	31	21	12	9
Total liabilities	60	54	46	46	47
Operating cashflow	13	9	15	17	15
Capital expenditure	4	8	18	11	12
Number of metered properties (000s)	49	49	50	53	54
Number of employees	203	203	155	155	155

4.2 Financial indicator analysis

The Tribunal uses indicators of financial performance to help assess the financial impacts on the regulated agencies of its pricing decisions. Financial indicators are ratios derived from financial statements which allow comparison with benchmarks set for the particular industry. For example, dividing the total net debt by the cashflow for the current year shows the number of years needed to repay the debt. Table 4.2 shows SWC could repay its net debt in six years and consequently has an "A" rating for that measure.

Indicative ratios for each ratio for each year during the medium term price paths set in 2000 were published in the Tribunal's Determinations for each of the regulated water businesses. In Table 4.2[2], the Tribunal has:

- calculated various financial ratios for 2001 in accordance with the methodologies used by Standard and Poors (S&P) and
- indicated the rating applicable for each ratio based on the bands published by S&P.

The calculation and assessments are those of the Tribunal and not S&P. More information on the Tribunal's use of ratings, together with definitions of the indicators, can be found in Appendix 1.

The regulated businesses appear to be financially sound, based on the following suite of ratios.

- ***Ability to service debt***

As shown by high ratings in the indicators, all four utilities are well placed to service their debt. The *funds flow interest cover ratio* measures an organisation's ability to pay interest expenses from operational cash flows. The *pre-tax interest coverage ratio* measures the ability to pay interest from pre-tax profits.

- ***Ability to repay debt***

The indicators show that the water businesses are also well placed to repay their debt. The *funds flow net debt payback* ratio measures the number of years needed to repay net debt from operational funds flows and the *funds from operations to total debt* ratio shows the size of total debt compared to funds from operations.

- ***Ability to finance investment from internal sources***

The councils are particularly strong in this area. The *internal financing ratio* measures how easily capital expenditure can be funded by the internal cashflows remaining after payment of operating expenses and dividends. However, long-term capital expenditure programs can vary on a year-to-year basis, so the ratio is best viewed over a number of years.

[2] Two sets of ratios have been used, for consistency with the financial analysis undertaken by the Tribunal during the 2000 determination process. The 'NSW Treasury Rating' indicators are from *The Capital Structure for NSW Government Trading Enterprises* report produced in August 1994 by NSW Treasury as part of its financial policy framework for GTEs, and are based on ratios provided to Treasury by S&P. The "S&P" criteria are from S&P's Corporate Finance Criteria for 1995. More information on the Tribunal's use of ratings, together with definitions of the indicators, can be found in Appendix 1.

- ***Measures of earnings***

Earnings before interest and tax (EBIT) and earnings before interest, tax, depreciation and amortisation (EBITDA) are two ways of looking at the profit made by an organisation after payment of operating expenses. The ratios to total revenue show the percentage of revenue remaining that can be applied to interest, tax, dividend and capital payments. The utilities have strong ratios.

Table 4.2 Financial indicators of the regulated businesses[3] ($ of the year) (i) (ii)

	Sydney Water	Hunter Water	Gosford Council	Wyong Council
Financial year ending 30 June	**2001**	**2001**	**2001**	**2001**
Ability to service debt				
Funds flow interest cover ratio	4.1	15.1	12.0	18.9
NSW Treasury rating (1994)	AAA	AAA	AAA	AAA
S&P rating (1995)	AA	AA	AA	AA
Pre-tax interest coverage ratio	2.1	7.9	3.7	6.6
S&P rating (1995)	BBB	AA	AA	AA
Ability to repay debt				
Funds flow net debt payback ratio	6.0	1.0	(0.2)	0.6
NSW Treasury rating (1994)	A	AAA	>AAA	AAA
Funds from operations/total debt ratio	15.5%	56%	42%	40%
S&P rating (1995)	A	AA	AA	AA
Total debt / total capital ratio	14.9%	4%	6%	7%
S&P rating (1995)	AA	AA	AA	AA
Ability to finance investment from internal sources				
Internal financing ratio	55.4%	51%	851%	170%
NSW Treasury rating (1994)	BBB	BBB	AAA	AAA
S&P rating (1995)	BBB	BBB	AA	AA
EBIT / total revenue	23%	29%	12%	17%
EBITDA / total revenue	38%	52%	38%	49%
EBIT ($ m)	288	33	5	6
EBITDA ($ m)	468	61	15	16

Notes:

(i) The Tribunal particularly relies on indicators based on cashflows because these are not subject to distortions caused by measurement problems (eg asset value and depreciation).

(ii) The information in this table should be read and understood only after reviewing the accompanying overview, particularly paragraph 3.1.2 and Appendix 1 and the explanations and qualifications mentioned there.

[3] All ratios have been calculated by the Tribunal using S&P and NSW Treasury criteria.

4.3 Revenue

Price and usage determine levels of revenue. However, revenue is determined by price alone if there are only fixed charges in the pricing structure (eg residential wastewater pricing for some utilities). This section shows revenue trends on a per property basis.

4.3.1 Residential revenue per property

Water consumption (Figure 4.1) for an average residential user in 2001 is not markedly different to consumption in 1993. There was some decline in the years to 1996 and the adoption of usage pricing for water would have had an influence on this, but water consumption is heavily influenced on a year-to-year basis by changes in the weather (eg the peak in 1998 coincided with a period of lower than average rainfall). Generally only SWC's average revenues have risen reflecting its increasing operating and capital expenditure requirements.

Figure 4.1 Average residential water consumption (kLs per property)

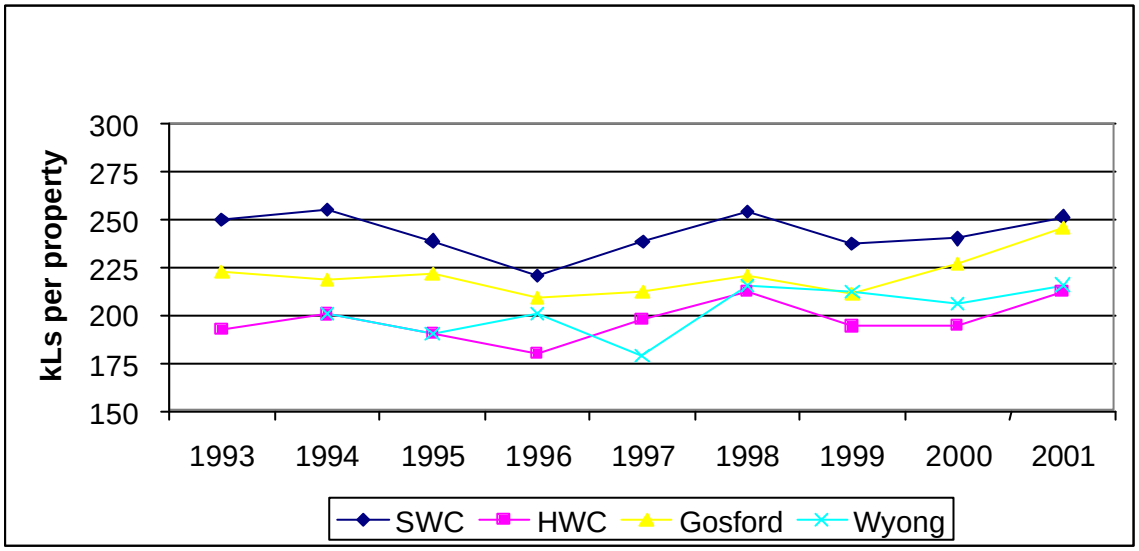
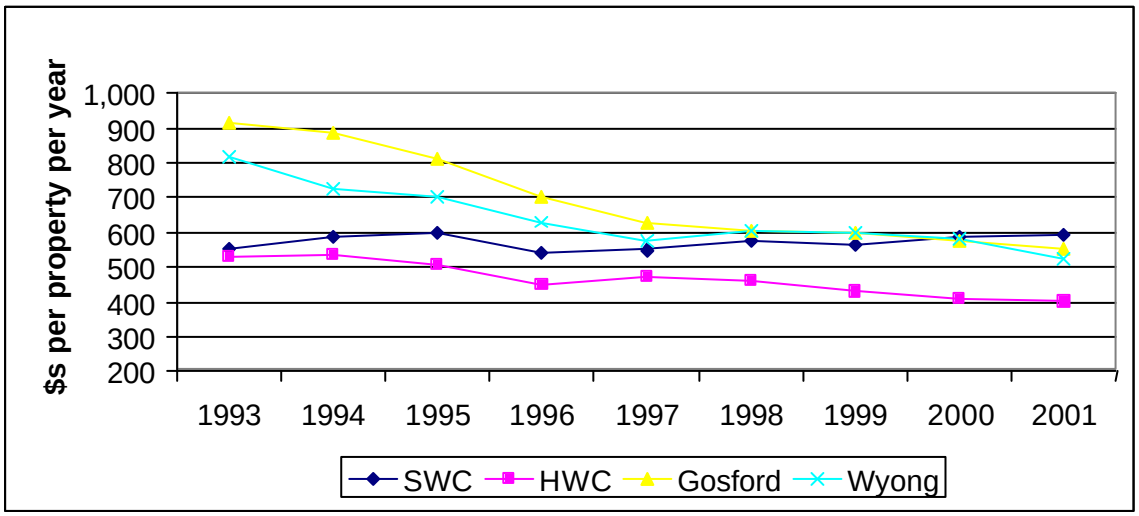


Figure 4.2 Average residential water and wastewater tariff revenue per property (2001 $)



4.3.2 Non-residential revenue per property

Care is required when analysing non-residential data because the number of non-residential customers is small and the loss of a large customer can significantly alter the average (eg a drop in HWC revenues in 1999 coincides with the loss of two large industrial customers). Nonetheless, Figure 4.3 shows that the trend in water consumption is declining and Figure 4.4 shows that average non-residential revenue is also declining. SWC and HWC show the greatest decrease to 1996 with the rate of decrease more equal across the utilities from 1996 onwards. The Tribunal's progressive removal of property based charging has also altered the balance of revenue sources (from non-residential properties to residential properties) because charging is now more influenced by consumption. This is especially true for SWC customers.

Figure 4.3 Average non-residential water consumption (kLs per property)

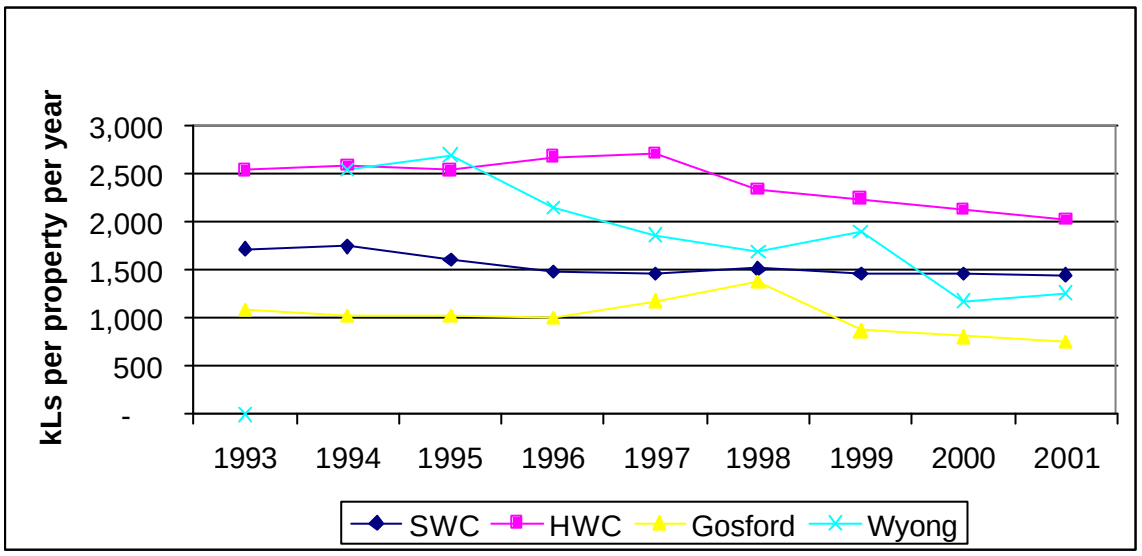
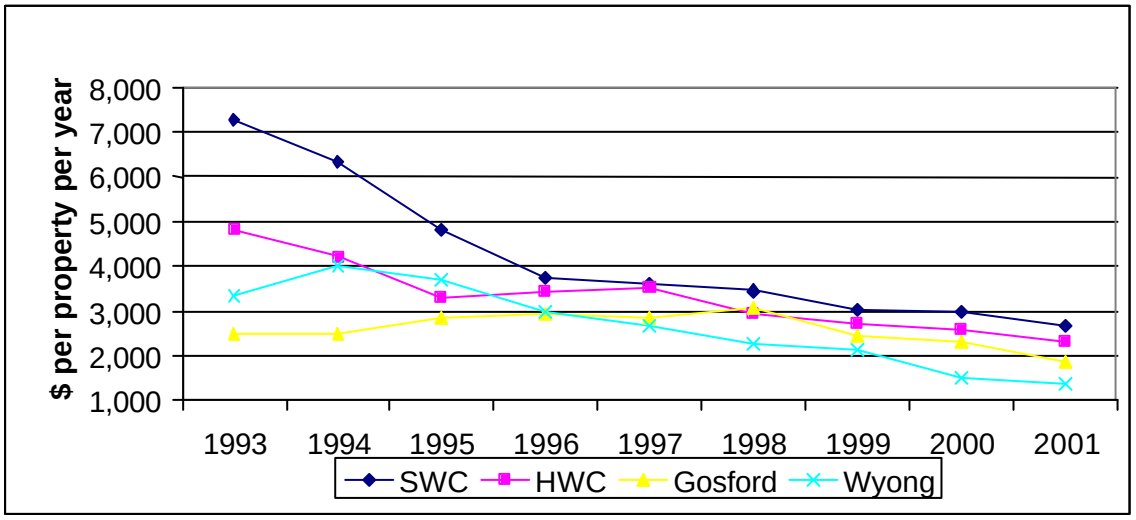


Figure 4.4 Average water and wastewater tariff revenue per non-residential property (2001 $)



4.4 Expenditure

4.4.1 Total costs

Water businesses need to earn sufficient revenue to recover their costs. When the Tribunal determines the revenue required by an agency, it uses a 'building block' model to assess the total costs. The model calculates total revenue as a combination of the operating expenditure, the return of capital (often measured by depreciation), and the return on capital (rate of return).

While an assessment of each of the building blocks is central to the Tribunal's price determination, simple aggregation of the building blocks is considered too rigid to be used as the sole basis of the Tribunal's determinations. Therefore, the Tribunal also considers the implications of the pricing outcome on consumers and the agencies' overall profitability and financial viability.

Prices are set for the duration of a price path. Agencies can increase the value of their businesses by reducing discretionary expenditure. The Tribunal structures its determinations to reward cost reductions because it seeks efficiency gains from the agencies. However, the Tribunal aims to ensure that reductions do not come about because of inappropriate cuts in service standards.

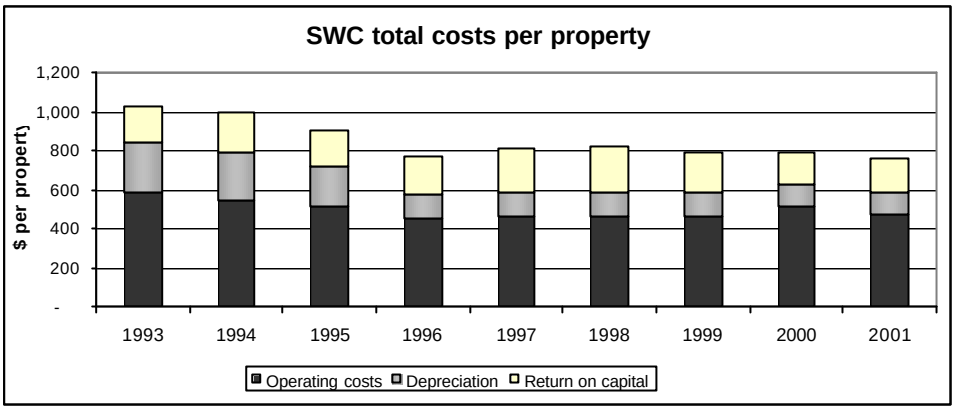
SWC achieved significant reductions in operating costs per property from 1993 to 1996, with lesser reductions after that. Since 1997 operating expenditure levels have remained steady and reductions have mostly come from decreases in depreciation and return on capital. In absolute terms, SWC's costs are the highest of the four water agencies. It has higher operating expenditures and lower depreciation than the other agencies. At the time of the 2000 determination SWC acknowledged its relatively high operating costs and informed the Tribunal that it had instituted strategies to reduce these costs.

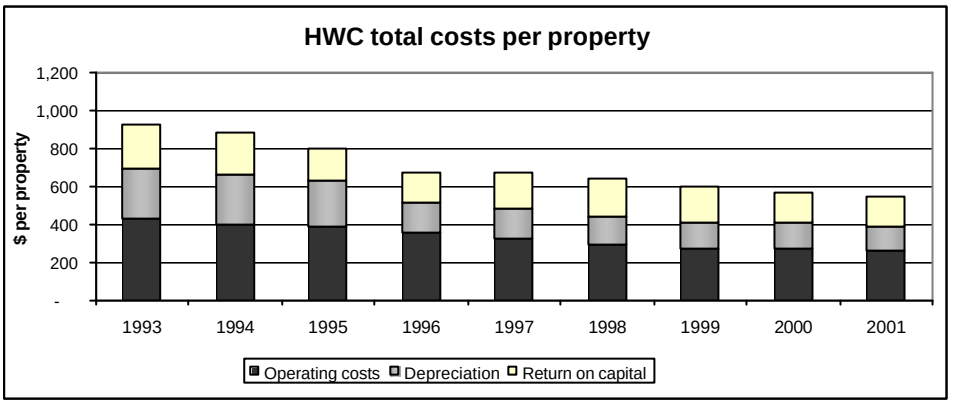
HWC has proven a leader in driving greater efficiencies, having achieved continual reductions in costs since 1993. HWC's combined costs (eg from water, sewerage and drainage businesses) have been the lowest of the agencies throughout the review period mainly because of continual reductions in operating costs.

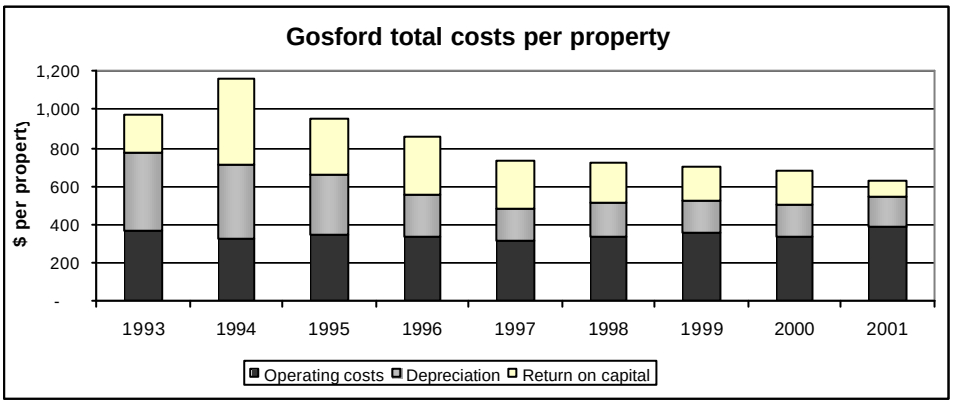
Gosford Council's combined costs have decreased over the review period with the reductions from 1997 due to decreases in return on capital. Operating expenditures have shown a trend upwards since 1997. The residual return on capital dropped markedly in 2001 as a consequence of a decrease in revenue and an increase in operating expenditure.

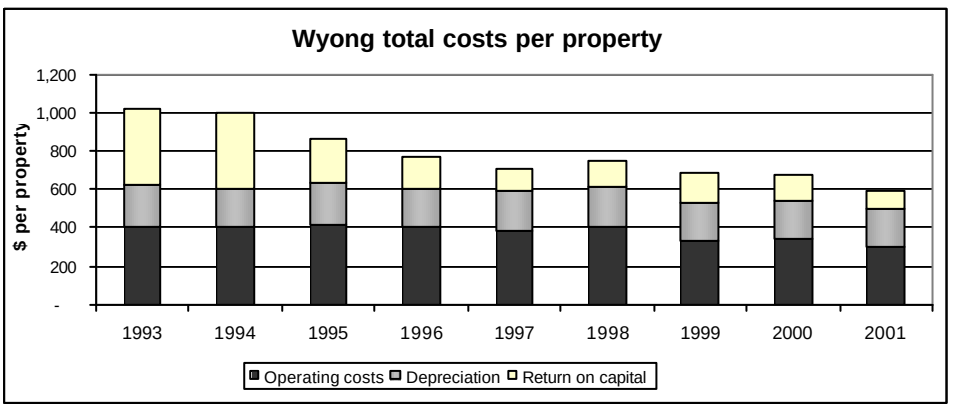
Wyong Council's costs have followed a similar pattern to Gosford Council's except that operating expenditures have declined since 1997.

Figure 4.5 Total costs per property (2001 $)









4.4.2 Operating expenditure

Declining operating costs may be a sign of increasing efficiency, or may have been achieved by reducing standards of service. When comparing the operating performance of utilities sometimes the difference in performance is a result of factors unique to an organisation or perhaps because of factors not under its control. Consequently, it is perhaps more important to analyse the trend in performance of a business over time.

Figure 4.6 shows that the operating costs on a per kilolitre sold basis for SWC, HWC and Wyong Council have declined over the review period in real terms (some information for 1993 is unavailable for Wyong Council). Gosford Council's costs have remained steady while HWC's costs are the lowest in absolute terms.

Total water and wastewater operating costs on a per property basis, shown in Figure 4.7, follow a similar trend to costs on a volume basis with HWC showing the greatest reductions. SWC's costs declined until 1998 but then rose with a peak in 2000. Although SWC has instituted programs to reduce its operating costs, the costs of purchasing bulk water from the SCA have offset the savings. SCA is required to perform a greater range of activities in the catchment area than SWC did when it had responsibility for the area. Bulk water costs now reflect this.

The impact of the SCA is more evident for water operating costs per property. There is a sharp rise for SWC in 2000 after the SCA began supplying bulk water. This has contributed to SWC having the highest absolute costs in 2001. HWC's and Wyong Council's costs have dropped since 1993, with HWC achieving the largest reductions.

Although the trend is not consistent on a year-to-year basis, wastewater operating costs fell for SWC, HWC and Wyong Council over the period 1993 to 1997. Gosford Council's have remained relatively steady.

Figure 4.6 Operating costs per kL sold (c/kL, 2001 $)

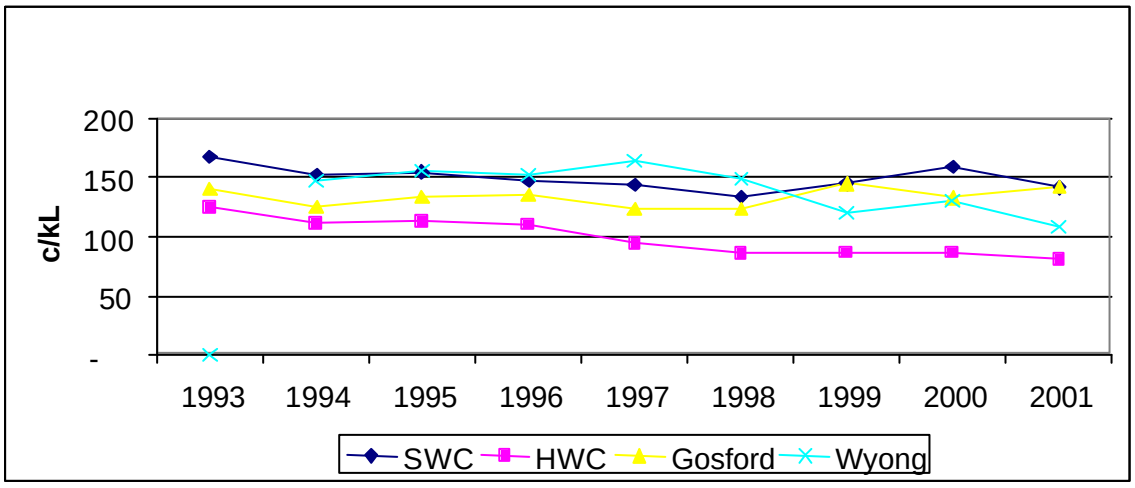
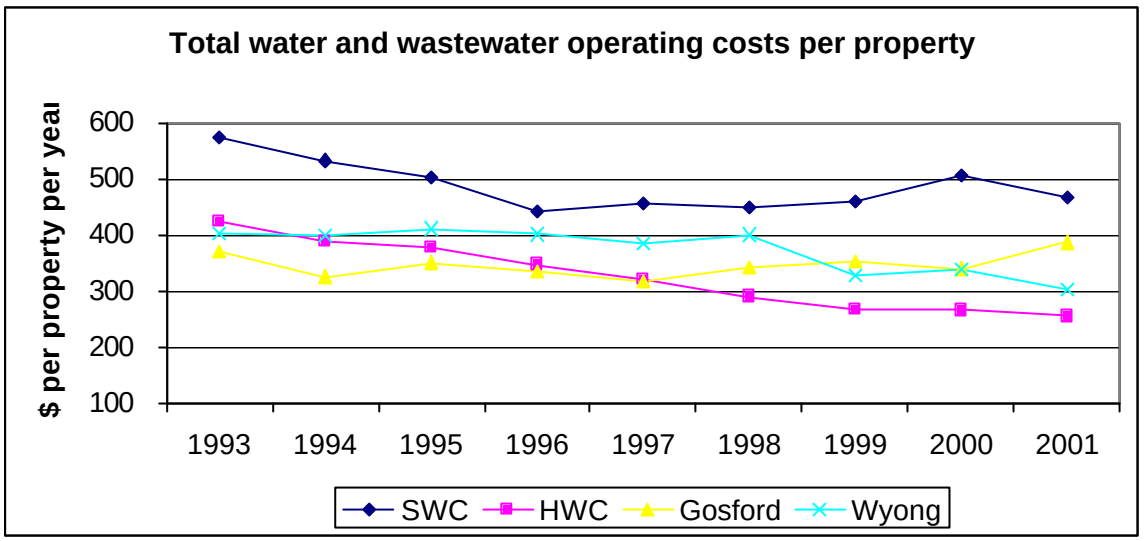
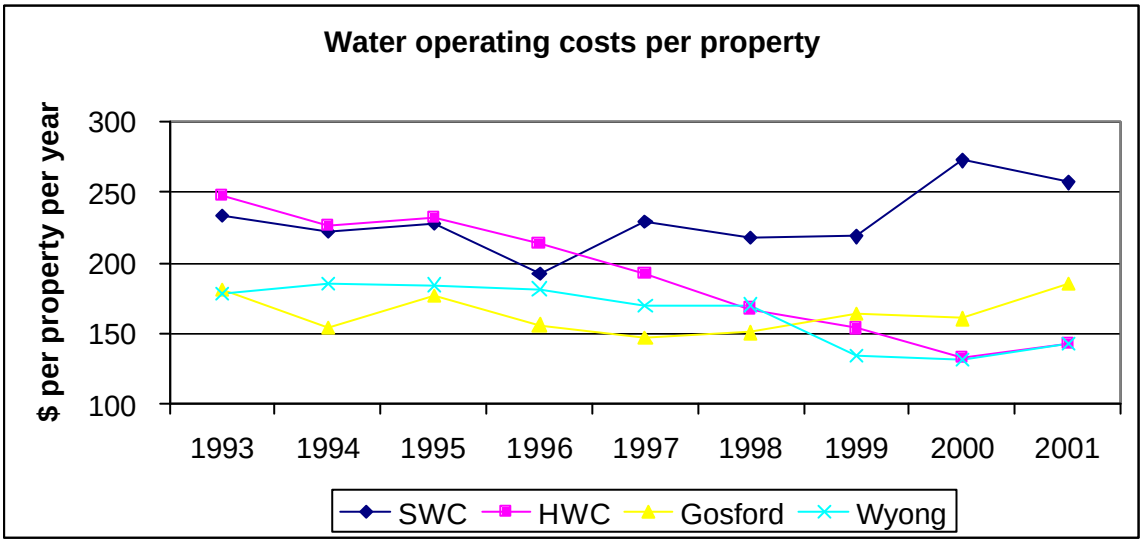
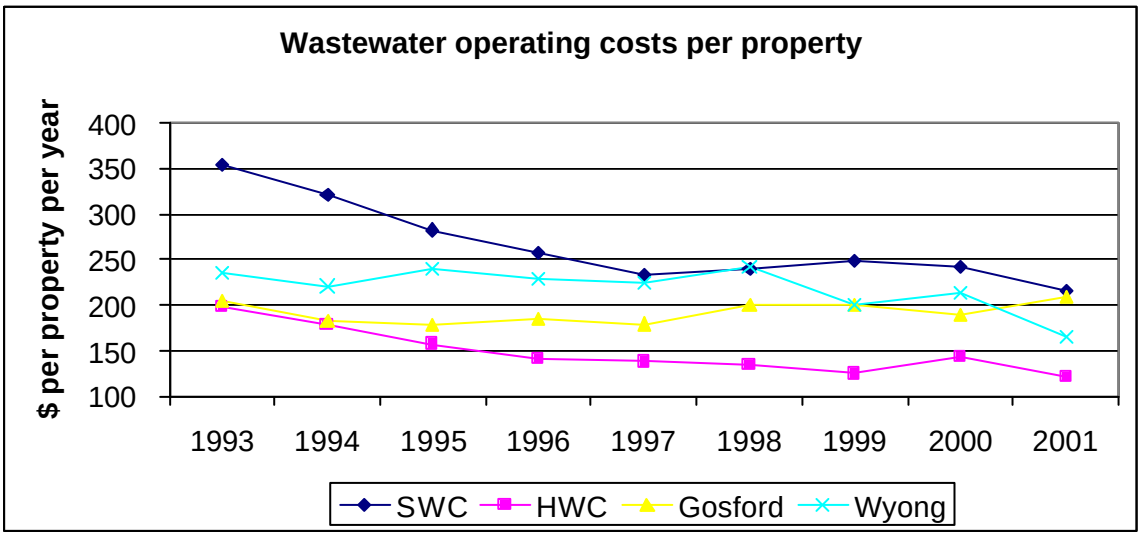


Figure 4.7 Water and wastewater operating costs per property (2001 $)







4.4.3 Capital expenditure

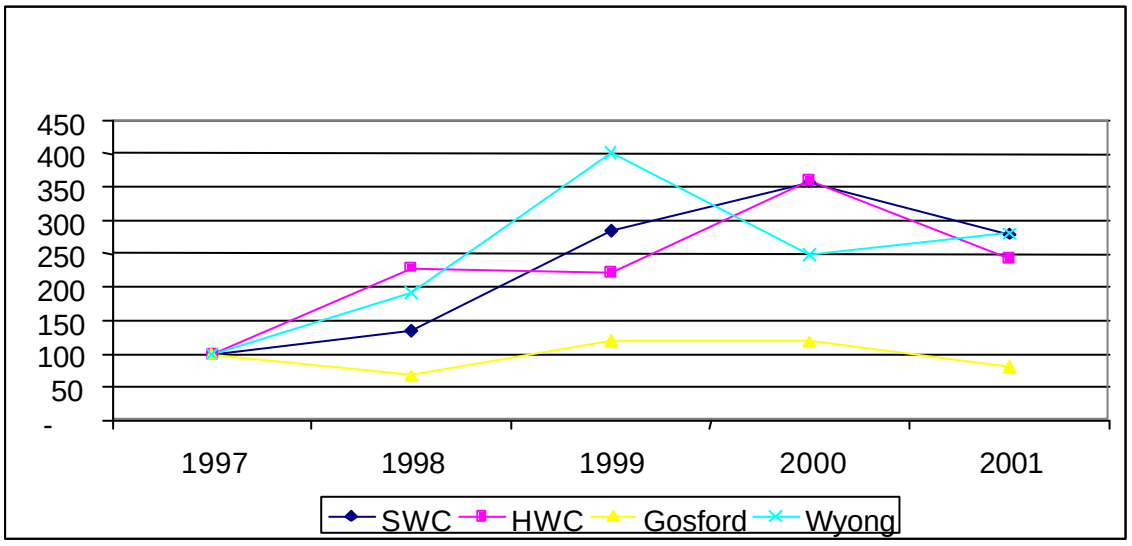
Capital expenditure measures the funds used to replace existing assets and to purchase new assets. Figure 4.8 shows the movement in capital expenditure in real terms. Although the levels vary widely on a year-to-year basis, expenditures for SWC, HWC and Wyong Council have risen considerably since 1997.

Expenditure on wastewater assets dominates the spending of SWC, HWC and Wyong Council. SWC's increased costs after 1999 result from construction of the Northside Storage Tunnel over 1999 and 2000, and a large program[4] directed towards sewerage overflow abatement. However, expenditure on water assets has risen for all utilities.

Capital expenditure by purpose varies depending on the particular circumstances of each utility. SWC's priority for wastewater expenditure is reflected in expenditure for environmental purposes, but there is also an increasing trend in asset renewal/replacement expenditure reflecting the greater age of Sydney's water and wastewater infrastructure. Wyong Council's expenditure is directed towards growth assets, reflecting the increase in new housing in Wyong.

Wastewater expenditure is being increasingly driven by environmental concerns.

Figure 4.8 Index of capital expenditure (1997=100)



[4] SWC instituted a strategy called WaterPlan 21 in 1997 that establishes priorities, water quality goals and timeframes to achieve sustainable wastewater management across Sydney. The plan calls for expenditure of over $1.5 billion in 2001, 2002, and 2003 directed mainly towards wastewater works.

Table 4.3 Capital expenditure

Capital expenditure by business (000, 2001 $)

	1997	1998	1999	2000	2001
Total capital expenditure					
SWC	154,026	208,698	439,250	549,795	430,100
HWC	17,721	40,648	39,332	63,754	43,085
Gosford	5,155	3,496	6,230	6,104	4,156
Wyong	4,406	8,448	17,668	10,940	12,361
Water					
SWC	56,654	59,907	100,673	81,167	84,301
HWC	3,904	5,821	18,500	19,148	10,641
Gosford	1,957	1,756	3,518	3,486	2,274
Wyong	1,873	2,722	5,850	2,887	2,859
Wastewater					
SWC	95,529	143,562	335,346	460,719	339,830
HWC	13,813	34,727	20,832	44,420	32,384
Gosford	3,198	1,740	2,713	2,619	1,882
Wyong	1,864	4,140	7,295	4,271	5,382
Stormwater					
SWC	1,842	5,228	3,231	7,910	5,969
HWC	3	100	-	186	60
Gosford	-	-	-	-	-
Wyong	669	1,586	4,523	3,782	4,120

Capital expenditure by purpose (000, 2001 $)

	1997	1998	1999	2000	2001
SWC					
Asset renewal/replacement	64,265	97,001	111,303	131,833	142,540
Environmental	86,457	107,349	320,792	401,510	270,768
Growth	3,303	4,348	7,155	16,453	16,792
Total capital expenditure	154,026	208,698	439,250	549,795	430,100
HWC					
Asset renewal/replacement	2,064	2,723	6,986	6,514	5,163
Environmental	3,054	15,936	7,201	16,373	15,008
Growth	12,602	21,989	25,145	40,868	22,914
Total capital expenditure	17,721	40,648	39,332	63,754	43,085
Gosford					
Asset renewal/replacement	1,895	59	1,485	3,086	2,208
Environmental	-	-	-	-	-
Growth	3,261	3,437	4,745	3,018	1,948
Total capital expenditure	5,155	3,496	6,230	6,104	4,156
Wyong					
Asset renewal/replacement	1,800	2,779	3,732	3,226	2,292
Environmental	-	218	3,260	1,721	1,276
Growth	2,606	5,451	10,677	5,993	8,793
Total capital expenditure	4,406	8,448	17,668	10,940	12,361

5 SYDNEY CATCHMENT AUTHORITY

The NSW Government created the SCA in July 1999 in response to the report of the Sydney Water Inquiry. The Sydney Water Inquiry was convened to investigate the causes of water contamination events in 1998, and to make recommendations to prevent a recurrence of these events. Consequently, SCA's purpose is to effectively manage and protect the water catchment areas and infrastructure works under its control, and to supply bulk water to the Sydney Water Corporation and several smaller customers.

It is difficult to compare the performance of SCA with the other utilities because of its dissimilar responsibilities. SCA is a bulk water supplier only, the other four utilities have responsibility for bulk water supply (except for SWC), and retail supply of water, wastewater and stormwater services. Therefore the performance of SCA is reported separately in this section.

The following trend analyses are not ideal methods for measuring SCA's performance because data is only available for the two years since its establishment. Therefore, although the comments above about comparing organisations with differing responsibilities still apply, a comparison with SWC is included to help with analysis and to show results for the total supply of services to the Sydney area.

5.1 Pricing

In October 2000, the Tribunal determined the prices that SCA can charge SWC and several smaller customers[5] until 2005. The determination established a price cap for charges to SWC where charges set for the first year of the price path are to be maintained in real terms over the price path.

Because SCA was still developing its full range of activities at the time of the 2000 determination, the Tribunal decided to conduct a mid-term review of SCA coinciding with the new determinations for the other four utilities. The review will examine the appropriateness of prices from 1 July 2003 onwards.

[5] The SCA supplies water to a number of customers other than SWC. They consume less than 0.5 per cent of the annual total water demand placed on the SCA. These customers include Wingecaribee and Shoalhaven Councils, firms engaged in primary production and industrial activities, and small users (for domestic stock and irrigation purposes).

5.2 Financial performance

Table 5.1 shows SCA's financial characteristics for the first two years of its operation. In financial terms it is a much smaller organisation than SWC with revenues being approximately 10 per cent of SWC's.

When the Tribunal determined SCA's prices in 2000, various financial characteristics had to be projected. However, the projections were somewhat subjective because SCA had not long been in existence. The Tribunal expects that information for the next pricing review will be more reliable because SCA will have had more time to define its role, its functions and its activities as identified in its Operating Licence[6].

Table 5.1 Financial characteristics ($ million, 2001 $)

	Sydney Water 1999/00	Sydney Water 2000/01	SCA 1999/00	SCA 2000/01
Total revenue	1,260	1,230	126	123
Operating and misc expenditure	816	763	48	58
Net interest payments	133	140	9	10
Depreciation and amortisation	174	180	7	8
Abnormal items	16	0	0	0
Earnings before interest, tax, abnormals	270	288	72	57
Tax paid	63	114	-	36
Dividends paid	104	104	-	11
Property, plant & equip (book value)	13,218	13,102	716	704
Total assets (book value)	13,717	13,436	776	746
Net debt (debt less investments)	1,674	1,866	124	134
Total liabilities	2,538	2,552	228	213
Operating cashflow	142	294	40	26
Capital expenditure	550	430	40	33
No. of metered properties (000s)	1,501	1,531	0	0
Number of employees	3,766	3,676	147	187

6 SCA's Operating Licence commenced on 19 April 2000 after recommendations were made by the Tribunal.

5.3 Financial indicators

Table 5.2 shows SCA's financial performance as measured by financial indicators. The ratios show that SCA's ability to service debt, repay debt and fund investment from internal sources point to an indicative investment grade of at least AA for each ratio. The EBIT to total revenue figure shows how strongly SCA is generating profits. Overall, SCA is very sound financially.

However, the SCA expects its expenditure to increase as it progressively undertakes those activities needed to fulfil its commitments under its Act and Operating Licence. The potential for revisions of projected expenditure is a significant factor in the Tribunal's decision to review SCA's prices from 1 July 2003 onwards.

Table 5.2 Financial indicators[(i)(ii)]

	SCA 2000/01
Ability to service debt	
Funds flow interest cover ratio	7.6
NSW Treasury rating (1994)	AAA
S&P rating (1995)	AA
Pre-tax interest coverage ratio	5.9
S&P rating (1995)	AA
Ability to repay debt	
Funds flow net debt payback ratio	2.8
NSW Treasury rating (1994)	AAA
Funds from operations/total debt ratio	30%
S&P rating (1995)	AA
Total debt / total capital ratio	21%
S&P rating (1995)	AA
Ability to finance investment from internal sources	
Internal financing ratio	111%
NSW Treasury rating (1994)	AAA
S&P rating (1995)	AA
EBIT / total revenue*	46%
EBITDA / total revenue*	53%
EBIT ($ m)*	57
EBITDA ($ m)*	65

*where revenue excludes interest earnings and developer charges.

Notes:

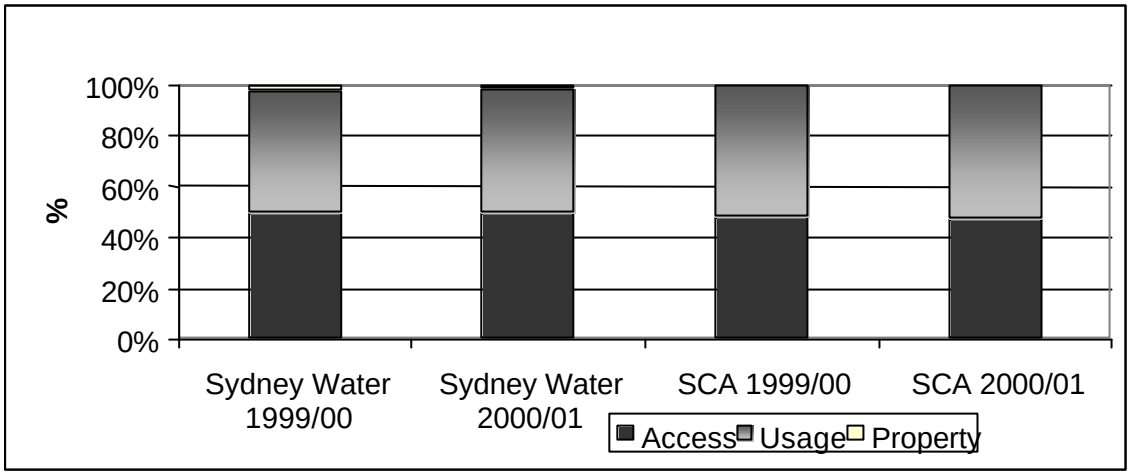
(i) The Tribunal particularly relies on indicators based on cashflows because these are not as subjective as indicators that use components derived from estimates (eg asset value and depreciation).

(ii) The information in this table should be read and understood only after reviewing the accompanying overview, particularly paragraph 3.1.2 and Appendix 1 and the explanations and qualifications mentioned there.

5.4 Revenue

Figure 5.1 shows that the pricing structure adopted by the Tribunal for SCA in the 2000 determination has resulted in revenue being funded by access and usage charges on an approximately 50:50 basis. The Tribunal will review this structure in its mid-term review of SCA.

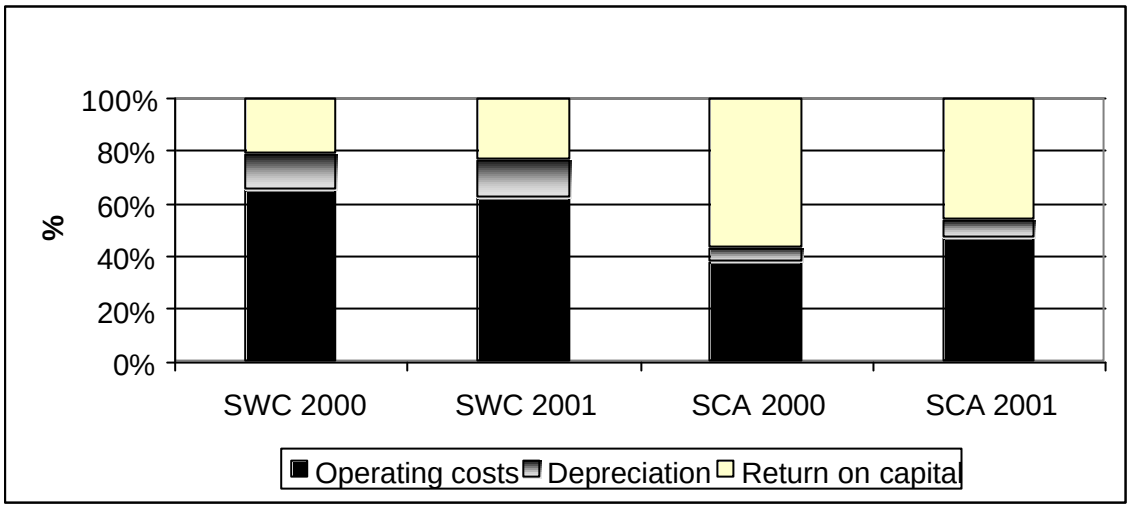
Figure 5.1 Sources of revenue



5.5 Costs

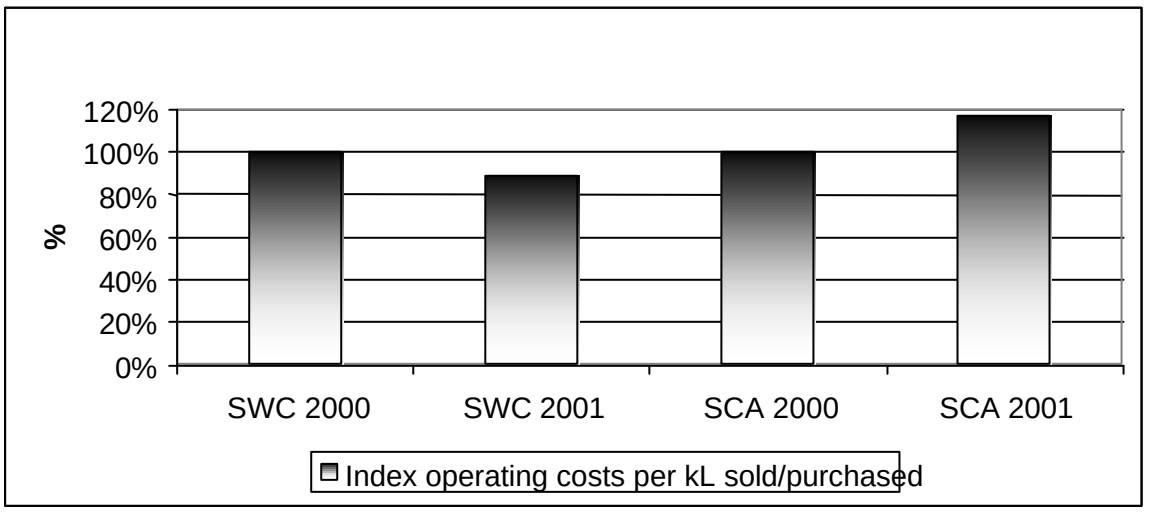
Figure 5.2 shows that SCA is generating proportionally higher profits than SWC because of proportionally lower operating costs and depreciation. The low level of book depreciation for SCA is a result of its long lived assets and its relatively lower asset base book value.[7]

Figure 5.2 Total costs per property (2001 $)



As with revenue, two years trend analysis is not sufficient to draw reliable conclusions but SCA's costs per kilolitre have increased over this period while SWC's have decreased.

Figure 5.3 Index of operating costs per kL sold/purchased (2000 = 100)



[7] As detailed in SCA's price determination report (see *Sydney Catchment Authority, Prices of Water Supply Services, Medium Term Price Path from 1 October 2000,* p 17, which states that SCA's book value of assets in 1999/2000 is linked to its economic value and is therefore comparatively much lower than for the other water agencies).

5.6 Capital expenditure

Table 5.3 shows that SCA's total capital expenditure has reduced from the 2000 level with increased expenditure on asset renewals outweighed by reduced expenditure on standards. However, analysing movements in capital expenditure on an annual basis can be misleading because large projects can run for a number of years with significant annual variations.

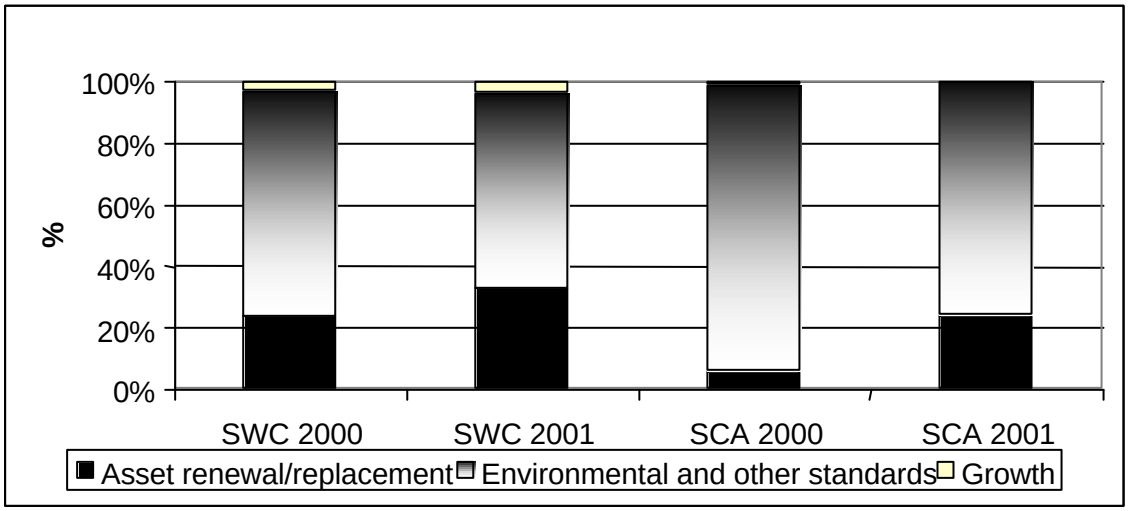
Similar to operating expenditure, projections of capital expenditure adopted for the 2000 pricing determination were uncertain. SCA expected to spend $44.6 million in 2001, and $153 million over the 5-year price path. It spent $33 million in 2001.

Table 5.3 Capital expenditure by driver (000, 2001 $)

Driver	SWC 2000	SWC 2001	SCA 2000	SCA 2001
Asset renewal/replacement	131,833	142,540	2,464	8,078
Environmental and other standards	404,147	272,768	36,766	25,250
Growth	16,453	16,792	421	0
Total capital expenditure	552,432	432,100	39,650	33,328

Figure 5.4 compares the proportion of capital expenditure related to asset renewal, standards and growth. Although the proportion for asset renewals has increased in 2001, SCA's expenditure is primarily directed towards environmental and other standards. Specifically, expenditure on the Warragamba Dam spillway project is categorised as expenditure to achieve compliance with dam safety standards. SCA must comply with the guidelines of Australia National Committee on Large Dams (ANCOLD) and the NSW Dam Safety Committee.

Figure 5.4 Percentage of capital expenditure by driver



6 SERVICE PERFORMANCE

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

As Licence Regulator, IPART undertook the 1999/2000 audits of the SCA and HWC and recently completed the 2000/01 audits of all three agencies.

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

6.1 Service performance of metropolitan water agencies

6.1.1 Water

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

- Physical – dissolved oxygen, pH and odour.
- Chemical –acidity, aluminium, fluoride, manganese and iron.
- Microbiological – faecal coliforms[8] which might indicate the presence of sewage contamination.

The operating licences for both SWC and HWC codify the water quality requirements placed on the agencies by NSW Health.

Both Gosford and Wyong Councils also provide details of their water quality compliance as part of performance reporting to the Tribunal.

Table 6.1 Drinking water quality

	1997	1998	1999	2000	2001
Samples that meet the minimum requirements of NHMRC guidelines					
Physical/chemical					
Sydney Water Corporation	98.7%	99.5%	96.9%	97.8%	98.7%
Hunter Water Corporation	99.8%	99.0%	99.3%	99.6%	99.5%
Gosford City Council	100.0%	100.0%	100.0%	100.0%	100.0%
Wyong Shire Council	99.7%	99.5%	100.0%	100.0%	100.0%
Microbiological					
Sydney Water Corporation	99.1%	99.8%	99.9%	99.8%	99.9%
Hunter Water Corporation	99.6%	99.7%	99.4%	99.7%	99.7%
Gosford City Council	100.0%	100.0%	98.0%	98.2%	98.6%
Wyong Shire Council	98.6%	97.7%	97.0%	95.5%	95.6%

[8] Organisms which are found in human and animal faeces.

6.1.2 System performance standards

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

6.1.3 Water continuity

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

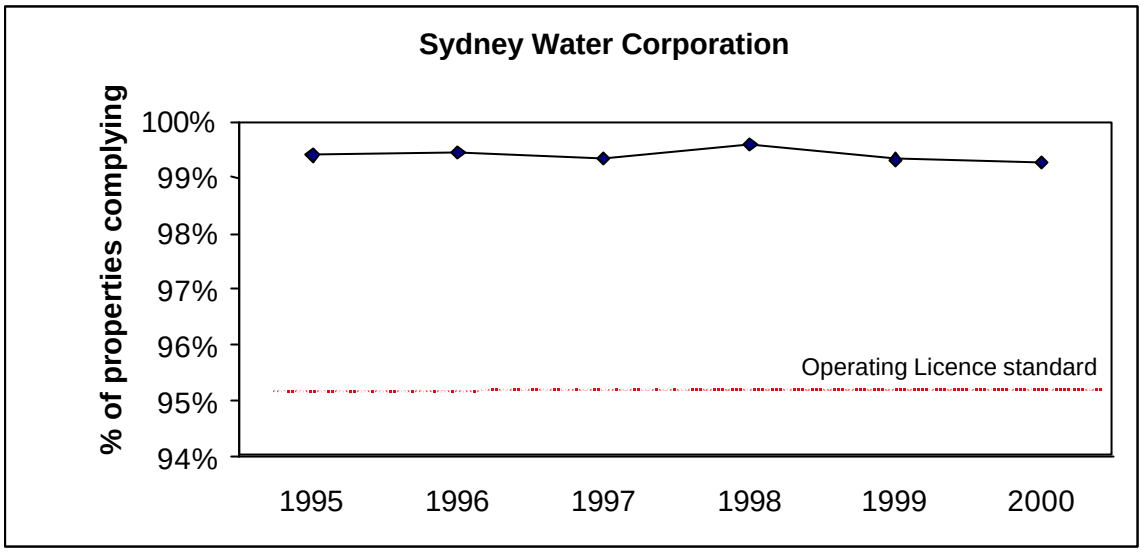
As illustrated in the accompanying graphs, both SWC and HWC have performed strongly against their Licence obligations with respect to water continuity.

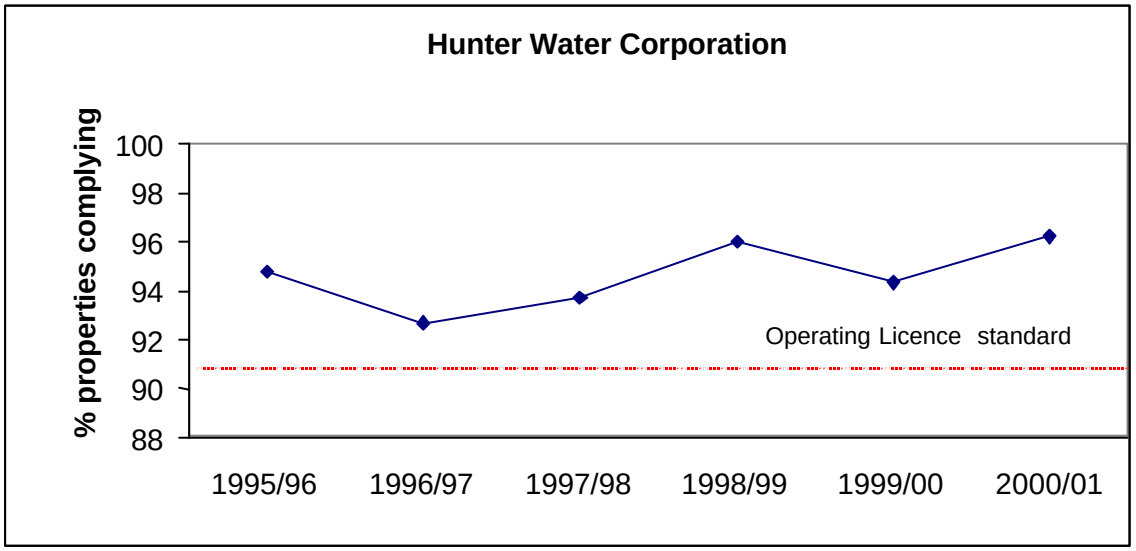
Although SWC appears to be the better performer in this service area (SWC is required to meet a 95 per cent performance standard as opposed to 92 per cent for HWC), direct comparisons are difficult due to the differences in the respective standards and associated definitions:

SWC Water Continuity performance standard – 95 per cent of properties are not to have an interruption to their service for more than 6 hours annually.

HWC Water Continuity performance standard – 92 per cent of customers will not incur interruptions to their water supply for a cumulative duration of more than 5 hours in any year.

Figure 6.1 Water continuity performance standards for SWC and HWC



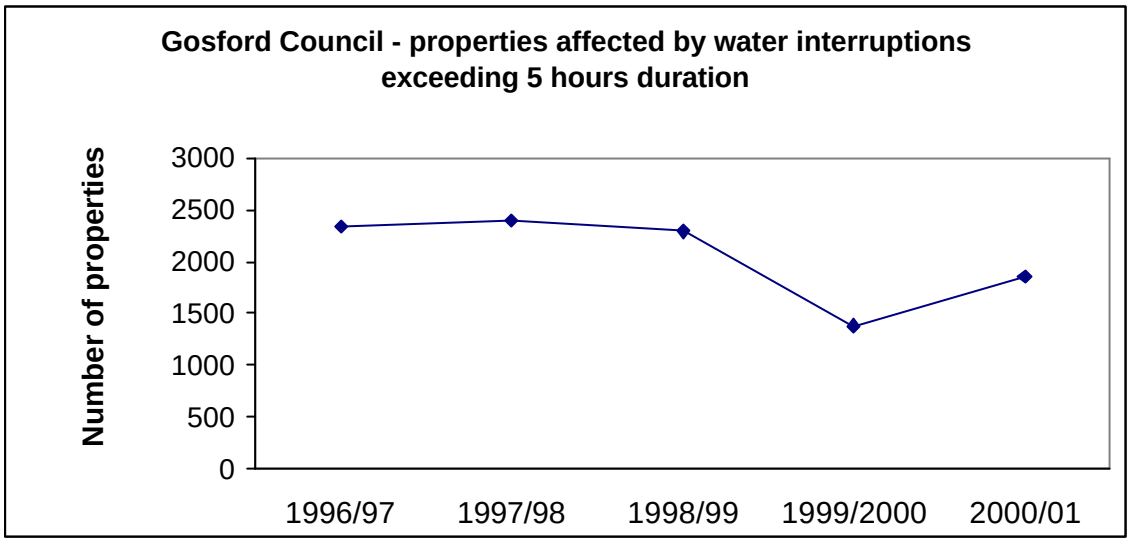


Aside from the obvious differences in the individual performance criteria themselves, variation in the interpretation of the standard also contributes to the difficulties of direct comparison. For instance, HWC has adopted a practice of counting repeat interruptions and the duration of the interruptions for individual properties cumulatively towards the 5 hour standard. Thus, if a property experienced two separate 3-hour supply interruptions, under HWC's approach, this would be counted towards the licence standard.

This interpretation differs from that of SWC, which treats interruptions as separate events for the purposes of licence compliance and thus the two 3-hour interruptions would not be counted in measuring performance against the licence standard.

As part of Gosford Council's annual management plan, it reports its water continuity performance against two indicators – the number of properties experiencing interruptions per annum and properties affected by discontinuities exceeding 5 hours. The Council's performance against the latter standard is reported below. The council's performance in 2000/01 indicates approximately 97 per cent compliance with 3 per cent of properties were affected by water discontinuities exceeding 5 hours duration.

Figure 6.2 Water continuity performance standards for Gosford Council

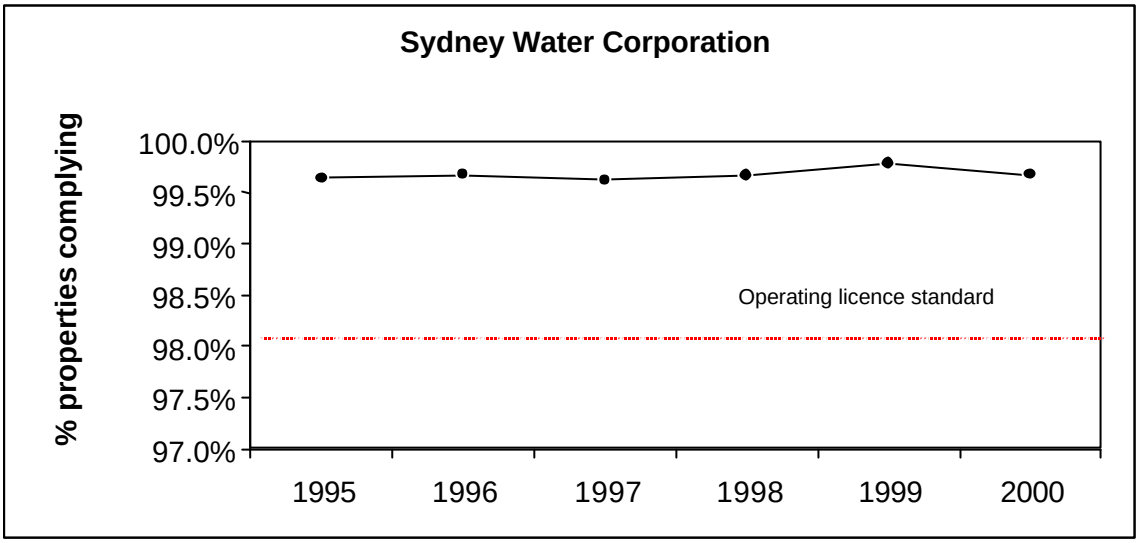


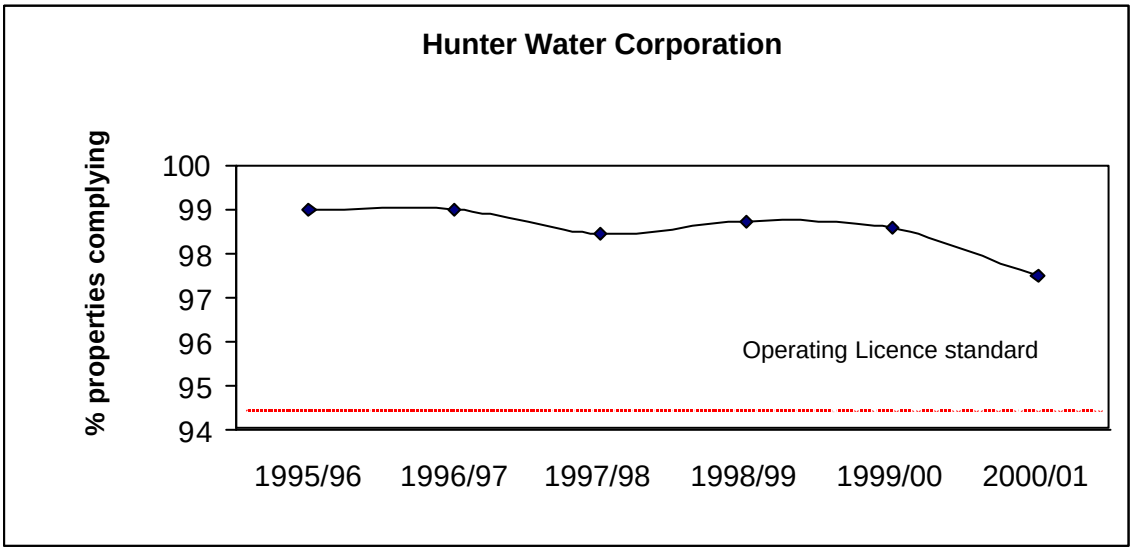
Wyong Council's has also introduced a water continuity target that less than 5 per cent of properties are affected by supply interruptions exceeding 6 hours per annum. This target was recently introduced as part of the Council's 2001/2002 Management Plan. As a result, historical performance cannot yet be assessed.

6.1.4 Water pressure

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

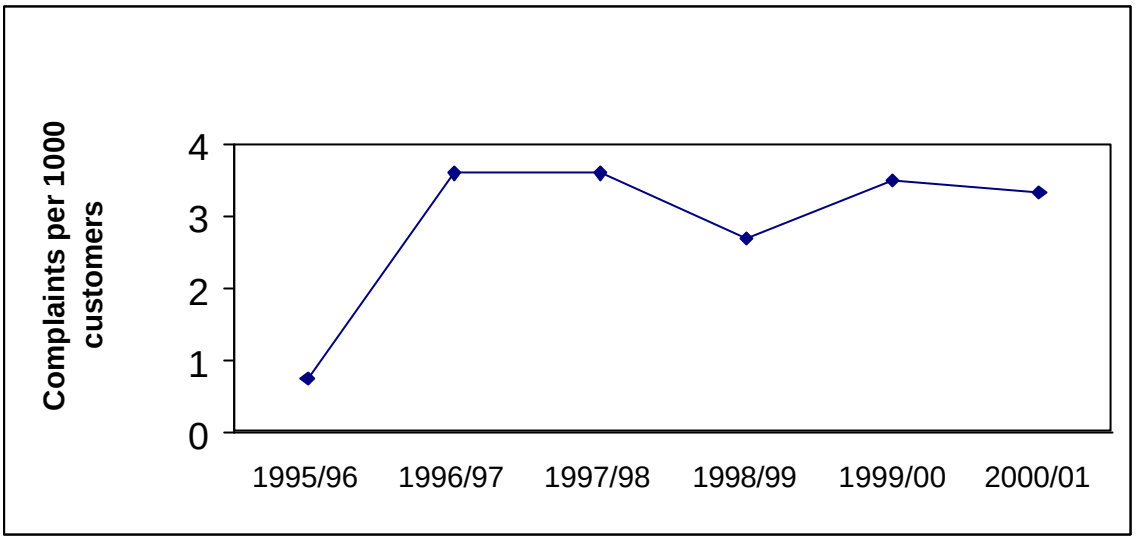
Figure 6.3 Water pressure performance standards for SWC and HWC





Wyong Council in common with Sydney Water, aims to achieve a water pressure standard of 15 metres head throughout its area of operations. Currently, it assesses its performance against this standard on the basis of customer complaints received for poor pressure. The Council's own internal target is that pressure complaints should amount to no more than 5 per 1000 customers. Thus, 99.5 per cent of all customers are deemed to receive adequate pressure. Wyong Council's performance against this standard is set out below.

Figure 6.4 Wyong Council water pressure complaints per 1000 customers

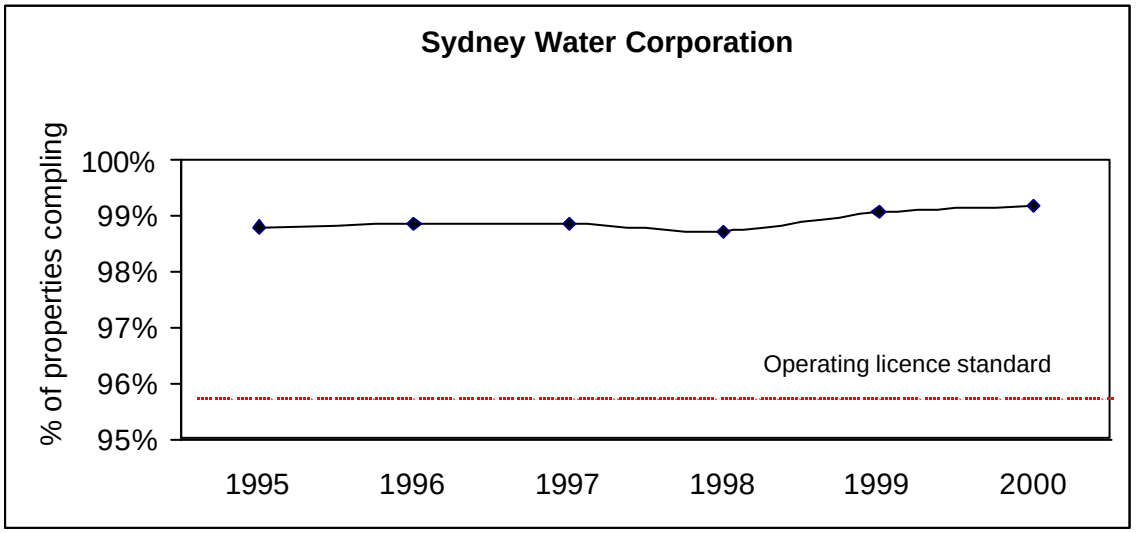


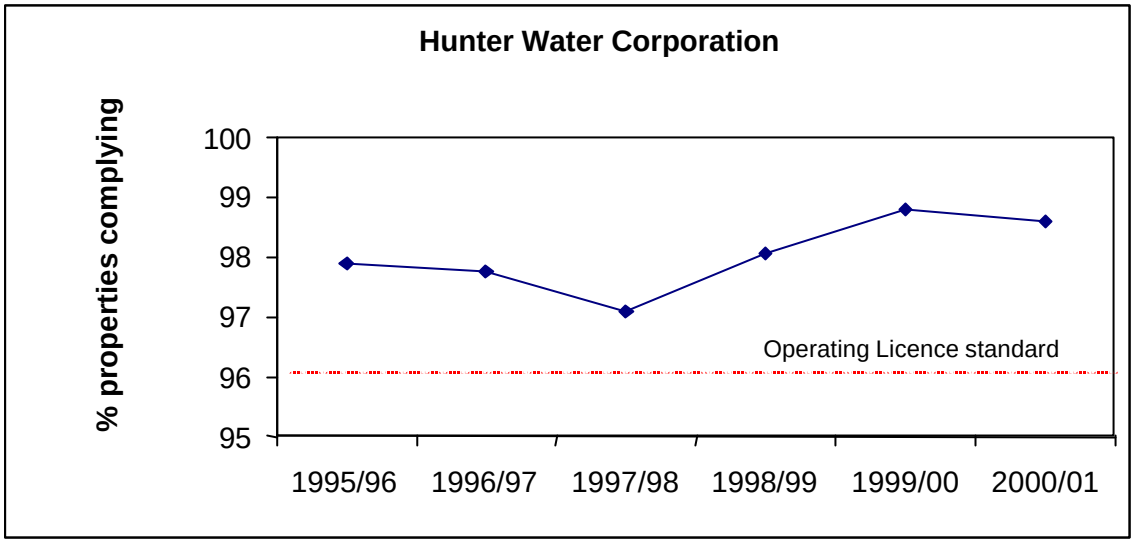
In the case of Gosford Council, the Council has adopted an operational standard of 12 metres head. The Council, based upon the number of customer complaints received, believes that very few, if any, of its customers experience pressure below this standard.

6.1.5 Sewer overflows

Both SWC and HWC have a similar standard for overflows to customer properties, a requirement that 96 per cent of connected properties do not experience an overflow to the property in any financial year.

Figure 6.5 Sewer overflow performance standards for SWC and HWC





From Figure 6.5 above it would appear that SWC's performance is slightly above that of HWC. In fact this is misleading and highlights the difficulties in comparing performance across different agencies.

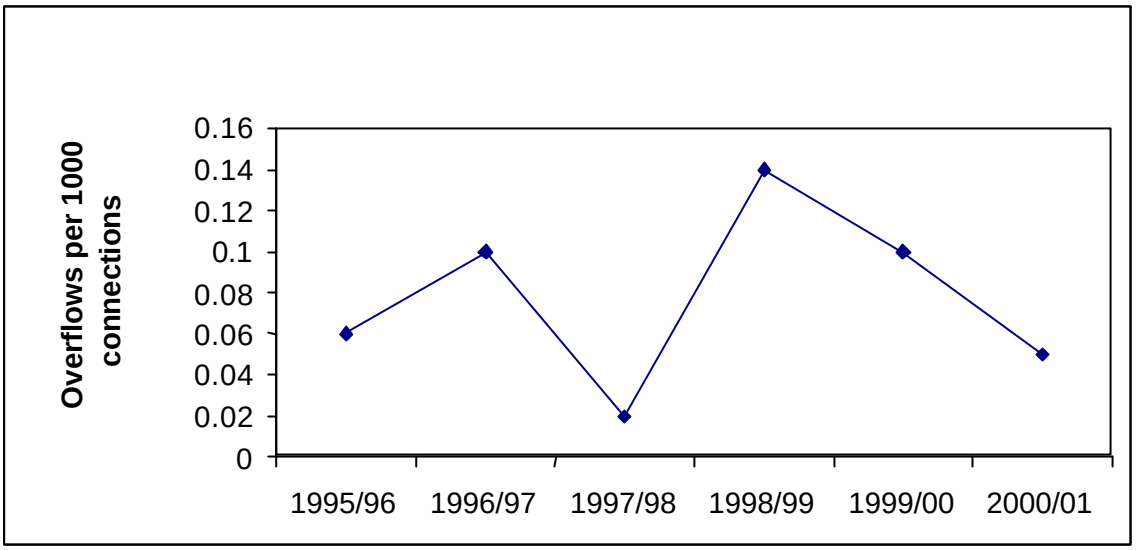
Whilst, at face value the two standards appear very similar, in practice the agencies use different interpretations and definitions. In determining their sewer overflow performance, HWC incorporates reported surcharges from sewerage 'shafts' and 'branches' which form part of the overall house service line – assets wholly owned by the customer and not HWC. Sewerage shafts, because of their typical location and condition, incur a very high rate of surcharges, thus their inclusion in the results inflates the overall rate reported by HWC.

In terms of the overall rate of overflows to the environment per 100km of main, the latest performance report by the Water Services Association of Australia, shows that HWC achieves significantly better performance in this area then SWC.[9]

Wyong Council aims to achieve an incidence of overflows at less than 1 overflow event per 1000 connections per annum. As the graph below indicates, Wyong Council has over the past 6 years achieved performance well in excess of this standard. However, this strong performance may be partially attributable to the definition of overflows used by the Council which counts only overflow events which are the result of system malfunction (eg pumping station failure).

9 The Australian Urban Water Industry, WSAA*facts* 2001, p 72, Fig 11.8.

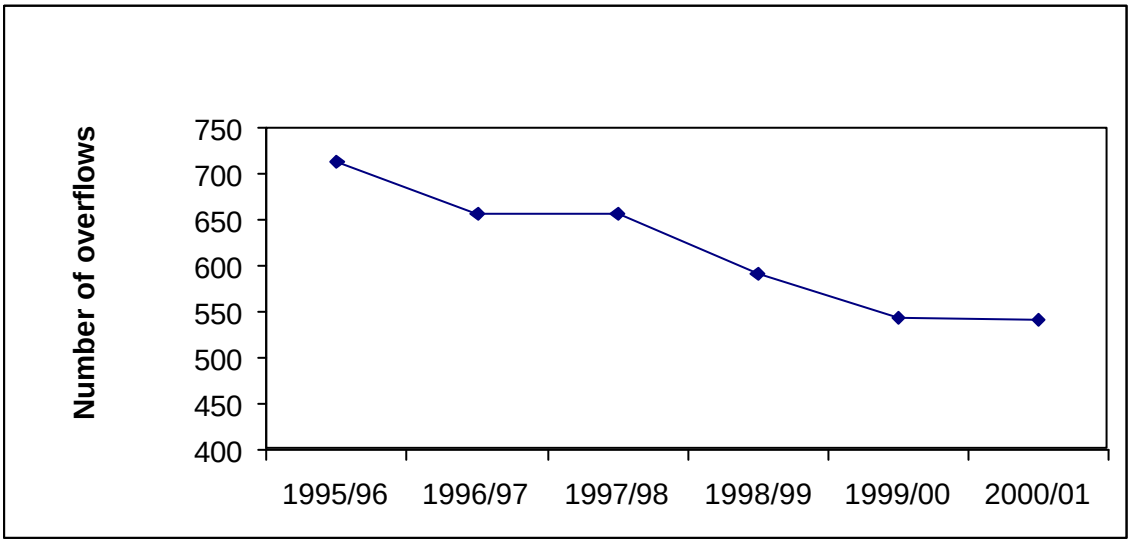
Figure 6.6 Sewer overflow performance for Wyong Council per 1000 customers



Actual overflow events reported by Gosford Council are shown at below at Figure 6.7 for the period 1995/96 to 2000/01. The Council also reports on sewer overflows per 100km of main as part of the Australian urban water industry publication, WSAA*facts*.

Basic analysis of both Wyong and Gosford Councils sewer overflow performance shows that in 2000/01 less than 1 per cent of properties across both Council's area of operations were affected by overflows. Although this is an indicative figure only, it would appear that the Councils performance exceeds that of both SWC and HWC.

Figure 6.7 Sewer overflow performance for Gosford Council



6.1.6 Review of system performance standards for SWC and HWC

As previously mentioned, the Tribunal conducted reviews of performance standards for SWC and HWC in 2001 and early 2002. The outcome of these reviews will be new system performance standards which will take effect in July 2002.

Previous studies in this area have commented that service standards and levels appear to have been chosen to reflect the capability of the system rather than customer expectations of water services.[10] As such, the focus of the Tribunal's recent reviews was on:

- whether the existing standards meet customer needs and expectations and
- whether the existing standards provide sufficient incentives for the agencies to improve performance.

IPART recommended that agencies should report against absolute numbers of properties rather than percentages. This is seen as placing greater emphasis on those customers receiving poor service, whilst also providing the businesses with an incentive to improve performance over time.

Performance against these new standards and indicators will be reported as part of the 2001/2002 Operational Audits of SWC and 2002/2003 Audit of HWC.

6.1.7 Customer service

Both SWC and HWC are required to enter into Customer Contract with their customers. These contracts are legally enforceable documents which set out the rights and obligations of both customers and the utilities themselves. In 2001, the Tribunal conducted a full review of SWC's Customer Contract, in consultation with SWC and stakeholders. The outcomes of this process was a redrafted 'plain English' contract with additional provisions and information on avenues for customer redress and assistance for customers experiencing financial hardship.

A similar review of HWC's Customer Contract will take place in 2002/2003.

The Operating Licences for SWC and HWC also contain a range of requirements pertaining to customer service such as requirements for customer complaint handling and community liaison.

For both of the Councils, their customer complaint handling systems are the primary means of identifying systemic customer service problems and an important driver of maintenance and capital expenditure to correct deficiencies. Overall responsibility for the management of the council's water and sewerage businesses lies with councillors who are periodically elected directly by the local community. This is an important accountability mechanism which does not exist in the case of SWC and HWC.

6.1.8 Environmental requirements

The primary environmental regulator in NSW is the Environment Protection Authority (EPA). The focal point of the EPA's regulation of water and sewerage utilities is provided through Environmental Protection Licences which regulate discharges from sewerage systems.

[10] Halcrow Management Sciences Ltd, *New South Wales Agencies Review – Summary*, December 1999, p 19.

SWC holds 27 EPA Licences and in 2000/01 complied with all Licence conditions, apart from 4 minor exceedances which the EPA believes did not have detrimental environmental impact. For Hunter Water, the Operational Audit found that compliance with EPA discharge standards was achieved during the audit period, with only minor breaches. These exceedances were generally administrative in nature and did not result in significant environmental impact.

Gosford and Wyong Councils also complied fully with the core aspects of their Licences such as measures for Biochemical Oxygen Demand (measure of level of organic matter in effluent) and Suspended Solids (measure of the turbidity of effluent).

6.2 Service performance of the Sydney Catchment Authority

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

6.2.1 Water quality obligations

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

- meet certain health guideline values contained in the Australian Drinking Water Guidelines
- meet certain site specific standards for bulk water contained in its Bulk Water Supply Agreement with Sydney Water (these only relate to aesthetic characteristics such as turbidity, colour, hardness and alkalinity)
- prepare a 5-year Risk Management Plan that will identify and assess sources of pollution and reduce or remove the pollution.[11]

The recent 2000/2001 Audit of the Catchment Authority's operating licence found that the SCA had shown strong compliance with its bulk water quality obligations in the licence. In particular, the Audit reported that the Authority fully complied with the health guideline values set out in Schedule 4 of the operating licence, with the exception of 1 test exceedance for iodide. The Auditors did not consider this non-conformance to be significant.

The Auditors also reported that more than 96 per cent of all bulk water supplied met the aesthetic requirement contained in the Bulk Water Supply Agreement. The Auditors found that the reported exceedances did not cause significant difficulties for water treatment processes.

In relation to the Risk Management Plan, the Auditors expressed some reservations concerning the adequacy and scope of the Plan, recommending that the Plan be amended to take a holistic view of pollution sources to identify whether further actions are required to protect drinking water quality.

[11] Sydney Catchment Authority, *Operating Licence*, 19 April 2000, clauses 6.2, 6.5 and 6.7.

6.2.2 Catchment management and protection

With respect to the SCA's catchment management activities, the Audit found that the Authority had devoted considerable resources to better manage and protect the catchments, with full or high compliance being assessed for the majority of operating licence conditions.

However, the Audit did note that the SCA had not yet commenced enforcement of the *Sydney Water Catchment Management (Environment Protection) Regulation 2001*, which allows the Authority to take action to prevent unlicensed polluting activities over the entire catchment area. In view of this, the SCA has been asked to expedite the enforcement of this regulation.

6.2.3 Management of catchment infrastructure works

Protecting public health and safety is the SCA's paramount concern in managing its catchment infrastructure. The 2000/2001 Audit found that the Authority had complied fully with the requirements of the NSW Dam Safety Committee.

Management of the infrastructure involves ensuring that they are designed, operated and managed to provide Sydney Water with a long-term standard of service which accords to specific performance criteria set out in Schedule 2 to the operating licence.

The performance criteria set out performance levels for reliability, robustness and security. Reliability and robustness relate to the level and frequency of water restrictions required to ensure long term water supply.

The Security of Supply criteria is related to the likelihood of total water supply volumes falling to less than 5 per cent useable capacity in any month. The SCA's current performance is equivalent to 1 month in 6200 years, as compared to the existing standard which is equivalent to 1 month in 8333 years.

As part of the Ministerial Requirements arising from the audit, the Minister has required that the current mid-term review process for the SCA and SWC consider the applicability, appropriateness and accuracy of the existing criteria and the model used to calculate the performance criteria.

APPENDIX 1 FINANCIAL INDICATORS

The indicators of financial performance include notional credit ratings of regulated businesses. Indicative ratios supplied by Standard and Poor's (S&P) ratings group that are published from time to time[12] are used to estimate these ratings. The indicative ratios are used by S&P as one of its analytical tools in setting overall ratings, and the Tribunal uses the indicators in a similar manner, ie as part of the overall financial analysis of the regulated business. The overall ratings that have been or may be derived by S&P for a business cannot be derived from simple inspection of these ratios.

Indicative ratios for each ratio for each year during the medium term price paths set in 2000 were published in the Tribunal's Determinations for each of the regulated water businesses. In Tables 3.2 and 5.3, the Tribunal has

- calculated various financial ratios for the one year of results considered in this report in accordance with the methodologies used by S&P and
- indicated the rating applicable for each ratio based on the bands published by S&P.

The calculation and assessments are those of the Tribunal and not S&P.

The actual rating process used by S&P is very broad, involving subjective judgements of industry risk and cost structures, not just financial ratios. S&P use both qualitative and quantitative analyses in determining an entity's rating. The ratios used by the Tribunal in its financial analysis are part of the latter – they should be used as a guide rather than as blanket reasons for giving a certain rating. The overall ratings that have been or may be derived by S&P for a business cannot be derived from simple inspection of these ratios.

S&P divide its analysis into:

- business risk - including market position, technology, efficiency and management capabilities, the prospects for growth in the industry, and vulnerability to technological changes or labour unrest or regulatory changes and
- financial risk - looking at financial management policies, cash flow protection, capital structure and profitability.

S&P's analysis incorporates an evaluation of a company's business and financial risks. In its guideline ratios, S&P provided financial indicator ranges for each of 'above average' business position, 'average' business position and 'below average' business position. During the analysis undertaken in 2000 as part of the determination process, the Tribunal decided that each of the regulated water businesses had an 'excellent' risk profile.

[12] Two sets of ratios have been used, for consistency with the financial analysis undertaken by the Tribunal during the 2000 determination process. The 'NSW Treasury Rating' indicators are from *The Capital Structure for NSW Government Trading Enterprises* report produced in August 1994 by NSW Treasury as part of its financial policy framework for GTEs, and are based on ratios provided to Treasury by S&P. The "S&P" criteria are from S&P's Corporate Finance Criteria for 1995.

An acceptable range of financial ratios for each rating category will differ from time to time according to the unique characteristics of the business. There may not be a perfect match between the ratios and the indicator rating; the ratios represent midpoints of ranges, and vary during an investment cycle, particularly the internal financing ratio. In addition, S&P's credit ratings are prospective, with ratings reflective of a company's expected financial profile. For this reason, the ratings indicated by the ratios for each of the regulated businesses based on one year's financial results may not be the same as the actual rating given by S&P.

APPENDIX 2 DEFINITIONS

FINANCIAL INDICATORS	GENERAL DESCRIPTION	DEFINITION/COMPONENTS
Funds Flow Interest Coverage	How many times funds from operations covers interest payments	(Pre-tax funds flow + net interest) / net interest
Pre-tax Interest Coverage	How many times profit before tax covers interest payments	(EBIT – developer charges) / net interest
Funds Flow Net Debt Pay Back	How many years will it take to payback total debt	Net debt / funds from operations
Funds from operations / total debt	Proportion of funds from operations to total debt	Funds from operations / total debt
Total debt / total capital	Proportion of debt to equity capital	Total debt / (total debt + total equity)
Internal Financing Ratio	Funds retained as a proportion of capital expenditure	(Net cashflow / net capital expenditure) x 100

Where:

Developer charges = cash and non-cash contributions of / towards physical assets

Capital expenditure = purchase of property, plant and equipment

Cash holdings = cash + short term investments

EBIT = earnings before (net) interest, tax abnormal items, but before developer charges

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

Net cashflow = funds from operations – dividends paid in year

Net interest = interest payable – interest earnings

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

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

Total debt = all interest bearing debt

Total equity = retained profits + reserves + share capital