

PRICING OF BACKLOG SEWERAGE SERVICES

**SYDNEY WATER CORPORATION
GOSFORD CITY COUNCIL
HUNTER WATER CORPORATION
WYONG SHIRE COUNCIL**

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

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

PRICING OF BACKLOG SEWERAGE SERVICES

**SYDNEY WATER CORPORATION
GOSFORD CITY COUNCIL
HUNTER WATER CORPORATION
WYONG SHIRE COUNCIL**

FOREWORD

The pricing of backlog sewerage raises difficult environmental, engineering, financial, economic and equity issues. The Tribunal has previously endorsed uniform pricing for sewerage for existing customers of a water authority and cost-reflective pricing for new customers (through developer charges). Beneficiaries of backlog sewerage programs are a third group – they are existing residents, existing water customers of the water authority, but new sewerage customers of the water authority.

Clearly, there are arguments for both uniform and area based pricing. The evidence that has been presented to the Tribunal indicates that there are differing views on this question in the community. Residents in backlog areas tend to argue for uniform pricing. But environmental groups and the water agencies argue that there should be an element of area specific pricing.

The Tribunal is required to consider the pricing of backlog sewerage programs in terms of the requirements of Section 15 of the Independent Pricing and Regulatory Tribunal Act. Having done this, the Tribunal has come to the view that the costs of backlog sewerage programs should be shared between local residents and the wider community where these programs provide environmental and public health benefits to that wider community.

Under the Tribunal's determination, the operating costs and most of the capital costs of backlog sewerage programs will be shared between all customers of the water authority. However, because of the benefits that they receive from such programs, residents in backlog areas who have the capacity to make a contribution will be required to do so.

Although Social Program policy is a matter for the Government to decide, the Tribunal recommends that Government offset through subsidies the contribution that would otherwise be made by pensioners and those experiencing hardship.

The Tribunal is keen to ensure that pricing policies encourage the use of least cost solutions and provide environmentally appropriate outcomes in backlog projects.

The Tribunal believes that its determination provides a reasonable basis on which to proceed with charging for backlog sewerage programs.

James Cox
Committee Chairman

TABLE OF CONTENTS

FOREWORD

1	INTRODUCTION	1
2	THE PRICE DETERMINATION PROCESS	2
3	SUMMARY OF THE DETERMINATION	3
4	SUBMISSIONS	5
4.1	Sydney Water Corporation	5
4.2	Gosford City Council	9
4.3	Other submissions	10
5	BASIS OF THE TRIBUNAL'S DETERMINATION	11
5.1	Introduction	11
5.2	COAG commitment and full cost recovery	11
5.3	Expenditure projections for the backlog projects	12
5.4	Polluters pays vs beneficiary pays	13
5.5	Pricing options	14
5.6	Pricing principles for backlog sewerage projects	15
5.7	Customer impacts	17
5.8	Social programs/safety net arrangements	18
5.9	Environmental and public health assessment	20
5.10	Allocation of costs between existing and new developments	20
5.11	Fishermans Parade	21
5.12	Application and implementation matters	21
6	ISSUES CONSIDERED UNDER SECTION 15 AND 14A	23
6.1	Costs and efficiency	23
6.2	Environmental considerations	24
6.3	Customer protection	24
6.4	Financial viability	24
6.5	Standards	24
7	OTHER MATTERS CONSIDERED BY THE TRIBUNAL	24
7.1	Regulation of existing on-site systems	24
7.2	The 1987 Sewerage Policy Group	24
8	REASON FOR CHOOSING TO MAKE THE DETERMINATION IN TERMS OF A METHODOLOGY	24
9	REQUIREMENT UNDER SECTION 16 OF THE ACT	24
10	COMPLIANCE	24
	ATTACHMENT – SUMMARY OF SUBMISSIONS	34



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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

Matter No.: SRD/97/01

Report: No 4, 1997

Agencies: Sydney Water Corporation Ltd
Hunter Water Corporation Ltd
Gosford City Council
Wyong Shire Council

Services: Water supply services, sewerage services - Backlog sewerage services

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

Order dated 14 February 1997 - page 558, Gazette No. 18

1 INTRODUCTION

As required by Section 11(1) of the Independent Pricing and Regulatory Tribunal Act 1992, the Independent Pricing and Regulatory Tribunal (The Tribunal) has investigated proposals by Sydney Water Corporation Ltd and Gosford City Council (standing reference agencies in Schedule 1 of the Act) for maximum prices for declared backlog sewerage monopoly services. The Tribunal has also considered principles that should guide the pricing of backlog sewerage projects by the four metropolitan water agencies in NSW, namely Sydney Water Corporation, Hunter Water Corporation, Gosford City and Wyong Shire Councils.

Backlog sewerage services refer to the provision of environmentally acceptable sewage management in urban areas that are served by a water authority where this does not already occur. Water is already provided to customers in most backlog areas. Some backlog areas that may be served in future now lack both water and sewerage.

The Tribunal has determined a new charge – a backlog sewerage capital contribution charge - for backlog areas by setting a methodology in terms of Section 13A(1)(b) of the Independent Pricing and Regulatory Tribunal Act 1992. The method of fixing maximum capital contribution charges is set out in Schedule 1 to this Report.

For specific backlog projects that satisfy an environmental and public health benefits test, the Tribunal has determined that part of the costs will also be recovered by an increase in Sydney Water's annual sewerage charge. Because of the uncertainty of the final cost outcomes, the Tribunal is not yet in a position to re-determine a maximum price for Sydney Water's sewerage service and availability charges. The maximum sewerage service charge will be determined at major pricing reviews.

2 THE PRICE DETERMINATION PROCESS

The Tribunal's price determination process involved consultation with stakeholders. An issues paper was prepared in January 1997 and widely distributed. The Tribunal called for pricing proposals from Sydney Water Corporation (SWC) and from Gosford City Council. Submissions were invited from interested parties on these proposals and other issues relating to backlog sewerage pricing.

A public hearing was held on 26 March 1997 in the Tribunal's rooms at Level 2, 44 Market Street, Sydney. Details of the proposals provided by SWC and Gosford Council, and a summary of other submissions received, are included later in this report. 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.

In considering this determination, the Tribunal delegated its functions under Section 10 of the Independent Pricing and Regulatory Tribunal Act 1992 to a committee of members. The Tribunal members who constituted this committee were:

Mr James Cox, Committee Chairman
Ms Liza Carver, Temporary Member¹
Mr Robert Bruce, Temporary Member¹

¹ Ms Carver was appointed a Permanent Member of the Tribunal from 1 July 1997. Mr Bruce's appointment to the Tribunal expired on 30 June 1997.

3 SUMMARY OF THE DETERMINATION

The Tribunal has considered both the schemes that are the subject of this investigation and the principles that should guide the pricing of backlog sewerage projects to be applied by the four metropolitan water agencies in NSW: Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council.

The main features of this determination are:

- The underlying principle is that the cost of capital works associated with the provision of sewerage in backlog areas should be recovered from users or beneficiaries of these services.
- The Tribunal has not accepted Sydney Water's preferred pricing proposal for full cost recovery from the affected residents in backlog sewerage areas. However, the Tribunal accepts that there is a case for a capital contribution by local residents based on the beneficiary-pays principle.
- Where substantial environmental and public health benefits flow to the wider community, a maximum of 25 percent of the *capital* costs of backlog projects will be recovered from local residents who directly benefit from the projects via the capital contribution charge while the remaining capital costs will be paid by the wider community via an increase in the common sewerage charge.
- The Tribunal considers that the EPA, acting in consultation with the NSW Department of Health, should be the arbiter of the environmental and public health risks associated with a particular project. Ideally, backlog sewerage projects would form part of an overall program of environmental improvement which would be approved by the Government after consideration of the relevant priorities and the costs involved.
- *Operating* costs for backlog sewerage projects will be recovered through the annual sewerage charge common to all SWC customers.
- The backlog sewerage capital contribution charge:
 - will be capped and fixed at \$3,000 per property to ensure affordability and to minimise disincentives to connect to the new sewage management system.
 - can either be paid up-front or by instalments over a period of up to 20 years. Any amount outstanding as a result of extended time payment should attract interest at a rate equivalent to the interpolated secondary market NSW Treasury Corporation 10-year bond rate (including any appropriate fees) for an organisation with a similar credit rating to the water agency under consideration.
 - implies a more balanced outcome than Sydney Water's preferred option. The most recent cost are set out in Table 3.1 below.

Table 3.1: Indicative Backlog Sewerage Capital Contribution

		Indicative capital contribution under IPART Determination		SWC preferred option
		Once-off payment at time of sewerage connection (\$)	Annual instalment over 20 years ¹ (\$ per annum)	Regional sewer charge over 25 years (\$ per annum)
Picton/ Thirlmere	Tahmoor/	2,639	269	2,205
Bundeena/ Maianbar		2,697	275	1,923
Gerringong/ Gerroa		2,845	290	2,659
Winmalee amplification	STP	862	88	571

Note 1 Instalments have been calculated assuming an interest rate of 8 per cent.

- The estimated increase in the annual sewerage charge payable by all SWC customers relating to the four backlog areas shown in Table 3.1 is about \$4.70. The actual increase in Sydney Water's common sewerage charge will be determined at major pricing reviews, when the cost outcomes of the completed backlog projects and more complete cost estimates for proposed projects will be available.
- To ensure transparency, the increase in the common sewerage charge attributable to backlog scheme costs could be separately identified in sewerage bills.
- Fishermans Parade in Gosford is a special case because residents did not contribute to a specific financing scheme for sewerage in past years. These residents will therefore have to pay for the full cost of the scheme. The Tribunal determines that charges for the provision of water and sewerage to areas where residents have not contributed to a specific water and/or sewerage financing scheme should be worked out according to the Tribunal's developer charges methodology.

In coming to a determination on the appropriate cost sharing arrangement, the Tribunal has had to weigh important but competing considerations. The pricing outcomes should be fair to local residents, the wider community and other customers who may not wish to subsidise these projects. Further, the decision should not unnecessarily discourage connection.

In addition, the Tribunal recognised that effective safety net provisions will be required for pensioners and particular households in financial hardship.

The Tribunal strongly recommends that the Government establish a backlog sewerage social program to assist particular customer groups in paying part or all of the capital contribution charges. The cost of a social program for exempting pensioners in Picton/Tahmoor/Thirlmere, Bundeena/Maianbar, Gerringong/Gerroa and areas in the Blue Mountains served by the Winmalee STP extension from the backlog sewerage capital contribution charge is estimated to be approximately \$4 million.

4 SUBMISSIONS

4.1 Sydney Water Corporation

Sydney Water's pricing submission is based on the requirements of the Water Board (Corporatisation) Act 1995. Sydney Water is required to operate within a commercial framework, protect the environment and safeguard public health. Sydney Water's pricing proposal is also consistent with the Council of Australian Governments (COAG) agreements on water resource policy.

The preferred option in Sydney Water's submission involved localised periodic charges. These are summarised in the following table:

Table 4.1: Sydney Water Proposed Annual Regional Sewer Charges for 25 years

	1997/98	1998/99	1999/2000	2000/01
Picton	n/a	n/a	\$ 2,204.69	\$ 2,246.99
Bundeena/Maianbar	n/a	n/a	n/a	\$ 1,922.89
Gerringong/Gerroa	n/a	n/a	n/a	\$ 2,659.42
Winmalee Extension	\$ 571.08	\$ 582.61	\$ 594.40	\$ 606.46

Source: Sydney Water submission

Note SWC suggested that annual regional sewer charges be introduced following project completion in a particular area. The n/a reference in the table signifies that the project is incomplete at the time indicated, so charges are not applicable in those specific years. SWC proposed that the charges set out in this table be annually escalated by the Consumer Price Index.

Under SWC's preferred option, customers in each backlog area would pay the *full* cost of the scheme. It was proposed that the annual regional sewer charge be billed on a quarterly basis for a period of 25 years. Implementation of this option provides:

- maintenance of the business value of the enterprise and COAG principles of full cost recovery.
- a mechanism whereby users pay for the services that they consume.
- reduction of regional cross subsidies.
- competitive neutrality, since prices reflect those that could reasonably be expected from an independent service provider in a competitive market.

Alternative pricing options proposed in the Sydney Water submission involved:

- "Postage Stamp²" pricing, ie sharing all costs among the entire SWC customer base.
- Combinations of localised *periodic* charges and postage stamp pricing.
- Localised *up-front* charges.
- Combinations of localised *up-front* charges and postage stamp pricing.

Other issues raised by Sydney Water in their submission are discussed in the following sections.

² Postage stamp pricing refers to the system of charging uniform prices across Sydney Water's operational area for the provision of similar services. This pricing regime ignores cost differences in providing similar services to different areas.

4.1.1 History

Under its enabling legislation³, Sydney Water is required to operate within a commercial framework and protect the environment and public health. In 1993, the then Sydney Water Board decided to complete those backlog projects that were included in its 1993/94 Capital Works Program and to negotiate with the Government for funding of any further projects.

In 1994, the Water Board and the Government agreed that four priority backlog projects would proceed with a mixture of Board and community service obligation (now called social program) funding. These projects were Picton/Tahmoor/Thirlmere, Bundeena/Maianbar, Gerringong/Gerroa and the extension of the Winmalee sewage treatment plant to service some backlog areas in the Blue Mountains. This agreement provided for Sydney Water to seek approval from IPART to recover the total cost of these four projects. In 1995, the incoming government confirmed its commitment to these projects and indicated that Sydney Water should seek full recovery of all costs in charges determined by IPART.

In 1996, at the request of the Minister for Urban Affairs and Planning, the EPA undertook an environmental assessment of 53 backlog areas in Sydney Water's area of operations.⁴ In addition to the four areas mentioned above, the study found that the seven areas now included in the Priority Sewerage Program were high priority areas for improvement. The high priority arose from proximity to waterways associated with drinking water supply or where recreational activities that involve close contact with water, such as swimming, predominate.

4.1.2 Corporatisation and micro-economic reform

In 1994, COAG developed a strategic framework to achieve an efficient and sustainable Australian water industry. This included recommendations in favour of consumption-based pricing, full cost recovery and, desirably, the removal of cross subsidies. Sydney Water's enabling legislation was drafted to incorporate these concepts. The Corporation's principal objectives are the operation of a successful business, protection of the environment, and protection of public health.

Since the Water Inquiry⁵ into water pricing in 1993, Sydney Water has progressively reduced cross subsidies from businesses to households. Sydney Water's charges are now set on cost reflective pricing principles and reflect a greater reliance on consumption-based pricing.

The Sydney Water proposal conforms to the requirements of its legislation, COAG principles and relevant objectives of the National Competition Policy (NCP). It also reflects a reluctance to undertake non-commercial projects.

It is not appropriate for the Corporation to proceed with projects that are not commercial. However, Government may choose to fund the shortfalls in uneconomic projects as Social Programs. The level of funding can, however, only be determined after prices are known. If the Government does choose to use Social Program funding, funds must be made explicit once efficient costs and pricing principles have been determined.⁶

³ Water Board Corporatisation Act 1994, Section 21 (1)

⁴ At the time of the EPA investigation, the government had in principle approved the 4 priority areas of Picton/Tahmoor/Thirlmere, Bundeena/Maianbar, Gerringong/Gerroa and areas of the Blue Mountains.

⁵ *Inquiry into Water and Related Services*, Government Pricing Tribunal, October 1993.

⁶ Sydney Water Submission, p14.

Sydney Water submitted that past approaches to sewerage backlog pricing had contributed significantly to the growth in geographical cross subsidies in Sydney Water's sewerage business. In 1995, the Tribunal determined a methodology for developer charges that achieves full cost recovery from all new customers. This methodology contrasts with the "postage stamp" sewerage pricing which applies in existing areas.

Within the COAG framework, full cost recovery includes the opportunity cost of capital and the cost of externalities such as environmental costs. The opportunity cost of capital represents the rate of return that Sydney Water could earn were it to invest its money in some other venture with a similar risk to that involved in backlog sewerage. Failure to provide for a commercial rate of return may also be seen as contrary to the competitive neutrality demanded by the NCP, since such a rate of return would be required by any private sector firm.

Sydney Water concedes that some factors reduce the effectiveness of pricing in addressing the various issues associated with backlog areas. The ability of existing customers in backlog areas to respond to cost reflective pricing may be limited by their ability to pay. Further, some residents may have decided to locate in a non-sewered area for reasons unrelated to the availability of sewerage services.

4.1.3 Other pricing issues

In 1989/90 the government introduced the 5-year Special Environmental Levy (SEL) Program. This program was designed to fund general environmental improvements and, in particular, improvements to the waterways in Sydney, Illawarra and the Blue Mountains. Sydney Water's Board of Directors have agreed that all funds which were held in trust under this scheme should now be used, including \$20 million for the Picton Sewerage Scheme.

The environmental costs associated with the provision of sewerage may be captured either through an impactor/polluter pays approach, in which costs are borne by polluters according to the environmental damage produced, or a beneficiary pays approach, in which costs are shared among beneficiaries according to the benefits derived. One disadvantage of the impactor pays approach is that it requires measurement of the costs of environmental damage. This may not be easy to undertake in practice. The beneficiary-pays approach suggests that people should pay for a program in relation to the benefit they obtain from it. The program should not go ahead when the costs exceed the benefits.

Sydney Water argues that it is required to undertake a range of investigations, including the preparation of an Environmental Impact Statement (EIS), prior to the commencement of a backlog project. In line with its objectives, Sydney Water has argued that these costs should be recovered in prices, together with an appropriate commercial rate of return.

4.1.4 Private sector involvement

The Government has recently indicated that it is keen to seek substantial involvement by the private sector in the backlog schemes. Sydney Water points out that it already involves the private sector in the provision of infrastructure, primarily in the design and construction phases. Sydney Water will seek innovative technological solutions that are also cost effective. It intends to adopt a tendering process for backlog sewerage schemes to ensure that the most efficient costs and the most appropriate technologies available are used. The Tribunal's consideration of these issues is discussed in section 6.1.

4.1.5 Revised information

The following tables present a summary of the latest available information provided to the Tribunal by Sydney Water.

Table 4.2: Revised data for 4 priority areas

	Picton/Tahmoor/ Thirlmere	Bundeena/ Maianbar	Gerrigong/ Gerroa	Winmalee Amplification
Net capital expenditure (\$ 1996/7 million)	\$ 47.5	\$ 15.1	\$ 23.9	\$ 5.7
Direct annual operating expense (\$ 1996/7 million)	\$ 1.49	\$ 0.26	\$ 0.86	\$ 0.14
Annual operating overheads (\$ 1996/7 million)	\$ 0.27	\$ 0.11	\$ 0.14	\$ 0.15
Total annual operating expenditure (\$ 1996/7 million)	\$ 1.76	\$ 0.37	\$ 1.00	\$ 0.29
No of lots in backlog areas	3,000	1,180	1,580	1,654
Total No of lots (including new developments)	4,500	1,400	2,100	1,654

Source: Sydney Water

Notes: Sydney Water submitted this information to the Tribunal subsequent to the Public Hearing. Revisions to the number of Blue Mountain backlog blocks have reduced proportion of the Winmalee plant extension costs (both capital and operating) to be borne by backlog customers from 20 percent to 18 percent.

The capital costs indicated in the table for the Picton/Tahmoor/Thirlmere scheme exclude a \$20 million contribution from the Special Environmental Levy

Table 4.3: Indicative cost data for other environmentally sensitive areas

	Capital Expenditure (\$million)	Annual Direct Operating Expenditure (\$million)	Annual Operating Overheads (\$million)	Total Annual Operating Expenditure (\$million)	Projected Number of Lots
Upper Blue Mountains	20	0.28	0.12	0.40	1300
Mulgoa/ Wallacia/ Silverdale	24	0.50	0.09	0.59	1300
Oaks/ Oakdale/ Belimbla Park	18	0.50	0.09	0.59	1100
Jamberoo	5	0.20	0.04	0.24	350
Stanwell Pk/ Stanwell Tops/ Otford/ Coalcliff	11	0.22	0.09	0.31	825
Brooklyn/ Dangar Islands	15	0.50	0.09	0.31	500
Menangle/ Menangle Park	5.6	0.22	0.03	0.25	400

Source: Sydney Water

Notes: Financial values quoted are expressed in 1996/97 \$million

The data presented in Table 4.3 are *not* based on detailed estimates and should be treated as illustrative only. Environmental investigations have yet to be conducted for these areas and so detailed cost estimates are not yet possible.

Apart from the 4 priority areas discussed in Table 4.2 and the 7 sensitive environments mentioned in Table 4.3, the value of other projects that remain on the backlog program as at July 1997 is estimated to be in the order of \$130 million.

4.1.6 Financial Implications

The main financial risks identified by Sydney Water are:

- The costs of providing reticulated sewerage may be higher than those assumed in the submission.
- Not all residents may connect to sewer reticulation once the services are made available.

The connection risk is increased by the provision within the Operating Licence that customers may choose not to connect to services and be exempt from paying sewerage base charges. Sydney Water acknowledges that such an exemption would be conditional upon

the local council agreeing that the alternative method of sewage disposal was appropriate and that an adequate maintenance program had been organised.

The Sydney Water submission stated that the Corporation would not accept these risks and that it would return to the Tribunal for another determination if either actual costs or connection rates were found to be significantly outside expectations.

Subject to the above financial risks, Sydney Water submitted that there would be no significant impact on its financial performance under the proposed pricing methodology.

4.2 Gosford City Council

Gosford City Council established a regional sewerage scheme in the mid-1970's that continued until the early 1990's. Properties serviced by the scheme paid "loan charges" to fund the works. It was Council's intention that only properties inside the area covered by this scheme would be provided with sewerage services from loan scheme funds. Properties in the Fishermans Parade area are not supplied with reticulated water and sewerage, were not included in the loan scheme and did not pay loan charges.

Council considers the current situation of domestic wastewater management in Fishermans Parade is unacceptable, not only from the perspective of environmental and public health risks, but also from the risk of landslide caused by the destabilising effect of water from septic systems infiltrating steep slopes.

More stringent public health and environmental controls for on-site wastewater systems have caused building approval difficulties for some residents of Fishermans Parade. Requests for Council to provide sewerage have arisen in response to these difficulties.

The costs for the provision of sewerage are summarised in Table 4.4.

Table 4.4 Estimated costs of providing sewerage in Fishermans Parade (1996/97\$)

Total capital costs	\$ 469,000
NPV of operation & maintenance	\$ 149,000
TOTAL COST	\$ 618,000

Source: Gosford City Council

Gosford City Council proposed that customers in Fishermans Parade would be provided with a conventional gravity sewerage scheme and pay a special annual rate over a 20 year period, with provision for paying up-front charges on availability of the service. Council has obtained estimates of the charges from competitive bids. Council is seeking approval for the methodology and intends applying this to the actual contract price negotiated. The indicative special rate for sewerage services is:

- \$1,542 annually over 20 years. This *includes* the common sewerage charge of \$378 or
- \$11,522 as an up-front payment. This *excludes* the common sewerage charge of \$378 which would be payable in the year of connection and each year thereafter.

Gosford City Council has proposed a similar scheme for the provision of water supply. The indicative special rate for water service is:

- \$663 annually over 20 years. This *includes* the common water access charge of \$168 or

- \$4,894 as an up-front payment. This *excludes* the common water access charge of \$168 which would be payable in the year of connection and each year thereafter.

The basis for Council's proposals is as follows:

- The properties in Fishermans Parade have not contributed to either the water or sewer loan charges. Gosford Council submitted that a similar nearby property would have contributed \$12,335 (indexed to current value) in sewer loan rates for provision of sewerage services since 1979 (excluding annual sewerage charges).
- Significant financial windfalls may occur to owners. An effective funding system would involve a fair and equitable contribution by the beneficiaries (ie owners of properties at Fishermans Parade) to avoid subsidies by other customers.
- Full cost recovery.

Council conducted a written survey to ascertain the views of residents of Fishermans Parade. Council received 31 responses for water and 34 responses for sewerage from the 37 property owners surveyed. The results suggest that a majority of residents favour provision of both water and sewerage services and are willing to pay the charges outlined above. Opinion is split on the appropriate length of the repayment period.

4.3 Other submissions

The Tribunal received a large number of submissions from other parties, including NSW Treasury, Environment Protection Authority (EPA), Australian Conservation Foundation (ACF), the Department of Urban Affairs and Planning (DUAP), Hunter Water Corporation, local councils, resident groups, other interest groups and individual customers. There were a wide variety of views expressed about the various issues that impact on this determination. These included:

- Appropriate principles for funding schemes.
- The role of pricing in influencing future development.
- The regulation of existing on-site wastewater management systems and the control of future backlog areas.
- Equity issues and the relative merits of various cost sharing arrangements.
- Environmental issues and the role of pricing in environmental protection.
- The relative merits of private and public sector provision and various implementation issues.

A complete list of submissions received and a more detailed summary of the points made in these submissions are presented in an attachment to this report.

5 BASIS OF THE TRIBUNAL'S DETERMINATION

5.1 Introduction

Payment of the existing common sewerage charge by residents in backlog areas will not be sufficient to cover the costs of installing, maintaining and operating sewerage facilities in these areas. The additional funds needed to finance these sewerage projects could potentially be sourced from:

- residents in backlog sewerage areas
- all customers of the water authority
- taxpayers.

Any contribution to be made by taxpayers is a matter for determination by Government under its Social Program Policy (previously known as community services obligations).

In setting pricing principles for sewerage backlog projects, the main issues include:

- cost-reflective pricing and full recovery of operating and capital costs
- efficiency improvements available
- beneficiary/polluter pays principles
- equity considerations
- the avoidance of unnecessary impediments to connection in terms of affordability.

The Tribunal has examined a number of pricing options. It considers its main objective in this determination to be the achievement of a pricing outcome that best balances the competing claims within the community.

5.2 COAG commitment and full cost recovery

In February 1994, the Council of Australian Governments (COAG) adopted a strategic framework for the reform of the Australian water industry. This strategic framework covers natural resource management, pricing (including the treatment of cross-subsidies), more rigorous approaches to future investment, trading in water entitlements, institutional reform and improved public consultation. Water reforms were formally agreed to at the April 1995 COAG meeting. The agreements link National Competition Payments from the Commonwealth to the States to the implementation of water industry reforms.

In relation to pricing, COAG agreed, in general:

- To the adoption of pricing regimes based on the principles of consumption-based pricing, full cost recovery and desirably removal of cross-subsidies which are not consistent with efficient and effective service, use and provision. Where cross subsidies continue to exist, they should be made transparent.
- That where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally be paid to the service deliverer as a community service obligation.

The Tribunal accepts the criterion of full recovery of *efficient* costs for sewerage backlog projects, both in terms of capital and operating costs. This will be reflected in the formulation of pricing principles.

Full cost recovery encourages the community, including the local community that will receive many of the benefits of the scheme, to consider all the costs involved with the scheme and to explore innovative and least cost solutions to the problems posed by backlog sewerage.

The Tribunal is mindful that the application of these principles must be made in the light of equity issues and social impacts.

5.3 Expenditure projections for the backlog projects

Table 5.1 summarises the capital and operating expenditure projections for the backlog sewerage projects included in Sydney Water and Gosford Council's submissions.

Table 5.1: Indicative costs of backlog sewerage projects ⁽¹⁾

	Capital costs (\$million)	Total lots (existing and new)	Existing lots	New lots	Average capital cost per lot (\$)	Operating expenditure (\$million)	Average operating cost per lot (\$)
Priority areas in SWC							
Picton ⁽²⁾	47.5	4500	3000	1500	10,556	1.73	384
Bundeena/Maianbar	15.1	1400	1180	220	10,786	0.37	264
Gerringong/Gerroa	23.9	2100	1580	520	11,381	1.00	476
Blue Mountains area served by Winmalee STP amplification ³	5.7	1654	1654	0	3,446	0.29	175
Other sensitive environments							
Upper Blue Mountains	20	1300	1300	Note 4	15,385	0.40	308
Mulgoa, Wallacia and Silverdale	24	1300	1300	Note 4	18,462	0.59	454
Oaks, Oakdale, Belimbla Park	18	1100	1100	Note 4	16,364	0.59	536
Jamberoo	5	350	350	Note 4	14,286	0.24	686
Stanwell Park, Stanwell Tops, Otford and Coalcliff	11	825	825	Note 4	13,333	0.31	376
Brooklyn and Dangar Island	15	500	500	Note 4	30,000	0.31	620
Menangle and Menangle Park	6	400	400	Note 4	14,000	0.25	625
Gosford							
Fishermans Parade	0.47	46	46	0	10,195		

- Note:
- 1 Reliable cost estimates are available only for the first four priority areas.
 - 2 Capital costs for the Picton Sewerage program excludes the \$20million environmental levy contribution.
 - 3 It should be noted that the Winmalee extension project does not include the provision of reticulation. This reticulation has been partly financed from environmental levy (SEL) funds.
 - 4 Possible activities by developers have not been assessed for these areas.

The Tribunal notes that the final cost outcomes will depend on the approved design, and the results of a competitive tendering process. However, based on current cost estimates, the costs of servicing backlog areas are very high (except for the lots in the Blue Mountains that are served by the Winmalee STP amplification). The capital cost per property is also

significantly higher than developer charges for new sewerage infrastructure⁷, reflecting the higher costs of services in backlog areas compared with new developments.

5.4 Polluters pays vs beneficiary pays

Environmental costs generally result when actions taken by individuals or organisations lead to damage or degradation of the environment. It is often argued that current methods of wastewater disposal in unsewered areas frequently generate environmental costs that are not reflected in the price paid by local residents for sewage disposal. This point is included in the EPA submission⁸.

5.4.1 Polluter pays

Based on the polluter-pay concept, environmental costs should be met by those who cause environmental damage. Under this concept, local residents could be charged a tax that reflects the environmental cost. Restricting the use of current sewage disposal methods by residents in backlog areas may also capture externalities. However, local residents may find that their ability to reduce their sewage disposal is limited. Alternative environmentally acceptable methods of sewage disposal are required. Further, there are no universally agreed methods to measure the costs of environmental externalities or the level of environmental damage that the community is willing to accept.

When considering a polluter pays approach, it is important to recognise that environmental degradation may result from a wide variety of causes, including point and diffuse source pollution. Specifically, the existence of environmental damage may be due to causes other than wastewater disposal.

It is widely accepted that discharges from malfunctioning wastewater management systems cause land and water pollution. However, the existence of environmental degradation in an area where these systems are employed does not mean that all on-site systems in the area are defective. Further, it does not indicate which particular systems are defective and which are not. The allocation of responsibility for environmental damage from on-site systems to specific owners is often open to dispute.

5.4.2 Beneficiary pays

An alternative approach to pricing is the beneficiary pays principle. The replacement of current methods of sewage disposal by reticulated sewerage will generate a positive externality in the form of reduced environmental damage and health risk to local residents and downstream water users. The beneficiary pays approach suggests that the costs of such sewerage services should be shared among those who benefit from them.

The ACF submission supports the concept of beneficiary pays. However, ACF suggests that the concept of beneficiary should be extended to include holiday visitors in cases where this group places large demands on the local sewerage infrastructure. Further, ACF cautions that sharing costs across the entire Sydney Water customer base might consolidate reliance on inappropriate technology.⁹

⁷ Developer charges in the metropolitan areas range from \$2,000-\$5,000 depending on the location of the development.

⁸ EPA submission, March 1997, p4.

⁹ ACF submission, March 1997, p5.

The Picton Community Working Group disagrees with any application of polluter pays or beneficiary pays. This group cites the considerable cross subsidies that already exist in Sydney Water's network and compares these with the small increment created by backlog projects.

There appears to be considerable equity problems in adopting a polluter or beneficiary pays principle in relation to such a small part of SW's overall systems. The gravity systems of the eastern suburbs have always been cheaper to operate than the pumped systems of the western and northern suburbs; yet the community has accepted the principle of a common service availability charge. We believe the same principles apply when new, small systems are incrementally added to SW's system¹⁰.

However, it can be argued that further cross subsidies from the existing customer base to new sewerage customers in the backlog areas would be created were sewerage backlog projects to be financed by an increase in the common sewerage charge. This is inconsistent with Sydney Water's pricing direction not to introduce new cross subsidies. Rather, Sydney Water has recently striven to unwind existing cross subsidies within and between customer classes.

5.5 Pricing options

In its submission, Sydney Water seeks full cost recovery and puts forward its preferred position of periodic capital contributions by local residents¹¹. On the other hand, many residents in backlog areas argue that all Sydney Water customers should share the costs under a postage-stamp pricing regime.

Under Sydney Water's preferred proposal, the very high localised periodic charges could discourage some customers from connecting. The submission from the Department of Urban Affairs and Planning raises three equity and cost sharing issues that are also expressed in various other submissions. Firstly, backlog residents have been unable to have sewerage connected under the cross-subsidised pricing regimes that were available to others in the past. Secondly, benefits arising from sewerage backlog areas accrue to the wider community. Thirdly, the primary reason that some people chose to live in outlying areas was one of affordability. Implementation of user-pays pricing could impose significant costs on people who could least afford it¹².

On the other hand, it may be argued that provision of backlog sewerage services without any direct contribution from local residents would contrast with the situation of:

- property owners in new development areas and redevelopments who have indirectly made a contribution to sewerage infrastructure in the purchase price of serviced land including a recovery of capital contributions by developers; and
- *developers* in backlog areas who will meet the full cost of sewerage services.

Further, the residents of backlog areas derive many other benefits from the provision of sewerage to their area. The provision of sewerage will enhance the quality of the local environment and may increase the value of land. It will facilitate the provision of such local infrastructure as schools and hospitals. It will also remove an impediment to the development of local commercial and industrial enterprises.

¹⁰ Picton Community Working Group submission, February 1997, p4.

¹¹ SWC submission, February 1997, p22.

¹² DUAP submission, March 1997, p2.

It might also be argued that it is an abuse of monopoly power for customers of a government business enterprise to be charged for backlog sewerage projects from which they derive no benefit. A firm in a competitive industry would not be able to charge in this way. This suggests that contributions made by Sydney Water customers in general should be related to the environmental and public health benefits obtained by such residents.

The Tribunal believes that cost sharing between the wider community and local residents is appropriate. However, the contribution made by local residents should be within their capacity to pay.

5.6 Pricing principles for backlog sewerage projects

In past determinations, the Tribunal has consistently supported the general principle that consumers or beneficiaries should pay for services provided to them, that pricing should be equitable, efficient and cost-reflective, that cross subsidies should be reduced and that competitive neutrality should be established and maintained. Application of these principles to the pricing of backlog sewerage services would require that these schemes be funded at least in part by contributions from residents of backlog areas.

Further, backlog sewerage pricing involves considerations of resource allocation. In the past, many backlog schemes were undertaken in areas that were contiguous with the existing sewer catchments, often involving a simple extension of existing infrastructure. Of the backlog schemes that now remain, many will service relatively small populations in villages and isolated communities. Further, these schemes often involve substantial capital costs, since they include dedicated new treatment facilities, complex transport components and sophisticated methods of by-product disposal and recycling.

The Tribunal believes that residents of backlog areas will receive important benefits from the provision of reticulated sewerage in these areas including:

- a healthier and more pleasant local environment
- enhanced land value to property owners
- the development of local commercial and industrial enterprises.

Environmental and public health benefits may also accrue to the wider community. These benefits include the protection of public health, the environment, riverine and marine ecosystems, economic activities associated with waterways such as fisheries and oyster leases, tourism and recreation facilities.

The Tribunal received many submissions that recognised that the benefits from backlog projects are shared between local residents of backlog areas and the wider community¹³. Most of these organisations advocated some form of cost sharing arrangement.

The Tribunal is, however, concerned that the principle of beneficiary-pays be balanced against the requirement to protect customers against large, unexpected charges. This factor is even more relevant to the existing residents of backlog areas, since no useful economic signals regarding location can be sent to people who have already made locational decisions. In some cases, these locational decisions were made by previous generations, many years

¹³ Submissions provided by Hunter Water, Penrith City Council, ACF, and the Department of Urban Affairs and Planning.

ago. These arguments are, however, less relevant where residents of a particular community have not contributed to financing scheme specifically for sewerage.

The Tribunal has adopted the following pricing principles after considering the obligations of water agencies; the interests of local residents and other customers; returns to the shareholder; and the implication for environmental and public health outcomes.

- The underlying principle is that the costs of capital works associated with the provision of sewerage in backlog areas should be recovered from users or beneficiaries of these services.
- In cases where environmental or public health hazards pose a risk to the local *and* the wider community, the Tribunal considers that the wider community should share these costs with local residents.
- The Tribunal considers that the EPA, acting after consultation with the NSW Health Department, should be the arbiter of the environmental and public health risks associated with a particular project. Ideally, backlog sewerage projects would form part of an overall program of environmental improvement which would be approved by the Government after consideration of the relevant priorities and the costs involved.
- A cost sharing arrangement should not apply where the water agency has established a specific financing scheme for the purpose of funding sewerage projects within its operational area and the residents of the backlog area have opted out of this arrangement. The Fishermans Parade area at Gosford is an example.
- Where capital costs are to be shared, up to 25 percent of costs should be paid by local residents at the time of connection to the service and the remaining capital costs should be paid by all customers of the water authority, through an increased common sewerage charge. Further, contributions by residents are to be capped at a maximum of \$3,000 to ensure affordability.
- Operational expenditure should be included in the water authority's common sewerage charge.
- Where a Minister directs the water authority to provide backlog sewerage services to classes of customers at less than the maximum backlog sewerage capital contribution charges, the cost of this should be fully disclosed. For water authorities that are operating as a government trading enterprise, the costs should ideally be paid to the authorities as a social program.
- To ensure transparency, any increase in the common sewerage charge as a result of undertaking backlog projects could be separately identified in sewerage bills.

The Tribunal notes that the EPA, acting after consultation with the NSW Department of Health, has undertaken an initial assessment of environmental and public health issues associated with areas currently on Sydney Water's sewerage backlog program. The Tribunal has requested that, prior to each review of SWC prices, the EPA provide similar assessments of backlog areas proposed by the Government for sewerage service improvements.

Changes to recurrent charges will be considered and determined by the Tribunal at major pricing reviews.

The Tribunal has considered current cost estimates of backlog areas other than the four priority areas approved by the Government. In areas that meet the environmental and public health criteria, the level of capital contribution charge is so high that there is a

question of incentive to connect in terms of affordability. On balance, the Tribunal accepts that the contribution should be capped at a reasonable level. This is considered appropriate in recognition of the capital outlays already incurred by the backlog residents in on-site sewerage management systems and the future costs of connection to the new system.

The cap will be initially set and fixed at \$3,000 until the end of the medium term price path period that has already been set for the metropolitan water agencies. It will be reviewed in the next round of medium term price determinations.

These pricing principles and, where appropriate, cost-sharing arrangements should apply to all future backlog sewerage projects.

5.7 Customer impacts

Many submissions from private residents expressed concern about the effect on customers of backlog sewerage contributions. These sentiments were supported by submissions from many local governments.¹⁴ The ACF, the Department of Urban Affairs and Planning, and Penrith City all accept that some benefits accrue to the wider community, and so accept that sharing of costs would be appropriate.

This determination provides that residents in backlog areas will pay up to 25 percent of the infrastructure costs, capped to a maximum of \$3,000. Based on Sydney Water's cost estimates, the indicative capital contribution for the priority and environmentally sensitive areas are shown in the following table.

Table 5.2: Indicative backlog sewerage capital contribution charge

	Capital contribution without a cap (\$)	Backlog sewerage capital contribution (\$)	Annual instalment payment over 20 years (\$)
Priority areas			
Picton	2,639	2,639	268.80
Bundeena/Maianbar	2,696	2,696	274.60
Gerringong/Gerroa	2,845	2,845	289.90
Blue Mountains area that serviced by Winmalee STP amplification	862	862	87.80
Other sensitive environments			
Upper blue mountains	3,846	3,000	305.60
Mulgoa, Wallacia and Silverdale	4,615	3,000	305.60
Oaks, Oakdale, Belimbla Park	4,091	3,000	305.60
Jamberoo	3,571	3,000	305.60
Stanwell Park, Stanwell Tops, Otford and Coalcliff	3,333	3,000	305.60
Brooklyn and Dangar Island	7,500	3,000	305.60
Menangle and Menangle Park	3,500	3,000	305.60

Note: 1 Reliable cost estimates are only available for the first four priority areas.

2 Assumes interest rate of 8 percent pa.

It should be noted that current on-site wastewater systems often involve considerable expense, particularly if these are maintained and operated to comply with the guidelines. The Tribunal considers that the impact of the sewerage contribution charge will be offset by the removal of these operational costs from residents, depending on the current method of

¹⁴ Submissions from Penrith City, Hawkesbury City, Kiama Municipality, Wollongong City.

on-site disposal¹⁵. In fact, when net present value of average costs are compared over a 25-year period, owners of pump-out systems and AWTSS¹⁶ will be better off connecting to the sewer. While it is acknowledged that absorption trench septic systems are less expensive than sewerage, these systems are widely regarded as a major component of the pollution problem.

Apart from the backlog sewerage contribution charge, the Tribunal is mindful that residents will incur additional expense for the cost of connecting their property to the sewer. This includes plumbing costs and an application/inspection fee of \$120. The total cost of connection will vary according to geological difficulties and the complexity of the connection task. For some residents, connection to the sewer will be uncomplicated and less costly than for others. For a small minority, private pumping to the sewer may be required which could involve quite substantial costs.

It has been suggested that the Tribunal take account of the investment that residents have already made in their existing on-site systems, particularly where these have been purchased relatively recently. The Association of AWTSS Manufacturers has advised the Tribunal that a market exists for used AWTSS systems.¹⁷

As a result of the provision of sewerage to the four priority areas, there will be a small increase in the common sewerage charge that will be determined at a future pricing review. Based on Sydney Water's estimate, the increase in the common sewerage charge to service these four priority areas, on the basis that backlog residents pay 25 percent of capital costs, is in the order of 9 cents a week (or \$4.70 a year). The increase will be less than 1 percent of a typical household water and sewerage bill and is explained in the following table.

Table 5.3: Indicative increase in SWC's annual sewerage charge

Picton scheme	\$ 2.24
Bundeena scheme	\$ 0.72
Gerringong scheme	\$ 1.34
Winmalee extension	\$ 0.39
Total from the four backlog projects	\$ 4.69
Comparison: SWC annual sewerage charge in 1997/98	\$ 280.40

5.8 Social programs/safety net arrangements

5.8.1 Social Programs

At present, Sydney Water has been undertaking, at the Government's direction, a number of social programs for which it receives full cost reimbursement directly from the NSW State Budget. These programs cover the provision of rebates for pensioners and low-income households; exemption from charges for particular types of properties and contributions to the three Environmental Trusts.

¹⁵ While proportions of residents using the various methods of on-site disposal vary, as a generalisation, a majority of residents have septic tanks. Pump-out systems AWTSS and other methods typically account for less than 50% of installed systems. However, in Gerringong, about 80% of residents have either pump-out systems or AWTSS.

¹⁶ AWTSS, or aerated wastewater treatment systems, are domestic systems that employ similar technology to secondary treatment in sewage treatment plants.

¹⁷ Michael Rudder, Executive Director, AWTSS Manufacturers Association, Private communication.

Arrangements for the reimbursement of social programs for Gosford Council differ from those of State Owned Water Corporations. Under the Local Government Act 1993, Councils are required to reduce water supply and sewerage charges for eligible pensioners by 50 percent.¹⁸ Councils are reimbursed for 50 percent of the cost of this rebate via payment from the Department of Local Government.

The concept of social programs has arisen as part of the reform of government activities, particularly in relation to the establishment of government trading enterprises (GTEs). It is imperative for the improvement in the commercial performance of GTEs that commercial and non-commercial activities are identified and separated. This separation gives management clear and non-conflicting objectives, thus enabling it to be accountable both for commercial performance and the delivery of the Government's social objectives.

There are examples of social programs in the provision of sewerage services. In 1989 the Government agreed to fund 50 percent of the costs associated with Priority Area 1 of the Hunter Sewerage Project. Current subsidies are also provided for sewerage schemes in country towns based on a case-by-case assessment.

Sydney Water stated in its submission that it is up to government to consider the level of social program funding once efficient costs and pricing principles have been determined.

5.8.2 Safety net arrangements

A number of individual submissions pointed to the hardship that can be caused for less well-off members of the community by high charges. The Bundeena District Progress Association submission provides data that the Tribunal has investigated and has found to be typical of backlog areas.

(In Bundeena and Maianbar)

- 38 percent of households are single income families or pensioners
- 57 percent of households earn less than \$26,000 per annum

Based on Sydney Water's preferred pricing regime, the communities of Bundeena and Maianbar cannot afford to pay for the sewerage services.¹⁹

The Tribunal has considered safety net arrangements to minimise any adverse impact of its determination on those less able to pay. Extended payment options, such as payment by instalment over a period up to 20 years, will be available to all affected local residents.

Sydney Water has also a payment assistance scheme to assist people experiencing difficulties in paying their water bills. This scheme is not funded by government. It is administered by welfare organisations that assess applications on a case-by-case basis. It is unlikely that Sydney Water would extend this scheme to include assistance for payments associated with the backlog sewerage capital contribution charge.

The cost sharing arrangements associated with this determination impact on property owners and purchasers and balance such benefits as capital appreciation. These arrangements do not directly affect people who live in rented accommodation. This group includes some of the most disadvantaged members of the community. The Tribunal intends that the capital contribution charge should not be passed on to tenants.

¹⁸ 1993 Local Government Act: the rebate is subject to up to a maximum reduction of \$87.50 per annum for sewerage and \$87.50 per annum for water.

¹⁹ Bundeena Maianbar Progress Association submission, March 1997, p1.

While it is a matter for government to consider, the Tribunal strongly recommends that the Government establish a backlog sewerage social program to assist particular customer groups in paying part or all of the capital contribution charges. Subject to the final cost outcomes, the cost of a social program for exempting the backlog sewerage capital contribution charge for pensioners in Picton/Tahmoor/Thirlmere, Bundeena/Maianbar, Gerringong/Gerroa and areas in the Blue Mountains served by the Winmalee extension, is estimated to be no more than \$4 million for full exemption.

However, where a Minister directs the water authority to provide backlog sewerage services to classes of customers at less than the maximum backlog capital sewerage contribution charge, the cost of this should be fully disclosed. For water authorities that are operating as government trading enterprises, the cost should ideally be paid to the authorities as a social program.

5.9 Environmental and public health assessment

The EPA has undertaken an environmental and public health assessment of all current backlog sewerage areas in Sydney Water's operational area. In this assessment, each area was ranked against the following decision criteria to derive priorities.²⁰

- whether local waterways contain drinking water catchments, areas where recreational activities which involve close contact with water (such as swimming) are common, or sensitive catchments
- whether there is an opportunity to improve local waterways through a wastewater management program; and
- whether local waterways receive significant pollution loads from sources other than the existing on-site urban treatment arrangements, limiting the improvements that could be derived from upgrading.

The Tribunal has requested the EPA to consult with NSW Health and provide the Tribunal with similar assessments of those backlog areas proposed by government as priority projects for future determinations. These assessments will be sought prior to the consideration of costs for each backlog area and will constitute a key decision element in the application of the cost sharing arrangements to each backlog area.

5.10 Allocation of costs between existing and new developments

Although sewerage projects are primarily provided for existing residents in backlog areas, they may encourage new developments. For new developments within backlog areas, developer charges will be calculated by applying the methodology previously determined by the Tribunal. The locational signal arising from this methodology is less relevant for the existing residences that are to be provided with sewerage services.

In the funding and cost recovery analysis, cash flows from developer charges will partly offset the overall costs of sewerage backlog projects. The Tribunal considers it important that cross-subsidisation between existing and new developments should be avoided.

²⁰ EPA submission, March 1997, p3.

5.11 Fishermans Parade

During the 1970's and 1980's, Gosford City Council undertook an extensive scheme to provide sewer reticulation to residential areas. To fund the scheme, Council levied an annual loan charge on properties to be serviced by the scheme. Council submitted that Fishermans Parade was not been included in this scheme. Residents in Fishermans Parade have made no contribution (via the loan charges) to the scheme.

Council propose to levy a special rate over a 20 year period to recover the cost of providing water and sewerage. This special rate is calculated using the net present value methodology. An alternative option of paying up-front charges on availability of services has also been proposed.

The Fishermans Parade area within Gosford City is a special case. Since the Fishermans Parade community has not contributed to the Sewerage Loan Scheme, organised by Gosford City Council, the residents should bear the full cost of the scheme. A separate determination has been made for the supply of water and sewerage services to such areas. This determination includes an application of the Tribunal's "developer charges" methodology. However, the Council's current safety net provisions should be applied in these cases.

The same water and sewerage base charges will apply to Fishermans Parade customers as for other customers of Gosford City Council from the time of availability of water supply and sewerage services.

5.12 Application and implementation matters

5.12.1 Application of this determination

The Tribunal's investigations centred on existing backlog sewerage areas within the operational areas of Sydney Water Corporation and Gosford City Council. The Tribunal acknowledges that additional unsewered areas in the operational areas of these agencies as well as areas covered by Hunter Water Corporation and Wyong Shire Council may be considered for the provision of backlog sewerage services in future.

The Tribunal therefore proposes to make a determination of a pricing methodology which covers existing and future sewerage backlog services provided by all four metropolitan water agencies.

The methodology for calculating the backlog sewerage capital contribution charge, and the pricing principles for backlog sewerage will apply to:

- All backlog areas identified by Sydney Water
- Gosford City Council, excluding areas where residents have not contributed to a specific water and/or sewerage financing scheme
- Unsewered areas in Hunter Water Corporation, except areas specified in the Hunter Sewerage Project Priority Area 1
- Wyong Shire Council.

The Fishermans Parade area within Gosford City Council is an example of the special case of an area where residents have not contributed to a specific water and/or sewerage financing scheme, and is covered by the separate determination in Schedule 2 of this report.

5.12.2 Implementation matters

The following arrangements will apply to backlog sewerage projects that satisfy environmental and public health criteria:

- An increase in common sewerage charges, which incorporates the community's share of sewerage backlog costs, will be determined at the next scheduled review of SWC charges in 1998 when more definitive cost information is available. This determination will permit the cost of backlog sewerage projects to be recovered over the expected life of the infrastructure.
- Once a particular sewerage backlog project has been completed, the water authority will calculate a backlog sewerage capital contribution charge for the area in accordance with the methodology in this determination. To ensure that the charge does not exceed the maximum price fixed in accordance with a proper application of the methodology, the charge will be submitted to the Tribunal for review and gazettal. (current estimates of the relevant charges are included in section 5.7 of this report.)

The local residents will be required to pay the full capital costs of backlog sewerage projects that do not meet environmental and public health criteria.

The following points concerning the backlog sewerage contribution charge should be noted:

- The backlog sewerage contribution charge will be payable by landowners at the time of connection to Sydney Water's sewerage system. The charge will be indexed annually by the Sydney Consumer Price Index for connections made after the first year in which the system becomes available.
- Under the deferred payment option, an interest component will be incorporated at the interpolated secondary market NSW Treasury Corporation 10-year bond rate plus loan expenses.

The recurrent sewerage charge will apply from the date of availability of the sewerage system. If a local resident chooses to continue with the existing on-site wastewater management system, an application may be lodged with the water authority for exemption for sewerage charges. Approval will be subject to the local council's assessment of satisfactory operation and maintenance of the on-site system.

6 ISSUES CONSIDERED UNDER SECTION 15 AND 14A

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. As the determination is being made on the basis of a methodology, the Tribunal is also required to have regard to a number of matters set out in Section 14A(2).

6.1 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)] and [S14A(2)(h)].*
- * *the government agency's economic cost of production [S14A(2)(a)]*
- * *past, current or future expenditures in relation to the government monopoly service [S14A(2)(b)]*

6.1.1 Costs of sewerage backlog projects

According to Sydney Water, the estimated capital cost of the 4 priority projects, namely Picton/Tahmoor/Thirlmere, Bundeena/Maianbar, Gerringong/Gerroa, and areas in the Blue Mountains served by the Winmalee extension, is in the order of \$112 million. This reduces to \$92 million after \$20 million of SEL funds are taken into account, and to \$68 million when the anticipated contributions from developers of new lots are deducted. A further capital cost of \$230 million is required to service backlog areas that remain. The operating costs of these schemes, on a per lot basis, are generally much higher than existing areas.

The provision of sewerage infrastructure in backlog areas, generally, is relatively expensive due to remoteness from existing sewerage systems, access difficulties in connecting to existing infrastructure, or a combination of these two factors. Further, backlog areas comprise relatively small populations. The combined result is that costs of providing sewerage services in these areas will be very high, when compared with existing sewered areas on a per property basis. The indications from Sydney Water are that this trend is likely to continue when future backlog areas are considered.

The Tribunal believes that there may be opportunities for further capital and operating savings in delivering sewerage backlog projects. These savings could be achieved from the introduction of new technology, private sector involvement and competitive tendering. The Tribunal will continue to review the actual costs incurred, the method of project delivery and Sydney Water's operating efficiency. Where appropriate, the Tribunal will undertake special audits of the costs of sewerage projects in backlog areas.

6.1.2 New Technology

The ACF and the Department of Urban Affairs and Planning (DUAP) argue that alternative technologies should be promoted, rather than the traditional technologies usually employed in sewerage systems.²¹

The Tribunal believes that new technology will be fostered through the development of a process whereby the design of proposed sewer backlog infrastructure is specified in terms of environmental, public health and process engineering outcomes, rather than by detailed design.

6.1.3 Contracting out, competition and private sector involvement

Under its Operating Licence, Sydney Water may contract out the provision, construction, operation, management or maintenance of any system and service. Private sector involvement does not relieve the Corporation of its responsibility to comply with its obligations under the Licence.

Sydney Water currently out-sources a majority of construction works. There are also cases of private sector provision of infrastructure, including build-own-operate schemes for the water filtration plants and the Blue Mountains sewerage tunnel.

In a recent announcement²², the government has indicated that private sector will be invited to bid for environmental works including backlog sewerage projects. Sydney Water will submit a bid for the backlog projects to test the organisation's efficiency in the market. However, Sydney Water will not bid for the Cronulla project²³ because the Government believes it is important to open up a major component of the sewerage system to the private sector.

It is widely recognised that, to achieve the least cost outcomes for the backlog projects, greater emphasis needs to be placed on market testing of sewerage solutions at the early planning stages rather than merely contracting out construction of a completed design. Further, the Tribunal strongly supports the notion that the contracting process should be outcomes driven and encourage alternative technologies. The Government supports this view and has announced that the private sector will be invited to bid for sewerage backlog projects in order to maximise opportunities for innovation and implement cost effective technology.²⁴ The ACF submission also expresses support for this approach.

The current sewer backlog projects within the Sydney Water service area provide an opportunity to seriously look at all available options, and not just that proposed by the Corporation as the preferred option. The tender process should be seen to genuinely allow competition in the market for innovative, cost-effective and small-scale solutions. This is particularly necessary if costs are to be borne over the whole SWC customer base, which has limited influence over the choice of technologies.

There is an urgent requirement for water utilities to provide transparency in their planning processes so that all service needs can be tendered out from the point where it is recognised that a need exists, rather than at the point where the preferred technology has been identified.²⁵

²¹ ACF submission, March 1997, p1: DUAP submission, March 1997, p2.

²² News Release, The Minister for Urban Affairs and Planning, May 27, 1997.

²³ The Cronulla upgrade incorporates the Bundeena/Maianbar backlog scheme.

²⁴ News release, Minister for Urban Affairs and Planning, 27 May, 1997.

²⁵ ACF submission, March 1997, p3.

The Picton Community Working Group disagrees with these sentiments and advocates that the scope of private sector involvement should be limited to construction.

We believe that private sector involvement in backlog sewerage projects should be limited to building, and not extended to own and operate, as this would be another way for Government to “pass the buck”, avoid their community service obligations and discriminate against local residents.

A private enterprise would, we believe, have more interest in making a profit than providing service.²⁶

The Tribunal acknowledges the concerns raised by the Picton Community Working Group. However, it believes that competitive letting of contracts for all aspects of the backlog sewerage projects, including operating activities, should have an overall favourable impact on the final cost outcomes, and ultimately prices.

6.1.4 Competitive neutrality

Under the National Competition Policy agreed by the COAG in April 1995, one of the key policies is competitive neutrality. The objective of competitive neutrality is the elimination of resource allocation distortions arising out of the ownership of entities engaged in significant business activities: Government businesses should not enjoy any net competitive advantage or disadvantage simply as a result of their public sector ownership.²⁷

In June 1997, Sydney Water advertised for the private sector to build, own and operate the Picton Sewerage Scheme and Gerringong-Gerroa Sewerage Scheme. Sydney Water will bid for these projects.

The Tribunal believes that any perception of unfair advantage accruing to an entity controlled by Sydney Water can be addressed through an appropriately structured project specification and bidding process and an effective complaints resolution mechanism. It is understood that the NSW government is currently developing such a mechanism.

Sydney Water has stated that it will establish a competitive process by which tenders are evaluated independently and transparently. Sydney Water has committed to separating the evaluation of tenders from the preparation of its in-house bid.²⁸ The Tribunal will closely examine the outcomes of this process.

6.2 Environmental considerations

- * *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)] and [S14A(2)(g)]*
- * *considerations of demand management and least cost planning [S15(1)(j)] and [S14A(2)(i)]*

Many communities that are currently unsewered have grown from small clusters of houses in remote locations. The driving force that motivated expansion in some of these

²⁶ Picton Community Working Group submission, February 1997, p2-3.

²⁷ Competition Principles Agreement between State and Commonwealth Governments, April 1995.

²⁸ Special Message to Staff from the Managing Director, dated 18 June 1997.

communities was the unspoilt beauty of the district. Such areas often include sensitive and fragile ecosystems.

The development of these areas to date has often been accompanied by considerable environmental degradation through such practices as inappropriate land clearing and levelling, the creation of access corridors, inappropriate land use, and poor management of domestic waste-water. The results have included soil erosion; polluted waterways; soggy, waterlogged areas; and some destruction of the ecological balance that underpinned the area's original pristine beauty.

A lack of sewerage services and consequent discharges from on-site wastewater management systems may have important consequences for public health, and the environment. The EPA submission discusses this point.²⁹

Environmental degradation may also accompany agricultural activities and the introduction of domestic and farm animals. In some cases, these factors are the major cause of environmental degradation.

The Government's Priority Sewerage Program has been developed to address sewerage problems in backlog areas. Provision of sewerage in backlog areas has also been included as one of the key initiatives in the Government's Waterways Package³⁰.

The objectives of the Waterways Package are to:

- improve the environmental and public health outcomes
- provide appropriate sewage treatment to ensure safe, beneficial and/or environmentally acceptable reuse/disposal of effluent
- promote urban growth while preventing environmental damage to the waterways.

The various backlog projects proposed will provide explicit environmental benefits. These include:

- A reduction of sewage discharge into waterways within Sydney Water's operational area from 20,000 properties that would otherwise have non-reticulation based sewerage systems such as septic tanks or pump-out facilities with consequent local health, pollution and environmental deterioration implications.
- The upgrading of sewage treatment works at Winmalee and the de-commissioning of aging and treatment plants in the Blue Mountains area which have insufficient capacity to adequately service their catchment areas.
- The avoidance of inappropriately treated discharge into environmentally sensitive waters including Blue Mountains streams, the Hawkesbury-Nepean river system, Georges River and Port Hacking and the increased environmental, ecological and public health problems which are exacerbated by these discharges, including those associated with blue-green algae.
- Reduction of the threat to commercial and recreational fisheries, including prawning and oyster leases in many of these waterways.
- Increase in the amenity of many of Sydney's best recreational areas through decreased odour and continuously waterlogged areas.

²⁹ EPA submission, March 1997, p1.

³⁰ Premier of NSW, News Release, May 1997.

A commitment to provide sewerage services in backlog areas is also included in Sydney Water's Environment Plan. The objective is to sewer existing properties to minimise pollution of receiving water environments and the degradation of land. Achievement of the environmental plan is scrutinised as part of an annual operational audit undertaken by the Licence Regulator.

The Tribunal notes that as part of the 1996 Operational Audit for Sydney Water, the audit report is critical of the progress Sydney Water has achieved in providing sewerage backlog services³¹. The Licence Regulator however acknowledged that considerable effort has been directed towards establishing a framework, which will enable the backlog problem to be systematically addressed during 1997. The Tribunal believes that this inquiry will remove uncertainty in cost recovery and pricing issues. This will allow Sydney Water to establish a firm target and program to reduce backlog sewerage.

6.2.1 Ecologically sustainable development (ESD)

It is important that the provision of sewerage to environmentally sensitive areas should not lead to further unsustainable development. The Department of Urban Affairs and Planning (DUAP) shares these concerns. In its submission, it stated:

Whatever pricing regimes are determined there needs to be an overriding consideration that it does not lead to pressures for unsustainable development. In particular this would include potential development in environmentally sensitive areas where in the past the lack of infrastructure such as sewerage and the costs of its provision have been a significant constraint to development.³²

Although the developer charges pricing methodology requires new entrants to pay the full cost of sewerage services, this may not be sufficient. The Tribunal is mindful that many backlog areas are sited in fragile environments and that the provision of sewerage to such areas could result in further environmental damage. It is important that inappropriate and unsustainable development be discouraged in fragile environments. In some cases, this will mean that no further development should be permitted.

The Tribunal recommends that the relevant planning authorities review the development capacity of all backlog areas to ensure that the provision of reticulated sewerage will not encourage further unsustainable development, particularly in environmentally sensitive areas.

6.2.2 Least cost planning

In its submission, the Australian Conservation Foundation questions the cost-effectiveness of traditional engineering solutions and emphasises the importance of innovative solutions:

ACF questions the basic premise that constructing a new, or connecting to an existing, major reticulated sewerage system is the inevitable response to wastewater discharge requirements. It is being increasingly recognised that the most engineered (and invariably most expensive) option is not always the best social, economic and environmental solution. It can often be far more cost-effective and ecologically resilient to provide small, decentralised systems, tailored to specific needs at the local level and/or to install appropriate on-site systems such as composting toilets,

³¹ 1996 Operational Audit of Sydney Water Corporation, Licence Regulator to the Sydney Water Corporation, May 1997.

³² DUAP submission, March 1997, p1.

septic tanks, pump-out septic systems, and aerated wastewater treatment systems. Innovation in this area of technology is rapidly developing.³³

As discussed in section 6.1, least cost planning must play an important role in the provision of sewerage services. The Tribunal also considers that the EIS process should encourage best environmental outcomes and least cost solution. Scrutiny of the costs of backlog sewerage schemes will be provided through community input to the EIS process.

6.2.3 Demand management

Some environmental groups argue that provision of reticulated sewerage systems will lead to higher water consumption³⁴. The Tribunal considers that the promotion of water conservation is an important consideration, regardless of the availability of sewerage services.

The Tribunal supports the notion that, in considering the sewerage solution in backlog areas, priority should be given to encourage water re-use. It is noted that in the case of Picton, high level of treatment will be provided. The treated effluent will be used for irrigation purposes.

Opportunities for effluent reuse need to be fully explored in sewerage backlog areas. Reuse will only have a positive impact on the overall water demand where recycled water replaces the use of potable water. The Tribunal is keen to see water reuse as a practical means of achieving overall demand management. It therefore recommends that consideration be given to identifying uses and applications where recycled water may be substituted for raw water in backlog areas.

6.3 Customer 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)]*
- * *charges for other monopoly services provided by the government agency [S14A(2)(c)]*
- * *economic parameters, such as:*
 - (i) *discount rates, or*
 - (ii) *movements in the general price index (such as the Consumer Price Index), whether past or forecast [S14A(2)(d)]*

6.3.1 Pricing issues

Prices should reflect the true costs of services. Major discrepancies between the costs of service and the charges levied will result in large cross-subsidies which disadvantage some customers while benefiting others. One of the key issues for backlog sewerage pricing is who should pay for the high costs of backlog projects. If the entire customer base is required to fund benefits to a few customers, this may be seen as abuse of monopoly power.

³³ ACF submission, March 1997, p1.

³⁴ Presentation by ACF, Backlog Sewerage Public Hearing Proceeding p68.

6.3.2 Social impacts

Any pricing decisions 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 in due recognition of the impacts on the customers affected. The Tribunal has taken account of the demographic profile of the backlog areas and placed a cap on the capital contribution to limit the impact on individual customers.

Although social policy is a matter for government, the Tribunal has described social program options that the government may wish to consider to assist pensioners and customers who may have difficulties in paying the capital contribution charge.

6.3.3 Effect on inflation

There will be no change to sewerage charges in 1997/98. Small increases in annual sewerage charges for SWC customers are expected in future years. This price determination will have negligible impact on the general cost of living in NSW.

6.4 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)]*

All capital and operating expenditure will be recovered either from contributions from local residents in backlog areas or an increase in the common sewerage charge payable by all SWC customers. The recovery of some capital and operating costs through the common sewerage charge will be delayed until the next SWC price determination. This will have a minimal effect on Sydney Water's financial viability.

Sydney Water has included the capital expenditure relating to the four backlog projects in its capital works program to 1999/2000. In the case of Picton sewerage scheme, \$20m will be drawn from SEL funds.

Since this determination is based on the principle of full cost recovery, there will be negligible impact on financial performance and distributions to government.

Sydney Water argues³⁵ that there are some financial risks associated with the projects, including:

- Possible higher costs of providing reticulated sewerage than those assumed in the submission
- Not all residents connecting to sewer reticulation once the services are available.

In their submissions, both the NSW EPA and the Department of Urban Affairs and Planning have also expressed concern about connection risks.³⁶ The Tribunal considers that the risks

³⁵ SWC submission, February 1997, p67.

³⁶ EPA submission, March 1997, p4; DUAP submission, March 1997, p4.

faced by Sydney Water are no different from private sector investments and are adequately compensated for through the rate of return on assets. The Tribunal believes that contracting out and private sector participation in sewerage backlog projects should lead to the least cost outcome, providing specifications are outcomes driven. Under the cost sharing scheme and the safety net arrangements proposed in this determination, the risks of non-connection should be minimised.

6.5 Standards

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

Effluent discharge licence conditions and the standards of sewage treatment will be set by EPA depending on the circumstances of individual backlog areas. Sydney Water must comply with the environmental standards imposed by EPA.

Customers in backlog areas will receive the same level of sewerage and customer services as existing customers.

7 OTHER MATTERS CONSIDERED BY THE TRIBUNAL

7.1 Regulation of existing on-site systems

Mindful of the increasing costs of backlog schemes, particularly when considered on a per property basis, the Tribunal is anxious to ensure that existing on-site sewage management systems are properly maintained in areas where no environmental or public health threats currently exist. Appropriate actions in the short term may assist in preventing future problems in these areas.

The ACF submission supports this view.

There has been little or no focus on appropriate regulation for on-site wastewater management, which should include measures such as householder licences and effluent management planning by local government, integrated within a catchment management perspective. Local government has largely been operating in a regulatory vacuum where on-site domestic wastewater treatment is concerned, with apparent and often harmful consequences for human and environmental health.

It is our view that the EPA and NSW Health must play a role in enforcing the requirements of Councils to be rigorous in assisting householders to apply the best technology, and in monitoring for proper management of systems.³⁷

The Tribunal is aware that guidelines for on-site wastewater management systems are being developed by a working group including representatives of the Department of Land and Water Conservation, the Department of Urban Affairs and Planning, NSW Health, the Department of Local Government and EPA. The aim of the guidelines is to assist local government to assess and regulate the design, selection, installation, operation and maintenance of single domestic household on-site management systems.

The Tribunal is also mindful that local government planning codes, particularly those that relate to lot sizes and subdivisions, have an important role in the success of on-site wastewater management.

The Tribunal recommends that these guidelines be strictly applied in unsewered areas. Compliance with these guidelines should also constitute part of the minimum requirement for those households who elect to maintain on-site systems in backlog areas to which sewerage is provided.

7.2 The 1987 Sewerage Policy Group

Before the Tribunal determined specific prices for backlog sewerage projects, Sydney Water was allowed to negotiate a charge for providing sewerage services in the backlog areas under its 1987 funding policy. Areas that were considered under previous funding policies are therefore excluded from this determination.

³⁷ ACF submission, March 1997, p2.

Under the 1987 sewerage policy, customers are required to fund the gap in infrastructure costs if the capital cost is above \$14,000 per property. However, it is noted that there are some inconsistencies in the application of the 1987 policy, resulting in cases of disputes with residents. The Tribunal urges Sydney Water to resolve these disputes in a timely, commercial and equitable manner.

8 REASON FOR CHOOSING TO MAKE THE DETERMINATION IN TERMS OF A METHODOLOGY

Under the Independent Pricing and Regulatory Tribunal Act, 1992, the Tribunal may set maximum prices or may determine a methodology for setting maximum prices. Section 14A lists a range of additional matters the Tribunal must take into account when setting a methodology. The Tribunal has chosen to determine a methodology for fixing the maximum prices for backlog sewerage capital contribution charges. In accordance with Section 13A(3) this attachment explains the reasons for this decision.

Backlog sewerage capital contribution charges are levied to recover sewerage infrastructure costs incurred to service backlog areas. Individual price determinations by the Tribunal could not allow sufficient timing flexibility where backlog projects are expected to be completed between major price determinations. If agencies had to return to the Tribunal each time a backlog sewerage project is completed, this would cause unworkable delays in sewerage connection.

The Tribunal has stressed that this contribution charge must be calculated by a transparent methodology based on efficient costs. The Tribunal will review the calculation of the charge from time to time.

9 REQUIREMENT UNDER SECTION 16 OF THE ACT

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

This determination does not by itself result in any immediate increase in Sydney Water's sewerage charges. Although the Tribunal has determined a backlog sewerage capital contribution, the charge will be calculated and levied only after the backlog projects are completed. This is likely to happen in 1998/99. There will be a cost to the Government if it then decides to put in place special social programs to exempt particular customers (eg pensioners) from paying the capital contribution charge. The total cost of exemption will depend on the coverage and extent of such social programs.

10 COMPLIANCE

Compliance with the Tribunal determinations is required under Section 18 of the Act. Government agencies are required to include details relating to the implementation of a determination within their annual reports.

James Cox
Committee Chairman
28 July 1997

ATTACHMENT - SUMMARY OF SUBMISSIONS

Issues addressed in submissions

The main points covered in submissions are set out in the following points.

Funding and pricing

- Recovery from all Sydney Water customers would be inconsistent with COAG principles of user pays and elimination of cross -subsidies. Any subsidies should be explicit and transparent. (NSW Treasury, NSW EPA,)
- The wider community benefits substantially from the provision of sewerage in backlog areas so it should share the costs. (Wollondilly Council, ACF, DUAP, Penrith Council)
- Pricing for sewer backlog projects should not include a rate of return to Sydney Water. (Penrith Council)
- The starting point for consideration of pricing should be user pays, except where there are demonstrable environmental and public health benefits for the wider community. (Hunter Water)
- Cost reflective capital contributions from residents signal the cost of new infrastructure to the community, they are consistent with both the developer charges methodology and the implementation of uniform pay-for-use charges. (Hunter Water)
- These schemes should be funded by a small increase in the common charge paid by all Sydney Water customers and a contribution from Sydney Water, in the form of a reduced dividend to government. (Penrith City Council)
- Funding by all Sydney Water customers would provide the most speedy and practical resolution. (Hacking River CMC)
- Developers of new housing which will be serviced by a backlog scheme should be required to make their contribution as an up-front charge, in order to defray costs to existing residents. (DUAP)
- Pricing should not encourage further unsustainable development. (DUAP, Penrith Council)
- Funding for backlog schemes in the operational area of Sydney Water should not compromise the provision of sewerage in other areas of the state. (NSW EPA)
- In areas where large holiday populations create wastewater management difficulties, some levy should be placed on such holiday visitors. (ACF)
- If landowners in backlog areas are not required to make some contribution towards the capital cost of these schemes, then this may set a precedent for assistance in non-backlog areas. (DUAP)
- Vacant land should be subject to a marginally greater share of the financial burden than developed land, since owners of vacant land may derive a windfall profit from sewerage. (Penrith Council)
- Pricing should not discourage connection. Therefore, the charges charged to residents should be reasonable.(NSW EPA, DUAP)

Equity

- Funding these schemes through contribution from residents constitutes a major financial burden, whereas they could be funded by an insignificant contribution from all Sydney Water customers. (Wollondilly Council, individual submissions, Penrith Council, Hawkesbury Council)
- Backlog areas should bear no greater financial costs than communities who secured sewerage under previous policies, which involved no direct cost to residents. The backlog areas that remain should not be discriminated against. Backlog area residents should not have to pay because they are the “last on a priority list”. Imposing the costs of backlog sewerage on local residents will create great difficulty for pensioners and those in needy circumstances. (Wollondilly Council, individual submissions, Penrith Council, Gerringong Gerroa Residents, DUAP, Bundeena Maianbar Progress Association, Gerroa Environment Protection Society, Kiama Council, Port Hacking Protection Society, Wollongong Council)
- All Sydney Water customers pay for other sewerage projects, such as improvements to the Cronulla Treatment Plant, not only residents in areas directly served. (Hacking CMC, Bundeena Maianbar Progress Association, Gerroa Environment Protection Society, individual submissions)
- Although costs should be shared, residents are the primary beneficiaries of backlog projects. (Hunter Water)
- In the Inquiry into Water and Related Services, the Tribunal concluded that cross subsidies are difficult to remove within the household sector, and that a uniform access charge was administratively efficient and effective for sewerage services. These arguments apply equally to backlog sewerage services. (Penrith Council)
- Any contribution to costs from residents needs to be seen in the context of costs currently being met by residents, such as pump-out charges and system maintenance. (NSW Treasury)
- The provision of sewerage will result in increased land values for landowners. When originally and subsequently purchased, the prices paid for backlog land reflected its unsewered state. (NSW Treasury)
- Some residents have invested in expensive sewage management systems. Further, residents will have to pay for plumbing to connect their households to the sewer when it becomes available. They should not also have to make a contribution to the capital cost of the scheme. (Penrith Council, NSW EPA)
- Assurances have been made to backlog residents on many occasions that they will have sewerage provided. (Bundeena Maianbar Progress Association)
- Many backlog areas are remote communities. If these areas were not within Sydney Water’s operational area, then the local council would have been in a position to apply for government assistance and provide sewerage before now. (Wollondilly Council)
- The lack of sewerage is impeding residential and commercial development in many backlog areas. (Wollondilly Council)

Environment

- Sharing the cost of backlog schemes among all Sydney Water customers should not be used to continue reliance on undesirable technology. In particular, the issues of water conservation, further pollution from sewer discharges and overflows, inappropriate and unsustainable development, beneficial reuse rather than disposal into receiving environments all need to be adequately addressed. (ACF)
- In urban environments, many on-site systems do not operate at optimum efficiency. Pump-out systems are an inequitable solution since the costs are prohibitive. (Wollondilly Council)
- Specific environmental damage costs should be levied on those residents in backlog areas who choose not to connect to the sewer after it becomes available. (DUAP)
- Residents in backlog areas have installed on-site wastewater management systems in compliance with prevailing government policies. They should not be penalised for using these systems. (Penrith Council)
- Reticulated sewerage may not be the best overall solution to the environmental problem. (DUAP, ACF)
- Previous government policy that allowed inappropriate suburban expansion should not now be used as a reason for the application of orthodox technology. (ACF)
- In many instances, the original approval for on-site wastewater systems in dwellings was on the basis that these residences were to be used infrequently as holiday homes. If these houses are now fully occupied, the system will become overloaded. The problem is even further exacerbated when residents seek to subdivide into smaller lots. (Gerringong Gerroa Residents)
- The EIS process does not appear to have given full consideration to alternate waste water systems, in some cases. (Gerringong Gerroa Residents, Gerroa Environment Protection Society, Port Hacking Protection Society)
- For some communities, it would be preferable that existing waste water systems be correctly operated and maintained and that overloading was avoided. (Hornsby Council)
- As part of a least cost solution, current on-site wastewater management systems should be properly regulated. (NSW EPA, ACF)

Costs and private sector involvement

- The Tribunal should independently review backlog projects to ensure that the most cost-effective scheme is chosen. The Tribunal should take account of the EPA Inquiry into the management of sewage in NSW. (DUAP)
- Sydney Water's costings should be subject to greater public scrutiny. (Gerringong Gerroa Residents)
- High pump-out costs encourage illegal connections. (Gerringong Gerroa Residents)
- There are better ways of addressing sewerage, water supply and drainage for small communities that do not involve the economic and environmental cost of the options finally agreed by Sydney Water. Sydney Water does not give enough consideration to alternate solutions. (Port Hacking Protection Society)
- The cumulative environmental and socio-economic impacts of all backlog areas need to be assessed to establish the costs and benefits to the wider community. (DUAP)
- The private sector should not build or operate the Picton scheme. (Picton Community Working Group)
- Private sector participation may provide the most innovative and cost effective solutions. Some caution needs to be directed to accountabilities, obligations and the sharing of risks. (Penrith Council)
- Tendering should be on the basis of outcomes, rather than focus on preferred mechanisms or detailed design. (Port Hacking Protection Society, ACF)

A complete list of submissions follows.

Submission List

Submissions were received from:

Individual

Ameneiro, Tony	Furnas, Gail	Quinlan, John
Andrews, Allan	Gladwell, Sandra	Resident,
Anonymous,	Gluskie, L J	Ritchie,
Armstrong, Helen	Gosden, David	Roberts, C
Baird, John R	Graff, Gene	Roberts, Chris
Barbour, Louise	Griffiths, Janet	Robertson, Mark
Blackwood, D J	Griffiths, Paul	Robinson, Kevin & Lois
Bout, Jane	Gyory, AZ & IE	Saywell, Scott
Bowring, R & N	Hammond, Peter R	Scott, Graham & Sue
Bracegirdle, Simon	Harding, Ron	Shorrock, C & L
Brandman, John	Hibbert, R & J	Simpson, David
Brennan, Paul & Maxine	Hiscocks, Michelle	Simpson, Shane & Leah
Brennan, Paul & Maxine	Hudson, Vivien	Smith, F H
Brookes, Clive & Diane	Hyslop, J	Solness, Ray & Fay
Browne, L K & A M	Iolini, Anthony & Walker, Christine	Stainer, Curt
Bryce, M & Y	Irish, Gwitha	Stephens, C H
Caillaux, RA & LA	Jan, Kevin	Stephens, Trevor
Crabbe, AM & K	Karpin, S	Strother, I B & W M
Creagan, Mark	Langford, L	Taylor, Paul
Dalmer, J	Lawrence, Freda	Temma, Tamami
Dawes, E N	Lighthart, Chris	Thomas, Peter and Karen
Djurovic, V & T	Lobb, Reg & Carol	Thompson, Geoff
Doherty, Greg	Lowcock, Ivor	Thompson, R S
Doherty, Jean	Marfording, Annett	Thompson, Steve & Jenny
Dority, P	Mucci, Michael & Tina	Turner, Wayne
Dowson, M & V	Nanclares, John	Van de Pavert, T W
Dugan, Mike	O'Callaghan, C E	Vogt, H
Farrar, Alison	Ottaway, Ian	Watts, P L
Fetherston, L	Ponder, T J & H M	White, John
Forsythe, Lubica	Pye, Anthony & Dianne	Williamson, Vaughan
Foster, Karl	Quinlan, James P	Wilmott, Chris
French, C R		

Organisations

Wood, Walter	1987 Sewerage Group
Price, Peter	Allen Price & Associates
Dowsett, Brigid	Australian Conservation Foundation
Rodgers, David	Bundeena Maianbar District Progress Association
Starkie, W E	Bungan Beach Sewerage Action
Cox, A	Caldwell Martin & Cox
Major, Richard	Coalcliff Community Association Inc.
Baker, D	Community Working Party
Evington, Annah	Downmus Resource Recovery
Hibbard, Amanda	Friends for Stanwell Park
Johnson, David	Gerringong/Gerroa Residents
Jones, Howard	Gerroa Environment Protection Society
Bowditch, Terry	Gosford City Council
Gilligan, B	Environment Protection Authority
Evans, David	Hunter Water Corporation
Bawtree, George	Sydney Water Corporation
Pierce, John	Treasury, NSW
Haddad, Sam	Dept of Urban Affairs and Planning
McCully, Garry	Hawkesbury City Council
McPherson, Ross	Hornsby Shire Council
Forsyth, Michael	Kiama Municipal Council
Taylor, Paul	North Illawarra Chamber of Commerce
Butler, Craig	Penrith City Council
Baker, D T	Picton Sewerage Community Working Party
Boyd, Elaine	Sewerage Action for the Environment
Leslie, Simon	Simon Leslie Pty Ltd
Herde, Christopher J	The Australian Community Property Fund
Martin, Paul	The Port Hacking Protection Society Inc.
Wells, Peter	Total Catchment Management
Rowe, Rob	Vineyard, Riverstone, Marsden Park Developments Inc
Sinclair, Ian	Wollondilly Shire Council
Wulff, Carl	Wollongong City Council



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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

Matter No.: SRD/97/01

Determination: No 4.1, 1997

Agencies: Sydney Water Corporation Ltd
Hunter Water Corporation Ltd
Gosford City Council
Wyong Shire Council

Services: Water supply services, sewerage services - Backlog sewerage services

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

Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services)
Order 1997, Gazette No. 18, page 558.

Determination of a methodology for fixing the backlog sewerage capital contribution charge under Section 13A of the Act for the provision of sewerage services for backlog areas.

Backlog sewerage services refer to the provision of environmentally acceptable sewage management in urban areas that are served by a water authority where this does not already occur. Water is already provided to customers in most backlog areas. Some backlog areas that may be served in future now lack both water and sewerage.

The reasons why the Tribunal has chosen to determine the backlog sewerage capital contribution charge by setting a methodology in terms of section 13A(1)(b) of the Independent Pricing and Regulatory Tribunal Act, 1992 are set out in Attachment 1 to this determination.

The determination is as follows:

1. The methodology set out below is to be applied to calculate backlog sewerage capital contribution charges.
2. Details of the pricing principles underlying this methodology are set out in Attachment 2.
3. The methodology applies to backlog sewerage areas in which the provision of the backlog sewerage services delivers substantial environmental and public health benefits to both the local and the wider community.

4. The backlog sewerage capital contribution charge (BSCC) is calculated according to the following formula:

$$\text{BSCC} = \frac{25\% \text{ of actual capital cost of sewerage infrastructure attributed to the backlog properties}}{\text{Total number of existing properties in the backlog area}}$$

5. The backlog sewerage capital contribution charge for any property, as calculated in point 4, is to be capped at \$3,000 in nominal terms until otherwise determined by the Tribunal.
6. The capital costs used in the calculation are to be net of funding from special environmental levies. If the capital works are undertaken to provide sewerage service to existing backlog properties, renewal of existing infrastructure or new development lots, the capital costs should be apportioned according to the best estimation of lot production.
7. The backlog sewerage capital contribution charge will be calculated on completion of the sewerage infrastructure. The agency should submit the calculated charge to the Tribunal for review and gazettal. The charge will be indexed annually by the Sydney Consumer Price Index for connections made after the first year in which the system becomes available.
8. The following payment options will be available to affected land owners:
- A special backlog sewerage annual charge. This special annual backlog sewerage charge will be calculated based on an amortisation method to recover the backlog sewerage capital contribution charge due at the time of connection over a period of up to 20-years. The interest rate used in the amortisation calculation will be the interpolated secondary market NSW Treasury Corporation 10-year bond rate at the time of availability of sewerage services.

At any time, the total of all outstanding special backlog sewerage annual charge instalments may be paid in a lump sum. The lump sum payable in this case may be calculated as the net present value of all outstanding special backlog sewerage annual charge instalments, calculated at the same interest rate used in the initial amortisation calculation.

- A one off payment of the full backlog sewerage capital contribution charge at the time of sewerage connection.
9. The methodology for calculating the backlog sewerage capital contribution charge, and the pricing principles for backlog sewerage, will apply to:
- All unsewered areas identified by Sydney Water Corporation, and Hunter Water Corporation except areas specified in the Hunter Sewerage Project Priority Area 1.
 - Gosford City Council, excluding areas where residents have not contributed to a specific water and/or sewerage financing scheme, and Wyong Shire Council.

10. The methodology applies from the date of Gazettal of this determination.

James Cox
Committee Chairman
28 July 1997

Attachment 1: Reasons for choosing to make the determination in terms of a methodology

Under the Independent Pricing and Regulatory Tribunal Act, 1992, the Tribunal may set maximum prices or may determine a methodology for setting maximum prices. Section 14A lists a range of additional matters the Tribunal must take into account when setting a methodology. The Tribunal has chosen to determine a methodology for fixing the maximum prices for backlog sewerage capital contribution charges. In accordance with Section 13A(3) this attachment explains the reasons for this decision.

Backlog sewerage capital contribution charges are levied to recover sewerage infrastructure costs incurred to service backlog areas. Individual price determinations by the Tribunal could not allow sufficient timing flexibility where backlog projects are expected to be completed between major price determinations. If agencies had to return to the Tribunal each time a backlog sewerage project is completed, this would cause unworkable delays in sewerage connection.

The Tribunal has stressed that this contribution charge must be calculated by a transparent methodology based on efficient costs. The Tribunal will review the calculation of the charge from time to time.

Attachment 2: Pricing Principles underlying the methodology for calculating backlog sewerage capital contribution charge

The Tribunal has adopted the following principles for backlog sewerage pricing, after considering the obligations of water agencies; the interests of local residents and other customers; returns to the shareholder; and the implication for environmental and public health outcomes.

- The underlying principle for capital works associated with the provision of sewerage in backlog areas is that costs should be recovered from users or beneficiaries of these services.
- In cases where environmental or public health hazards pose a risk to the local *and* the wider community, the Tribunal considers that the wider community should share these costs with local residents.
- The Tribunal considers that the EPA, acting after consultation with the NSW Health Department, should be the arbiter of the environmental and public health risks associated with a particular project. Ideally, backlog sewerage projects would form part of an overall program of environmental improvement which would be approved by the Government after consideration of the relevant priorities and the costs involved.
- Where capital costs are to be shared, up to 25 percent of costs are to be paid by local residents at the time of connection to the service and the remaining capital costs are to be paid by all customers of the water authority, through an increased common sewerage charge. Further, contributions by residents are to be capped at a maximum of \$3,000 to ensure affordability.
- Operational expenditure should be recovered from the water authority's common sewerage charge.

- Where a Minister directs the water authority to provide backlog sewerage services to classes of customers at less than the maximum backlog sewerage capital contribution charges, the cost of this should be fully disclosed. For water authorities that are operating as a government trading enterprise, the costs should ideally be paid to the authorities as social programs.

The Tribunal notes that the EPA, acting after consultation with the NSW Department of Health, has undertaken an initial assessment of environmental and public health issues associated with areas currently on Sydney Water's sewerage backlog program. The Tribunal has requested that the EPA provide similar assessments for backlog areas as the basis for deciding the cost sharing arrangements.



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

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

Matter No.: SRD/97/01

Determination: No 4.2, 1997

Agency: Gosford City Council

Services: Provision of water supply and/or sewerage services for existing properties where property owners have not contributed to a specific water and/or sewerage financing scheme.

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

Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997, Gazette No. 18, page 558.

Determination of maximum prices for the provision of water and/or sewerage services for existing properties where property owners have not contributed to a specific water and/or sewerage financing scheme.

The same water and sewerage base charges will apply to property owners who have not contributed to a specific financing scheme for water or sewerage services as applies to other customers of Gosford City Council at the time of availability of water supply and sewerage services.

In addition, a Water and/or Sewerage Contribution Charge has been determined for the provision of water supply and/or sewerage services to property owners (including owners of vacant land) who have not contributed to a specific water and/or sewerage financing scheme. The reasons the Tribunal has chosen to determine the contribution charge by setting a methodology in terms of section 13A(1)(b) of the Independent Pricing and Regulatory Tribunal Act, 1992 are set out in Attachment 1 to this determination.

The determination for the Water and/or Sewerage Contribution Charge is as follows:

1. This charge is payable by affected landowners prior to connection to Gosford City Council's water and sewer mains.

2. A Net Present Value (NPV) methodology is to be used by Gosford City Council to calculate maximum water and/or sewerage contribution charge. The methodology is the same as the NPV methodology decided by the Tribunal in the determination of developer charges contained in Determination No 3.1, 1996 (matter SRD/95/01) and in a Supplementary Note gazetted on 15 July 1997 (Gazette 29/97, page 5659). Details of the methodology are set out in the guidelines attached to that determination report.
3. The same parameters of the Net Present Value calculation and the guidelines determined for Gosford City Council in Determination No 3.1, 1996 will also apply.
4. The water and/or sewerage contribution charge will be calculated on completion of the sewerage infrastructure. Gosford City Council should submit the calculated charge to the Tribunal for review and gazettal. The charge will be indexed annually by the Sydney Consumer Price Index for connections made after the first year in which the system becomes available.
5. The following payment options will be available to the affected land owners:
 - A special annual water and/or sewerage rate over a 20-year period. This special annual water and/or sewerage rate will be calculated based on an amortisation method to recover the water and/or sewerage contribution charge due at the time of connection. The interest rate used in the amortisation will be the interpolated secondary market NSW Treasury Corporation 10-year bond rate at the time of availability of water or sewerage services.
 - A one off payment of the full water and/or sewerage contribution charge at the time of water and/or sewerage connection.
6. The methodology applies from the date of Gazettal of this determination.

James Cox
Committee Chairman
28 July 1997

Attachment 1: The Tribunal's preferred methodology for the determination of Water and/or Sewerage Contribution Charges for residents who have not contributed to a specific water and/or sewerage financing scheme.

Under the Independent Pricing and Regulatory Tribunal Act, 1992, the Tribunal may set maximum prices or may determine a methodology for setting maximum prices. Section 14A lists a range of additional matters the Tribunal must take into account when setting a methodology. The Tribunal has chosen to determine a methodology for fixing the maximum prices for Water and/or Sewerage Contribution Charge. In accordance with Section 13A(3) this attachment explains the reasons for this decision.

Water and/or Sewerage Contribution Charges are levied to recover water and/or sewerage infrastructure costs incurred to service residents who have not contributed to a specific water and/or sewerage financing scheme in Gosford City. A separate price determination by the Tribunal would not allow sufficient timing flexibility where these projects are expected to be completed between major price determinations. If Gosford City Council had to return to the Tribunal at the time the projects were completed, this would cause unworkable delays in water and sewerage connection.

The Tribunal has stressed that the water and/or sewerage contribution charges must be calculated by a transparent methodology based on efficient costs. The Tribunal will review the calculation of the charges.