

PRICING PRINCIPLES FOR LOCAL WATER AUTHORITIES



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

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WATER AUTHORITIES**

September 1996

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

**REPORT TO THE PREMIER ON PRICING PRINCIPLES FOR LOCAL WATER
AUTHORITIES UNDER SECTION 12 (1)(b) OF THE INDEPENDENT PRICING AND
REGULATORY TRIBUNAL ACT, 1992**

Matter No.: SPR/94/01

Agencies: Local Water Authorities, County Councils and Electricity Distributors listed in Appendix B.

Services: Water supply, sewerage and drainage services provided by Councils, and water supply services provided by County Councils and Electricity Distributors

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

Government Pricing Tribunal (Council Services) Order dated 14 July 1994 - page 3965, Gazette No. 99

Government Pricing Tribunal (Water Supply Services) Order dated 12 May 1995 - page 2467, Gazette No. 60

Foreword

The Independent Pricing and Regulatory Tribunal (previously the Government Pricing Tribunal) has undertaken a review of pricing principles for local government water services. The review was not intended to set prices for local government, but, rather, examine generic issues in order to identify the scope for a common approach to pricing principles.

This report sets out a common set of pricing principles that could largely form the basis of pricing policies by the 130 local government water authorities across New South Wales. While the Inquiry has identified significant scope for the application of common pricing principles, an important theme is the need to cater for diversity in actual practice in meeting particular local circumstances.

Local water authorities often face vastly different local hydrologic, geographic and demographic conditions. Some authorities service a great many small villages across large areas, while others service relatively large urban centres. Some supply water and manage waste water without direct access to natural water courses, while others directly access large coastal rivers. Some service communities in economic decline, while others service regional centres or rapidly growing coastal towns. The major challenge of this Inquiry has been to develop a consistent set of basic pricing principles while recognising and accommodating the great variety of local conditions.

Amid the diversity of circumstances among local water authorities, there are generic issues relevant to all local water authorities:

- Each water supply authority is essentially a monopoly service provider and likely to remain so. Water charges need to be regulated or scrutinised in some form to ensure this monopoly power is not abused. The pricing principles set out in this Report will provide each authority with a basis by which to “self-regulate” and their customers with standards by which to judge the authority’s performance in this regard. This “light handed” approach to regulation should be given a chance to work, but more extensive regulation may become necessary if it proves to be unsuccessful.
- More cost reflective charges will indicate to consumers the true cost of using water and give them the power to influence their bills by controlling the amount of water they consume.
- More cost reflective charges can also help each authority decide between alternate investments of their community’s resources in water and waste water activities, given their local supply conditions and the range of other community priorities. Identifying demand management options and external environmental costs are particularly relevant to these decisions.
- Cross subsidies between groups of customers diminish the ability of water charges to signal the true cost of using water. They should be made transparent and eliminated or where appropriate moved to funding as a community service obligation (CSO).
- The priorities of each community may vary and should be incorporated into the authority’s investment decisions after comprehensive community consultation; this is especially relevant where discretionary standards are involved.

- Each authority should aim to achieve the maximum possible efficiency gains and pass these on to customers in lower charges.
- Each authority should seek to achieve the financial independence and stability of its water related services wherever possible; water and waste water activities should be separated from other local government activities and operate as businesses to the extent possible or, at a minimum, separately accounted for.
- Each authority should seek to provide water related services on an ecologically sustainable basis. To do so they should identify, charge for and rectify the external costs imposed on the environment by their water and waste water activities.
- Reform of pricing policies may cause significant changes in water charges. Any income distribution effects of these changes should be recognised and accommodated through safety nets (CSOs) where necessary.

The Tribunal feels confident that the pricing principles set out in this Report provide a useful approach for local government water authorities. Importantly, the pricing principles provide a common approach to the range of issues facing local government water authorities, while allowing these water authorities sufficient flexibility to cater for particular local circumstances.

The Tribunal hopes that this Report will provide a basis for local government to implement and, where appropriate, further develop a set of pricing principles for local water which best meet the interests of the residents of New South Wales.

Thomas G Parry
Chairman
September 1996.

TABLE OF CONTENTS

1 INTRODUCTION	1
2 STRUCTURAL AND REGULATORY REFORM	9
2.1 Principles of reform emerging from COAG meeting on National Competition Policy	9
2.2 Access to infrastructure	11
2.3 Commercial refocusing of councils	12
2.4 Structural and regulatory reforms	13
2.5 Operating licences	15
2.6 Drinking water quality guidelines	15
3 IMPROVING THE LINK BETWEEN COSTS AND WATER SERVICE CHARGES	17
3.1 Business plans	17
3.2 Benchmarking and yardstick competition	17
3.3 Contracting out service provision	20
3.4 Potential for efficiency gains by restructuring local authorities	20
3.5 Cost effective waste disposal for small communities	21
4 WHICH COSTS SHOULD BE RECOVERED BY LOCAL WATER AUTHORITIES?	25
4.1 Goals for sustainable business operations	25
4.2 Rates of return and new investment	26
5 ENVIRONMENTAL COSTS AND WATER RELATED COSTS AND CHARGES	29
5.1 The costs and benefits of environmental flows	29
5.2 Management and regulation of effluent	30
5.3 Drainage	32
5.4 Rational effluent reuse	33
6 THE STRUCTURE OF CHARGES, DEMAND MANAGEMENT AND ALLOCATIONS	35
6.1 Water supply charges	35
6.2 Cross subsidies	37
6.3 Sewerage charges	38
6.4 Charging for non-residential sewerage services	39
6.5 Trade waste charges	39
6.6 Demand-side management and non-price measures	40
6.7 Charges to country towns for bulk water	41
6.8 Charging arrangements for DLWC's water supply businesses	43
6.9 Pay-for-use pricing and revenue instability	44
6.10 Seasonal pricing	44
7 FINANCIAL REQUIREMENTS AND PRICING PRACTICES	47
7.1 Debt funding	47
7.2 Developer charges	48
8 CONCLUSIONS	51
8.1 Broad conclusions	51
8.2 Performance monitoring	51
8.3 Appropriate treatment of authorities gazetted as monopolies under the Independent Pricing and Regulatory Tribunal Act 1992	52
8.4 Catchment-wide decision making and institutional reform	53
8.5 The role of bulk water supply businesses within the local water supply framework	53
REFERENCES	55

APPENDIX 1 TERMS OF REFERENCE	57
APPENDIX 2 LOCAL WATER AUTHORITIES	59
APPENDIX 3 LIST OF SUBMISSIONS	61
APPENDIX 4 GLOSSARY OF ACRONYMS	63
APPENDIX 5 PUBLIC HEARINGS	65

1 INTRODUCTION

The Independent Pricing and Regulatory Tribunal (IPART, formerly known as the Government Pricing Tribunal) has examined the feasibility of establishing a consistent set of pricing principles for local water authorities in New South Wales. The terms of reference for this review are shown in Appendix 1.

In its major water-related inquiry (*Water and Related Services, Oct 1993*) and the more recent inquiry into bulk water pricing in New South Wales (*Pricing of Bulk Water Services in New South Wales, An Issues Paper 1995*), the Tribunal has been called upon to establish appropriate pricing principles and to regulate prices, based on those principles.

The scope of the Local Water Authorities review did not extend to regulating actual prices because it was not considered feasible to directly regulate water prices for all 130 water authorities in non-metropolitan New South Wales.

While it is also difficult to establish pricing principles which can apply to a wide variety of local circumstances, the benefits of having a common set of principles are clear. As most local water services are provided as monopoly services, adherence to pricing principles can serve as an informal kind of price regulation. Therefore, this report establishes pricing principles which local councils should apply to their own individual circumstances in order to "self-regulate" their water prices.

The benefits of pricing principles include:

- greater consistency of purpose among authorities dealing with a resource which serves wide ranging community needs
- better comparison and coordination of resource management among local communities
- easier scrutiny of prices and costs.

Further discussion of the benefits of pricing principles can be found in the issues paper for this inquiry, which serves as a companion volume to this report.

The large urban water authorities are single purpose corporations that are commercially focused. Conversely, the councils which provide water services to country communities are mostly multipurpose.

A challenge for this inquiry was to establish a set of pricing principles that would:

- span the widely differing individual circumstances of local water authorities
- acknowledge and accommodate the legitimate concerns of local councils, which see the provision of water services as part of their responsibilities to their communities under the Local Government Act
- recognise that legislation continues to provide the NSW Water Administration Ministerial Corporation with the ultimate rights to take, use and control water.

As a starting point for this inquiry, the Tribunal set down the following principles that guided the regulation of prices for the larger urban authorities. These principles recognise that:

- pricing should reflect costs, which should in turn reflect efforts to achieve efficiency gains
- consumers should have the power to influence their bills by controlling the amount of water they consume
- pricing and investment decisions are interrelated
- cross subsidies should be eliminated
- the distributional effects of changes to pricing should be catered for through safety nets
- capital expenditures resulting from changes to water quality standards should occur only after a transparent process involving consideration of costs and benefits.

This report assesses the relevance of the above principles to local water authorities and explores other principles in the light of submissions made during the course of the inquiry.

The Tribunal must have regard to a wide range of matters listed in Section 15 of the Independent Pricing and Regulatory Tribunal Act 1992. During the course of this review, amendments to the legislation added further matters to Section 15 and reporting requirements were made more specific in Section 15(2).

Schedule 4(5) of the Act requires the Tribunal to use its best endeavours in investigations begun before the commencement of the amendments to cover the additional matters and to include a statement of the reasons why it did not have regard to any of the matters concerned.

This review was at an advanced stage when the amendments commenced in January 1996 and it was not possible for the Tribunal to specifically address each additional matter. However the wide scope of the terms of reference has meant that the Tribunal has given comprehensive consideration to most of the major new matters.

The findings and recommendations of the inquiry are as follows.

Chapter 2: Structural and regulatory reform

Recommendation 2.1

The objective of competitive neutrality is to prevent any artificial advantage for government owned enterprises, thereby ensuring that potential competition, and the advantages it brings, are not lost.

Recommendation 2.2

National Competition Policy requires the business elements of water services to be separate from any regulatory functions that local water authorities might exercise. The purpose of this separation is to encourage the providers of water services to be as competitive and business-like as possible. The Tribunal endorses this approach wherever practicable. Competitive neutrality requires that local water monopolies be treated as far as possible like other public and private enterprises. The Tribunal endorses the application of the principles of competitive neutrality, where appropriate.

Recommendation 2.3

Standards set for water extractors and dischargers will be influenced by the work of the Healthy Rivers Commission and the formulation of river flow and water quality objectives. Ultimately there may be cost and price implications for some local authority water services. The Tribunal endorses full local authority involvement in these processes. A catchment-based approach will work only if local water authorities are involved in the process and develop a sense of ownership of the results.

Recommendation 2.4

The Tribunal supports continuous efforts to introduce competition into the market for providing consulting services to water authorities in country towns. The Department of Public Works and Services is likely to provide most of these solution development, design and project management services for some time.

Recommendation 2.5

The Tribunal encourages the monitoring and reporting of the effects of the separation of the role of operator from other functions in the delivery of bulk water, on the costs to the local authorities and other users purchasing water from the Fish River and South West Tablelands Water Supply Schemes.

Recommendation 2.6

The Tribunal believes that, while the option of licensing larger country authorities should remain under review, the practical difficulties and costs of licensing all 130 authorities outweigh the benefits of such an approach. The Department of Land and Water Conservation (DLWC) has suggested, as an alternative to licensing, an accreditation scheme based on external quality audits. The Tribunal believes this approach may have merit and urges the DLWC to further develop the concept.

Recommendation 2.7

Pressure will develop as community expectations are raised to meet enhanced drinking water quality guidelines. In some cases, little incremental expenditure will be required. In other situations, expensive upgrades will be required to meet water quality guidelines. Where authorities can demonstrate that safe and aesthetically acceptable water is currently available, upgrades should occur only after extensive community consultation and demonstrated willingness of the affected community to pay.

Recommendation 3.1

The Tribunal acknowledges that the adoption of business plans resulted in a culture change for many local water authorities. Such plans are permitted under the 1993 Local Government Act. The Urban Services Division of the DLWC has developed guidelines for introducing these plans in consultation with Councils and the Local Government and Shires Association. The plans have resulted in cost effective decisions. IPART encourages local authorities to publicise any water service cost savings achievements.

Recommendation 3.2

Progress is being made in reporting performance indicators compiled by DLWC on a basis which identifies individual service providers. This will assist yardstick competition. Disclosure, however remains patchy, impairing the usefulness of the information. The Tribunal supports a move to comprehensive disclosure and further analysis and interpretation of performance differences.

Recommendation 3.3

The Tribunal acknowledges the usefulness of the approach used in the pilot benchmarking project. DLWC should publicise the project results and encourage Councils to participate in further benchmarking activities.

Recommendation 3.4

The Tribunal recognises the wide diversity of circumstances that influence the best use of contracting out. Cost effective outcomes should be the focus. The degree of contracting out must remain a matter for local authorities to determine. Artificial barriers to contracting out should be removed. The amount of contracting out may not be a helpful component of comparison reporting.

Recommendation 3.5

Rationalisation may be possible for services already provided under the county council structure or through special purpose bulk supply schemes. The Tribunal will continue to review these situations. Individual councils have a responsibility to their constituents to facilitate informed discussion about the implications for costs of amalgamations, or the joint or specialist provision of water services.

Recommendation 3.6

The Tribunal recommends that local authorities familiarise themselves with the guidelines developed by the Urban Water Research Association of Australia/Agriculture and Resource Management Council of Australia and New Zealand as a means of ensuring cost effective services for small communities.

Recommendation 3.7

There is a need for a review of the approvals required for sewage treatment works to ensure there is no duplication between DLWC and EPA particularly in view of the likely introduction by the EPA of load based licensing of effluent discharge.

Recommendation 3.8

Management of liquid waste is another concern. A variety of lower cost options for management of liquid waste by small communities has been identified. Some involve no departure from the status quo. Others will require individual households and councils to pay additional costs. Provision of financial assistance to any already provided under state government programs should be considered only if there is convincing evidence of external effects that a community cannot afford to rectify. The Tribunal advocates a case by case approach to identifying least cost options for meeting site specific requirements for efficient management in each small town.

Recommendation 4.1

As an urgent first step to reform, the Tribunal supports the view that all local water authorities should move to recover operations, maintenance and administration costs.

Recommendation 4.2

The Tribunal supports the achievement of 'minimum business cost recovery', as defined by the COAG Expert Group on Asset Valuation Methods and Cost Recovery Definitions for the Australian Water Industry, as an appropriate minimum goal for all country town water authorities in the medium term. It notes, however, that 'provision for renewals' is open to interpretation by authorities because it introduces questions about the appropriate debt /equity structure of authorities and the burden of cost recovery to be borne by present - v - future users in local communities.

Recommendation 4.3

The Tribunal recommends that local water authorities review the annuities approach to capital renewals charges in order to assess whether it suits their own needs.

Recommendation 4.4

The Tribunal considers that positive real rate of return targets can be appropriate in choosing and charging for new investments in water services in country towns, provided other measures of cost effectiveness are established and informal price restraint is imposed through yardstick competition.

Recommendation 5.1

The Tribunal emphasises the importance of canvassing the views of local communities regarding:

- a) how in-stream water quantity and quality should be improved
- b) the most acceptable means of paying for these improvements.

The cost of achieving environmental goals may be reduced substantially by easing restrictions on pumping at times of greatest need.

Recommendation 5.2

The Tribunal considers that further evidence of willingness to pay for improved in-stream water quality will assist the process of setting realistic water quality objectives for catchments in NSW.

Recommendation 5.3

The Tribunal notes that further effort is required to achieve the necessary understanding between the EPA and some local water authorities concerning EPA requirements regarding effluent treatment and discharge.

Recommendation 5.4

The Tribunal recommends that a catchment-wide approach be used to improve water quality. The introduction of load based licensing of point source discharges may help to reduce the burden of abatement costs through a catchment-wide approach.

Recommendation 5.5

The Tribunal recommends that local governments explore a separate drainage charge to provide funds for stormwater management. Drainage charges should depend on land area, land use, development intensity and pollution potential. They should be separate from the general rate and free from rate pegging restrictions. As suggested by the DLWC, the charging regime should allow flexibility of application so that 'top of catchment' problems can be addressed by a local charge per residential lot. Larger subregional flooding and pollution problems could attract a council-wide rate.

Recommendation 5.6

Holding inquiries and establishing river flow and water quality objectives assist a joint approach to extractions and discharges. New effluent charges will help achieve the objectives. The Tribunal urges that further ways of achieving the objectives be explored and implemented.

Recommendation 6.1

Prepaid water allowances contain undesirable elements of cross-subsidy. That means small users help to pay for the costs of water use by larger volume consumers. These cross subsidies are far from transparent and are unfair and undesirable.

Recommendation 6.2

In most circumstances the Tribunal prefers that a simple two-part tariff with a single usage component based on the marginal cost of provision. However, as a transitional measure, inclining block tariffs can be useful in reducing the impact of a move away from property value based charges which include a prepaid water allowance.

Recommendation 6.3

In some small systems, however, there may be little gain in efficiency terms from moving to a user pays based system. These include systems where extractive demands are low compared to availability, the marginal cost of supply is low, customers are unmetered and metering costs are high. Very few water supply systems are likely to fall into this category.

Recommendation 6.4

Local councils should consider introducing a transitional compensation scheme for families affected adversely by the introduction of usage related pricing. This could be funded by either the water supply operator or the water local authority.

Recommendation 6.5

The Tribunal reiterates its view that community service obligations (CSO's) are essentially an issue of government policy and, as such, a matter for governments. The Tribunal considers that the preferred method of funding CSOs is through explicit and transparent government payment.

Recommendation 6.6

In introducing a user pays pricing system, councils should eliminate any significant cross subsidies. Explicit government payments can be used, where necessary, to ensure that community service obligations are met. This is particularly important in situations where the source of funding for the cross-subsidy is limited.

Recommendation 6.7

The Tribunal considers that, in most circumstances, the net benefits of volumetric charging for domestic sewage management have yet to be demonstrated. Sewage charging should be fully cost reflective and should include all costs of bringing effluent to acceptable quality levels for discharge.

Recommendation 6.8

The Tribunal is satisfied that the principles underlying the Urban Water Division of the DLWC's revised Model Trade Waste Policy are consistent with those already endorsed by the Tribunal for large urban authorities. The model policy provides a useful framework which country authorities can use in developing their acceptance of policies and charges.

Recommendation 6.9

The Tribunal encourages water authorities to explore the findings of the Water Demand Management Forum and to test the usefulness of its suggested approaches to modelling demand management.

Recommendation 6.10

The benefits of demand management will vary with the costs avoided. The Tribunal agrees that the benefits may often appear largest where substantial capital augmentation costs are at stake. However, the Tribunal considers that the potential to avoid operating and environmental costs still provides a strong reason to promote demand management in other situations. Any loss to revenue through optimal demand management can be offset through savings in operating costs and changes in standing charges. Revenue reductions should not be used to rule out beneficial demand management, but it is necessary to consider whether the benefits (including environmental benefits) of demand management outweigh the costs.

Recommendation 6.11

The structure of bulk water charges for towns will be considered as part of the Tribunal's bulk water inquiry. The Tribunal sees merit in DLWC costs being dependant on usage, and in a DLWC charging system which includes a pay-for-use element. The Tribunal recognises that many of the costs associated with storage and resource regulation are independent of water sales. A significant component of costs are fixed when users extract water from regulated streams.

Recommendation 6.12

The Tribunal does not recommend the use of a resource rent charge. Instead monitoring, metering and the clear definition of property rights over groundwater resources should be implemented.

Recommendation 6.13

There is an urgent need for the DLWC to clarify caps on entitlements for towns with contracting populations as well as those which are growing.

Recommendation 6.14

The Tribunal will give further consideration to charging arrangements for the South West Tablelands Water Supply and Fish River government trading enterprise.

Recommendation 6.15

Local councils need to have adequate cash management practices in place to ensure that they build appropriate reserves so that revenue instability will not impede the introduction of usage-based pricing.

Recommendation 6.16

Despite the costs incurred in introducing quarterly metering and charging, this option should be seriously considered by councils facing large seasonal population variations.

Recommendation 7.1

The Tribunal does not propose recommending a specific debt service ratio. Decisions regarding debt servicing should remain in the hands of local councils, and councils should be cautioned that debt avoidance may lead to excessive charges in areas experiencing substantial growth.

Recommendation 7.2

The Tribunal considers that developer charges should be calculated by first working out a capital charge for the particular works serving the development, and then subtracting a reduction amount to avoid double charging. The reduction amount should reflect the amount which users of a development will be paying over time through future annual charges.

Recommendation 7.3

Subject to further confirmation of its practical application, the Tribunal continues to support the net present value (NPV) method of calculating developer charges. For country towns this approach should be regarded as providing a maximum calculation of such charges. Where councils elect to offer more favourable terms to developers, the cross subsidies involved should be transparent.

Recommendation 7.4

The Tribunal considers that adequate flexibility exists in the Local Government Act 1993 to apply charges similar to developer charges for the extension of water services to existing towns, villages and rural customers.

Recommendation 8.1

In the interests of transparency and to facilitate performance comparisons, the Tribunal encourages the DLWC to provide the Tribunal, on an annual basis, with a summary of performance for each local water authority.

2 STRUCTURAL AND REGULATORY REFORM

This review was conducted at a time of substantial changes in the structural, competitive and regulatory environment for water authorities. This chapter reviews the impact of these changes on local government water authorities.

2.1 Principles of reform emerging from COAG meeting on National Competition Policy

A National Competition Policy was ratified by the Council of Australian Governments (COAG) in April 1995. The policy is contained in three intergovernmental agreements. One of these, the Competition Principles Agreement, sets out the major competition policy reforms. In its *Policy Statement on the Application of National Competition Policy to Local Government*¹, the NSW Government indicated that competition policy should promote other economic, social and environmental policies by “creating a policy environment in which the costs and benefits of government regulation and service provision are subject to transparent assessment.”

Three aspects of competition policy are relevant to pricing principles for local water authorities:

- (i) recommendations regarding the separation of regulatory functions from business operations
- (ii) the introduction of the principle of competitive neutrality into the provision of water supply services
- (iii) the *nature* of competition implied by the Competition Principles Agreement (a component of the National Competition Policy signed by the Commonwealth, State and Territory governments) for local government monopoly businesses such as local water authorities.

2.1.1 Separation of regulatory functions and business operations.

The COAG agreement on National Competition Policy suggests that structural reform is needed to separate the noncontestable regulatory functions of a monopoly from commercial activities, which can be subject to competition. Before the potential for competition of any form can be introduced, any regulatory powers held by an operator over existing or potential competitors must be removed. This prevents the local water authority, typically a council, in its capacity as a regulator, from setting policies or imposing fines or taxes that would benefit its own established local water services provider to the detriment of (potentially) competing firms. As discussed below, the scope for such competition may be confined to in-house provision versus contracting out.

Where general councils also run water services operations, the regulatory planning powers of councils and water services operations remain to some extent under one institutional roof. In this case, the National Competition Policy suggests that clear walls should separate business activities from regulatory activity.

¹ NSW Government, *Policy Statement on the Application of National Competition Policy to Local Government*, June 1996.

2.1.2 The introduction of competitive neutrality into the provision of water supply services.

Although the state government recognises the merits of separating the potentially competitive and the non-contestable functions of local government monopolies, the Tribunal understands the state government has no immediate plans for reforms in this area. The government's policy statement gives greater emphasis to the application of the principles of competitive neutrality.

On this matter the NSW State Government has commented:

"The Government considers that competitive environments for local government services can be stimulated by applying the principles of competitive neutrality to the commercial activities of local government, where appropriate."²

The COAG Competition Principles Agreement sets out a number of corporatised principles. Among these are:

- adopting a corporatisation model for business activities
- inclusion of a fee for guaranteeing debt if a council-owned business benefits from council's borrowing position as compared with commercial borrowing rates
- including an appropriate return on capital invested
- making explicit any subsidies and the funding sources of these subsidies
- operating within the same regulatory framework as private sector enterprises
- including the in costs of the same federal, state & local government taxes and charges paid by private sector enterprises.

Recommendation 2.1

The objective of competitive neutrality is to prevent any artificial advantage for government owned enterprises, thereby ensuring that potential competition, and the advantages it brings, are not lost.

While existing services are provided under monopoly arrangements, competitive neutrality would mean no artificial barriers to entry or to competition *for* the market (i.e. competition to be the service provider). However, where no private sector provider would be interested in competing to be the service provider, then the application of competitive neutrality principles alone would do little to encourage cost minimising behaviour by public enterprises.

Under the Competition Principles Agreement, all *significant* business activities of local government authorities must be subject to corporatisation principles. The NSW government has decided, in consultation with the NSW Local Government and Shire Association, that local government business activities with annual sales turnovers in excess of \$2 million fall into this 'significant' category. The Tribunal expects a significant number of the local water authorities covered by this inquiry would be considered as 'significant business activities'.

The corporatisation model to apply to these activities does not require formal or legal incorporation as a separate organisation, but the activities must be separately identified

² NSW Government Policy Statement on the Application of National Competition Policy to Local Government, June 1996, p.4.

within the operations of the local council. The business would be expected to generate a return on capital employed that is 'comparable to rates of return for private sector businesses operating in a similar field'.³ The Tribunal understands that the state government has no plans requiring dividends to be paid to it. In fact, any dividends are to be 'retained by the council as the owner of the business'⁴

2.1.3 The nature of competition for local government monopoly businesses such as water authorities.

Given that there can be no real competition among water distribution networks servicing final consumers, competition is restricted to:

- (a) competition for the *right to provide* water services through franchise agreements, as is common in provincial France. As noted below, however, private sector interest in small schemes may be slight. Furthermore, the consequences of exchanging private monopoly operation for public provision in smaller schemes are not clear.
- (b) firms can compete for the *provision of inputs* into the service (eg through competitive tendering arrangements). Any cost reductions gained through the latter avenue for competition should then be reflected in pricing policies.

2.2 Access to infrastructure

Third parties can seek access to use significant infrastructure under Part IIIA of the Trade Practices Act (Cth) 1974 (in cases of national significance) or through state based access regimes where these are in place.⁵ In the case of a water authority, persons could theoretically seek access to transport their own water through the authority's water distribution network.

The Tribunal understands that, from NSW government consultations with the Local Government and Shires Association, no local councils appear to own or operate services that require the establishment of state based access regimes.⁶ In the case of water supply services, the Tribunal doubts the usefulness of such an access regime. Given existing water supply arrangements it is unlikely that competing suppliers would be able to find alternative water supplies which they could feasibly use to supply consumers via existing water distribution systems.

Recommendation 2.2

National Competition Policy requires the business elements of water services to be separate from any regulatory functions that local water authorities might exercise. The purpose of this separation is to encourage the providers of water services to be as competitive and business-like as possible. The Tribunal endorses this approach wherever practicable. Competitive neutrality requires that local water monopolies be treated as far

³ NSW Government Policy Statement on the Application of National Competition Policy to Local Government 1996, p.10.

⁴ Ibid.

⁵ From 20 July 1996, local government business activities will be subject to the prohibitions on anticompetitive behaviour prescribed in Part IV of the Trade Practices Act.

⁶ NSW Government Policy Statement on the Application of National Competition Policy to Local Government, June 1996, p.6.

as possible like other public and private enterprises. The Tribunal endorses the application of the principles of competitive neutrality, where appropriate.

2.3 Commercial refocusing of councils

Some councils have questioned why water services are regarded differently from other services of a public goods nature that are provided by local councils, such as education services, libraries, health services and so on. For example, in its submission to the Tribunal, Bathurst Council states that it sees its role as caring for and being custodian of its community.⁷ Bathurst Council suggests that this mission may conflict with a commercial focus.

This view fails to recognise the separation of the various aspects of the service provided by the council. The provision of water services has a public health aspect, but also provides benefits to particular individuals. Ensuring that each individual has access to an adequate supply of clean water constitutes provision of a social good because the benefits accrue more widely than to the individual. The Earth Summit in Rio de Janeiro in 1992 reported that the minimum requirement was 40 litres per day for urban users or 15kL per year.⁸ This is considerably less than the 'free allowance' currently provided by many councils. However, even this minimum provision has consumption good aspects because the individuals themselves benefit from their own consumption. Providing all individuals with access to a minimum level of water at no cost and regardless of ability to pay, could be considered by the community to be equitable. The community may therefore choose to fund the provision of minimum levels of free water either on the basis of public good or out of concern for equity.

Other components of water usage benefit only the individual consumer. Filling a swimming pool, washing a car or watering the garden are not essential for public health. Individual consumers of water should bear the full cost of provision when the full benefits of consumption accrue to them alone.

2.3.1 Community service obligations (CSOs)

In the Tribunal's major inquiry into water pricing, community service obligations were verified as being:

- a government requirement for an activity to be undertaken
- a recognisable community or social benefit from undertaking the activity
- an activity that would not be provided on a purely commercial basis.

As water supply and liquid waste management could be provided on a commercial basis, they are therefore *not* community service obligations. (See Chapter 6 on the funding of community service obligations.)

The National Competition Policy recognises that government business enterprises can and should be run with regard to the most efficient means of providing the relevant services.

⁷ Dubbo hearings, February 29 1996, p.64.

⁸ Proceedings of the United Nations Conference on the Environment and Development, Rio de Janeiro, June 1992, chapter 18.

Although local government legislation requires councils to provide water services, it does not preclude a commercial focus in the provision of these services. Thus, the essential services argument does not support providing water services on other than a commercial basis.

2.4 Structural and regulatory reforms

The regulatory structure of the water industry, of which local water authorities form a part, is still evolving in NSW. The following three recent initiatives illustrate this.

2.4.1 River Flow Objectives and Water Quality Objectives

The Environment Protection Authority (EPA) is now responsible for coordinating the development of interim river flow objectives (RFOs) and water quality objectives (WQOs) for all catchments in the state. The objectives are being developed with input from other key instrumentalities, including the Department of Land and Water Conservation (DLWC). This input includes consideration of the economic impacts. Interim objectives are due for release in late 1996. Longer term objectives will follow an in depth public inquiry process, on a catchment-by-catchment basis. The water quality objectives will be set in terms consistent with ANZECC National Water Quality Management Strategy Guidelines for Fresh and Marine Waters.

2.4.2 Healthy Rivers Program

Simultaneously, the government is proceeding with a Healthy Rivers Program under which catchments are being reviewed systematically. Joint state processes are being established to handle interstate water allocation and management issues. A Border Rivers Water Allocation Management Plan is being developed by water resource managers in New South Wales and Queensland. The management plan will involve input from a steering group at agency level, an expert panel, and stakeholders. It is understood that the stakeholder group will include local councils. The Murray-Darling Basin Commission is establishing an expert panel to deal with similar issues for New South Wales, Victoria and South Australia.

Recommendation 2.3

Standards set for water extractors and dischargers will be influenced by the work of the Healthy Rivers Commission and the formulation of river flow and water quality objectives. Ultimately there may be cost and price implications for some local authority water services. The Tribunal endorses full local authority involvement in these processes. A catchment-based approach will work only if local water authorities are involved in the process and develop a sense of ownership of the results.

2.4.3 Department of Land and Water Conservation

The third major institutional change to be made recently was the amalgamation of the departments of Conservation and Land Management and Water Resources. Many of the water related functions of the Department of Public Works have also been transferred to the new Department of Land and Water Conservation.

These changes have gone some way to address potential conflicts of interest that might arise if a single agency continued to perform such functions as the authorisation of sewerage treatment plants, the development of policy and capital works funding, the

provision of project management services, and the operation of two bulk water supply schemes.

Under present arrangements, the Department of Public Works and Services provides solution development, design and project management services for councils on a consultancy basis. According to the DLWC submission, the Division:

'develops and implements strategies to assist councils to achieve best practice in planning, management and operation, assists councils to meet the requirements of resource managers and regulators, represents council interests with resource managers and regulators in terms of impact of policy proposals on affordability, and provides advice to government on country town water, sewerage and drainage services'.⁹

The DLWC claims there are clear efficiency advantages in a centralised unit's carrying out all these activities.

Recommendation 2.4

The Tribunal supports continuous efforts to introduce competition into the market for providing consulting services to water authorities in country towns. The Department of Public Works and Services is likely to provide most of these solution development, design and project management services for some time.

DPWS will continue to operate the two bulk water supply schemes, South West Tablelands and Fish River, for which DLWC is responsible. The letting through public tender of operations and maintenance for those schemes is a possibility.

The separation between management and operation functions for these two schemes contrasts with the rest of the state, where the DLWC fulfils both roles to some extent. The 'operator' (DPWS) needs to meet the requirements of DLWC (owner) which uses these schemes as a test bed for innovation in areas such as two part pricing for bulk water, capacity sharing and asset management.

Recommendation 2.5

The Tribunal encourages the monitoring and reporting of the effects of the separation of the role of operator from other functions in the delivery of bulk water, on the costs to the local authorities and other users purchasing water from the Fish River and South West Tablelands Water Supply Schemes.

The issue of appropriate roles for water managers, regulators and operators has arisen in the Tribunal's inquiry into bulk water pricing. While there are advantages in clearly defining separate roles, separation also poses coordination problems.

In its Major Inquiry report (p72) the Tribunal notes that:

- responsibility for in-stream water quality is divided among a number of agencies (responsibilities for coordinating action between these agencies are not clearly specified)
- there is no provision for catchment-based coordination of the management of stormwater
- despite the close relationship between abstraction and discharge, these functions are licensed by separate organisations

⁹ DLWC submission, p.24.

- there are no clear rules for delivering the release of water from storages for environmental purposes.

These deficiencies in the institutional arrangements have been remedied only partially. Giving responsibility to the Environment Protection Authority (EPA) for coordinating the RFO/WQO program has addressed the first of these concerns, at least in terms of objectives. The means for achieving those objectives, once set, remains unclear.

The DLWC is in the process of developing operating agreements for its major dams which will impose resource management and environmental constraints on the operator. However, the overall framework for delivering acceptable outcomes across catchments is still lacking.

The beneficial effects of separating the operating function of local water authorities from their regulatory functions will be enhanced if the state provides further directions on how catchment based water resource objectives are to be implemented.

2.5 Operating licences

Operating licences have been formulated for some of the larger urban authorities which have a clear identity and a clearly defined commercial role. Operating licences are a necessary adjunct to corporatisation, ensuring satisfactory pursuit of non-commercial objectives. However, few local water authorities are likely to be corporatised.

The benefits of introducing such operating licences for smaller authorities are questionable. Any proposal to have individual councils license their water authorities would be fraught with difficulties because it would be hard to achieve common standards and comparability. Local authorities have pointed to the administrative complexity and costs faced by a single licensing authority in formulating licences that could span the great diversity of extraction, treatment, delivery and discharge circumstances across the state. If either the DLWC or the EPA were required to undertake this task, it would add to their already significant administrative costs. These costs would need to be recovered through licence fees.

Recommendation 2.6

The Tribunal believes that, while the option of licensing larger country authorities should remain under review, the practical difficulties and costs of licensing all 130 authorities¹⁰ outweigh the benefits of such an approach. The Department of Land and Water Conservation (DLWC) has suggested, as an alternative to licensing, an accreditation scheme based on external quality audits. The Tribunal believes this approach may have merit and urges the DLWC to further develop the concept.

2.6 Drinking water quality guidelines

Although not required to do so by the formal regulatory structure, local water authorities have succeeded in meeting drinking water quality guidelines. This is an important measure of comparative performance. These guidelines have therefore become part of the informal regulation of the sector. The 1987 National Health and Medical Research Guidelines aimed to ensure that water was aesthetically acceptable and safe to drink.

¹⁰ This includes 126 councils, Broken Hill and Cobar Water Boards, and the Fish River and South West Tablelands Government Trading Enterprises.

Stricter 1996 guidelines, based on 1993 World Health Organisation Guidelines, were released recently.

A number of organisations, while accepting the desirability of meeting the 1987 guidelines, have pointed to the onerous costs of the stricter 1996 draft guidelines. These are more demanding in respect to water turbidity and the presence of coliforms, in particular. Central Tablelands County Council states in its submission that the costs of meeting these tougher guidelines are prohibitive.¹¹ In many cases where raw water sources suffer from turbidity problems, full filtration may be the only method by which such guidelines can be met. Coffs Harbour Council suggests that the stricter guidelines will necessitate full treatment at a capital cost of \$9.4 million and that such a step will depend on the level of service negotiated with its customers.¹²

The DLWC reports that only approximately 60 per cent of customers in urban areas of country NSW have a supply that is filtered and disinfected, and would thus be capable of meeting these later guidelines. The costs of upgrading statewide are approximately \$250 million. Further expenditure may be necessary to deal with algal blooms.

Recommendation 2.7

Pressure will develop as community expectations are raised to meet enhanced drinking water quality guidelines. In some cases, little incremental expenditure will be required. In other situations, expensive upgrades will be required to meet water quality guidelines. Where authorities can demonstrate that safe and aesthetically acceptable water is currently available, upgrades should occur only after extensive community consultation and demonstrated willingness of the affected community to pay.

¹¹ Central Tablelands County Council submission, p.1.

¹² Coffs Harbour City Council submission, p.1.

3 IMPROVING THE LINK BETWEEN COSTS AND WATER SERVICE CHARGES

Two fundamental principles form the core of efficient pricing in the water sector:

- (i) that services should be provided at least cost
- (ii) that customers' charges should reflect these costs.

Only if these two principles are followed can the community be assured that the right amount of its scarce resources is being devoted to providing water related services.

3.1 Business plans

Particular care is needed to achieve efficient pricing when a full commercial focus and a competitive environment are missing, which is often the case for local water authorities. In their submissions, councils stress that elected councillors must answer to their electorates and this introduces a strong discipline to run their operations efficiently and avoid waste.

On the other hand, the requirement to develop business plans, which was imposed upon councils through the 1993 Local Government Act, has helped to open to greater scrutiny the cost effectiveness of council decisions, for which elected councillors are ultimately answerable. Business plans have also improved the commercial focus of councils' water services operations.

Recommendation 3.1

The Tribunal acknowledges that the adoption of business plans resulted in a culture change for many local water authorities. Such plans are permitted under the 1993 Local Government Act. The Urban Services Division of the DLWC has developed guidelines for introducing these plans in consultation with Councils and the Local Government and Shires Association. The plans have resulted in cost effective decisions. IPART encourages local authorities to publicise any water service cost savings achievements.

Elected officials may not be under the same pressure to achieve *cost reflective* pricing. Southern Riverina County Council (Energy South) has pointed out that while pressure from customers and councillors contributes to cost containment, it can also contribute to the underpricing of water services.¹³ Indeed, suggestions that prepaid water allowances should be removed in some jurisdictions where they still apply have been vigorously opposed and there is evidence from some councils that such changes would exact a heavy electoral toll at local government elections.¹⁴ Yet, as the Local Government and Shires Association (LGSA)¹⁵, among others, acknowledges, these 'free' water allowances can conflict with demand management measures, weakening incentives for consumers to avoid costs through 'waterwise' behaviour.

3.2 Benchmarking and yardstick competition

In the absence of competitive influences on water charging or price regulation, other means must be found to provide services cost-effectively and avoid overservicing. In the course of its inquiry the Tribunal has considered the use of *benchmarking* and *yardstick competition* to

¹³ Wagga hearings, 6 March 1996, p.133.

¹⁴ Wagga hearings, 6 March 1996, p.37.

¹⁵ Local Government and Shires Association submission, p.12.

do this. Benchmarking refers to the identification of best practice and comparison of individual authorities' performance with best practice. Yardstick competition involves the publication of a range of performance indicators for water authorities and drawing comparisons on the basis of these indicators. Both have received broad but qualified support.

The chief source for yardstick competition is the annual performance comparison prepared by the DLWC's Urban Services Division, *NSW Water Supply and Sewerage Performance Comparisons*. In the quest for more meaningful performance comparisons, the DLWC has arranged for financial cost data to be segmented for reporting purposes into identifiable sources such as dams, treatment works, pumping stations, etc. The performance comparisons are discussed in detail in the issues paper for this inquiry.¹⁶ The DLWC also provides country NSW data to ARMCANZ for national performance comparisons.

Most councils participate in the performance comparisons, but participation is voluntary and the reported results have, until recently, been anonymous and aggregated into groups. In a recent move, the Urban Water Division of DLWC, has identified some suppliers in reporting various performance indicators. The results for individual councils are now being disclosed for indicators including water and sewerage bills per average residential customer, real rates of return on assets, and operating costs per property.

However, the usefulness of such information in its present form is still questionable. Not all results have been identified and in some cases very few participants' performances have been disclosed. For example, operating sales margins for water suppliers operating schemes for small communities between 500 and 1500 population are only identified for two such schemes. Typically the poorest performing schemes according to each indicator remain anonymous.

The usefulness of these performance comparisons would be further enhanced by consistent choice of measurement units. While the per kilolitre charge for water is reported for all schemes, it is not clear what this means, since many schemes are yet to introduce full usage based pricing. For those schemes which have introduced two part or inclining block tariffs it would be informative to report both access charges and volumetric components. While operating costs *per property* are identified or approximately one quarter of the schemes, operating costs per kilolitre of water supplied are not identified or reported.

On a positive note, DLWC has indicated water supply systems where water is provided without treatment (and therefore where treatment costs are avoided). Such information makes comparisons more meaningful. With possible changes to the prices at which councils receive their bulk water supplies it would be useful to reveal present differences in raw water prices across schemes.

However, some councils might choose not to participate if results were reported on a transparent individual basis. There is also a need to explain performance differences that are **not** management related because they are readily attributable to uncontrollable factors such as geography and system age.

¹⁶ Issues paper, p.17.

Recommendation 3.2

Progress is being made in reporting performance indicators compiled by DLWC on a basis which identifies individual service providers. This will assist yardstick competition. Disclosure, however remains patchy, impairing the usefulness of the information. The Tribunal supports a move to comprehensive disclosure and further analysis and interpretation of performance differences.

Although performance comparisons can help to provide information and discipline, they can also have adverse consequences if they are misused. There is a danger that the publication of water prices could provide false signals for authorities that are seeking an acceptable per kilolitre price to introduce in their own systems. Use of others' prices to justify a local price could work against cost-reflective pricing.

The DLWC does not consider that yardstick performance comparisons will generally lead to large scale improvements in performance. It is more optimistic about benchmarking. DLWC and LGSA have jointly sponsored a pilot benchmarking project to encourage introduction of best management practice in the provision of water supply and sewerage services. The project was funded by local government and overseen by a committee drawn from DLWC, LGSA and Sydney Water.

The DLWC has advised the Tribunal that the objective of the project was to develop and implement a methodology for a group or syndicate of councils to use benchmarking techniques to identify best practice in operation and maintenance of sewage collection and transport systems. Each council would then monitor and quantify the benefits and savings generated by these practices.

The Steering Committee would use the pilot project to prepare guidelines on syndicate benchmarking for water sewerage and drainage services to assist other councils.

The seven councils in the project team were selected from a group of 24 councils which responded to calls for expression of interest and were the operators of larger sewage collection and transport system within NSW.

Certain specific aspects of the operation and maintenance of sewage collection systems were identified as the priority areas for benchmarking. These were:

- maintenance of sewage pumping stations capable of being done by staff without trades qualifications
- electrical and mechanical maintenance of sewage pumping stations
- maintenance of reticulation.

After analysis of work processes and performance drivers, a questionnaire was prepared and circulated to potential benchmarking partners. Best practice was identified through a program of visits to the selected benchmarking partners. This allowed participants to identify performance gaps in their own operations. Plans for improvements were then made on the basis of the findings from these visits.

The councils represented on the project team estimated they could achieve a net annual saving of about 20% of their total sewage collection and transport operating budget. If these benchmarking techniques were applied by local government on a state-wide basis it is estimated that savings of some \$15m per annum could be made.

A comprehensive report on this project is being finalised by DLWC and will be distributed to all NSW councils. DLWC and LGSA propose to conduct regional workshops to facilitate widespread implementation of benchmarking by councils. The workshops will cover syndicate benchmarking and integration of benchmarking with a council's management cycle to achieve best practice and continuous improvements in delivery of water supply and sewerage services.

Recommendation 3.3

The Tribunal acknowledges the usefulness of the approach used in the pilot benchmarking project. DLWC should publicise the project results and encourage Councils to participate in further benchmarking activities.

3.3 Contracting out service provision

Although water authorities are typically the sole providers of the final services, competition for the right to supply some services to these authorities may help to minimise costs. The relevance of National Competition Policy to this contracting out is discussed above in Chapter 2.

The Tribunal has been provided with examples of how the great diversity in the circumstances of individual authorities influences opportunities for contracting out. Many councils have suggested that markets in some of the key services are not well developed, particularly in remote areas. Contracting out for emergency work at short notice can carry unacceptable risks. Bathurst Council commented that contractors can go out of business and that this creates problems for councils that would not arise with in-house provision.¹⁷ Other authorities provided examples of successful contracting out, including local plumbers operating small treatment works under contract.

Where general purposes councils are also water service providers, there may be opportunities for sharing in-house skills and equipment between water and other services. In other instances, there may be scope to share skills and equipment between neighbouring authorities. If so, there may be fewer genuine opportunities to reduce the overall costs of council services by contracting out than exist for special purpose authorities. These are matters for careful consideration by the individual authorities.

Recommendation 3.4

The Tribunal recognises the wide diversity of circumstances that influence the best use of contracting out. Cost effective outcomes should be the focus. The degree of contracting out must remain a matter for local authorities to determine. Artificial barriers to contracting out should be removed. The amount of contracting out may not be a helpful component of comparison reporting.

3.4 Potential for efficiency gains by restructuring local authorities

It is often hard to compare the efficiency of different types of organisation and resistance to change is to be expected. General councils stress the importance of economies of scope and the benefits of local government sovereignty. Single purpose agencies have identified opportunities for amalgamating water services and the advantages that would flow from this.

¹⁷ Bathurst Council submission, p.1.

In the south-central part of the state there may be an opportunity for some rationalisation of water services. Southern Riverina Electricity and Water has identified the need to review supply arrangements in the area serviced by Southern Riverina, Northern Riverina and South West Tablelands.¹⁸ Supply networks cross many local government boundaries in this area and changes to electricity supply arrangements require existing organisational structures to be reconsidered. This situation can be contrasted with the relatively compact and self contained local government areas that are usually served by a single authority that is answerable to the local council.

Examples of cross-boundary supply arrangements occur in the Northern Tablelands area where Tamworth City Council draws its water supplies from outside its boundaries and provides services to the neighbouring Parry and Nundle Shires. In this case, a specialist provider is not involved.

In the Murray Valley, Hume Shire Council acquires treated water from Albury city and disposes of some sewage to the Albury system.

Some small general purpose councils, depend on joint use of equipment, expertise, accounting and billing systems for water and other activities to control costs. They would experience considerable difficulties if their water services function was absorbed into a larger, single purpose authority. The costs of providing services other than water would rise for these councils. In some cases, the continued viability of the council might be questioned and amalgamation with surrounding councils might have to be considered.

Thus, the wider benefits and costs for general purposes councils need to be weighed against any efficiency gains from greater use of special purpose water authorities.

Recommendation 3.5

Rationalisation may be possible for services already provided under the county council structure or through special purpose bulk supply schemes. The Tribunal will continue to review these situations. Individual councils have a responsibility to their constituents to facilitate informed discussion about the implications for costs of amalgamations, or the joint or specialist provision of water services.

3.5 Cost effective waste disposal for small communities

Some 100,000 people living in small towns in country NSW still rely on on-site liquid waste management systems, predominantly septic tanks and absorption trenches. With adequate lot sizes and favourable soil conditions system, on-site liquid waste disposal can provide a satisfactory level of service. However, there has been a high frequency of failure of these systems when liquid waste discharged from on-site systems on small lots exceeds the evapo-transpiration and absorption capacity of the site. The waste pools on site or escapes into town drains and local waterways.

The risk to public health arises through contact with the liquid waste and extends beyond the village to neighbouring communities, to visitors to the village and to the travelling public.

¹⁸ Southern Riverina Electricity and Water submission, p.6.

Due to a lack of economy of scale, reticulated sewerage is two to four times more expensive in small villages than in larger towns. Despite inferior health and environmental outcomes, residents of such villages have often rejected reticulated services because the required annual charges (commonly in the range of \$900 to \$1200 per property) would be unacceptably high. Some communities are not applying for the assistance that is available under the Country Towns Water and sewerage Program.

Recommendation 3.6

The Tribunal recommends that local authorities familiarise themselves with the guidelines developed by the Urban Water Research Association of Australia/Agriculture and Resource Management Council of Australia and New Zealand as a means of ensuring cost effective services for small communities.

EPA has a role to license construction of sewage treatment works and subsequently to license discharge of pollutants according to certain licence conditions. DLWC approves sewage treatment works (and other major works such as dams and water treatment works) under the Local Government Act 1993. DLWC's role ensures that councils provide these major works to appropriate design standards, consistent with the Minister for Land and Water Conservation's responsibility for water supply sewerage services in country NSW.

The EPA currently licenses sewage treatment discharge under a scheme whereby licence fees are largely reflective of the scale of operations rather than the pollution load on the environment. Maximum daily volume restrictions are among the licence conditions for individual plants.

One approach being considered by the EPA, load based licensing, emphasises *outcomes*, rather than the *process* of achieving the outcomes. Charges for loads of pollutants are set to achieve target levels of effluent quality, rather than focusing on the plant. This approach offers local councils greater flexibility in how they achieve specific standards. It may be of particular relevance to small communities.

Recommendation 3.7

There is a need for a review of the approvals required for sewage treatment works to ensure there is no duplication between DLWC and EPA particularly in view of the likely introduction by the EPA of load based licensing of effluent discharge.

In 1995 the DLWC convened an interdepartmental committee to investigate ways of achieving affordable management of household liquid waste in small unsewered villages in country NSW. The objectives of the study were to: overcome health risks, improve the quality of life of residents and minimise adverse environmental impacts. The interdepartmental committee comprised representatives from NSW Treasury, the EPA, and the Department of Local Government, Health, and Urban Affairs and Planning.

The committee recommended that each local [small community] system be considered on its merits rather than adopting a rigid approach based on strict application of standards developed for larger communities and larger pollutant loads.¹⁹ The committee noted that in all cases it is likely that even with some compromise on standards, the provision of sewerage systems will significantly reduce existing environmental degradation.

¹⁹ DLWC (1996) Draft Report on Sewerage for Small Communities in Country NSW, p.4.

Minor modifications to common standards for sewage collection, transport and disposal may reduce costs. These include: using smaller reticulation main diameters, adopting flatter sewer grades and increasing the use of manhole lift pumps. These changes may cause some increase in spillage, pipe breaks and damage, maintenance difficulties and nuisance to residents.

Thus, lowering the discharge standards may reduce the cost of treating sewage, but at some increased risk to the environment. Where these risks are proportional to loads, and loads are low for small communities, consideration could be given to the merits of relaxing standards. But any relaxing of standards should be considered only in the light of potential effects on the whole river catchment. Risks must be weighed against the environmental and health risks of maintaining the status quo, and against the costs and risks of other options such as composting toilets, common effluent drainage, common effluent pumping and vacuum systems.

In many instances, existing septic and other on-site management systems may pose no risk to public health or the environment. In such cases, any decision to extend sewerage would normally be a matter for local authorities and would depend on the willingness and ability of beneficiaries and the rest of the community to pay. Small communities surveyed by the IDC consider that annual sewerage charges in the range of \$600 to \$800 per assessment are the maximum affordable (DLWC 1996).

In some circumstances there may be a case for public funding in addition to that provided under the Country Towns program. Instances include small communities whose existing systems are inadequate, but residents are unable or unwillingly to meet the gap between costs and the subsidy provided by the program. However, councils and individuals may have little incentive to disclose their true ability to meet these costs. The Tribunal is aware that it may be difficult to establish an objective test to identify these cases.

The IDC recommended the adoption of a more generous capital subsidy for communities with populations less than 1000 and growth rates of less than 1% per annum. This would involve a rate of 50% for the first \$4000 of approved cost per assessment, and a rate of 75% of the approved cost over \$4000 per assessment. In this context "approved cost" refers to the total of council's capital cost and resident's capital costs of a scheme that would serve the community at least cost. The approved cost would also include resident's operating and maintenance costs in excess of the normal connected costs to a gravity sewerage system.

The total capital cost of servicing the 150 villages identified by the committee as being high or urgent priority cases would be of the order of \$270 million. The cost to the NSW government would be \$168 million under the proposed subsidy arrangements. The committee expects that provided councils adopt appropriate low cost solutions, they would be able to provide services with off-site discharges to most villages at annual charges in the range considered affordable by council (\$600 - \$800 per assessment).

Recommendation 3.8

Management of liquid waste is another concern. A variety of lower cost options for management of liquid waste by small communities has been identified. Some involve no departure from the status quo. Others will require individual households and councils to pay additional costs. Provision of financial assistance to any already provided under state government programs should be considered only if there is convincing evidence of external effects that a community cannot afford to rectify. The Tribunal advocates a case by case approach to identifying least cost options for meeting site specific requirements for efficient management in each small town.

DLWC has advised the Tribunal that financial assistance would go to schemes which show the best opportunities for least-cost proposals, acceptable to the community, which can achieve satisfactory service delivery and environmental outcomes. Such schemes may include unconventional solutions.

4 WHICH COSTS SHOULD BE RECOVERED BY LOCAL WATER AUTHORITIES?

In setting out what it saw as appropriate prices for pricing and costs recovery, the COAG Working Group Report (1994) distinguished between urban suppliers and rural water suppliers. With respect to urban services, the Group supported the goal of full cost recovery, including a rate of return on the written down replacement value of assets. It recognised that in some instances rural services would be unable to generate such returns given the capacity of users to pay and the size of the asset base.

The COAG Expert Group (1995) urged that operations, maintenance and administration costs be recovered through water services charges for all schemes, urban or rural. This should happen either through cost reductions, increases in charges, or some combination of these.

Recommendation 4.1

As an urgent first step to reform, the Tribunal supports the view that all local water authorities should move to recover operations, maintenance and administration costs.

4.1 Goals for sustainable business operations

This minimum cost recovery will not sustain the water business as a viable financial entity in the longer term. Charges and costs need to be adjusted to meet financing costs. Authorities which recover operating costs and debt servicing costs through charges are described by the Expert Group as 'operating on a cash basis'. In COAG's view, Water operators that recover operating and debt servicing costs, and also charges for the replacement of assets with finite lives are also achieving minimum business sustainability.

Some assets, including some earthworks, will have indefinite lives. Others, such as pipe networks, are long lived but require replacement. The costs and timing of this replacement are highly uncertain. This makes it difficult to estimate the costs of asset replacement.

In the financing of asset replacement, decisions about whether to allocate internal funding or to borrow and increase debt financing is an issue of intergenerational equity, i.e. should spending today be paid for now or in the future?

Recommendation 4.2

The Tribunal supports the achievement of 'minimum business cost recovery', as defined by the COAG Expert Group on Asset Valuation Methods and Cost Recovery Definitions for the Australian Water Industry, as an appropriate minimum goal for all country town water authorities in the medium term. It notes, however, that 'provision for renewals' is open to interpretation by authorities because it introduces questions about the appropriate debt /equity structure of authorities and the burden of cost recovery to be borne by present - v - future users in local communities.

Where local authorities choose not to incur charges by contributing to future asset refurbishment, there should be no expectation that these costs will be borne by the wider community through state grants.

Some larger urban authorities are investigating the viability of an annuities approach to renewals charges for capital replacement. This approach has been adopted by some Victorian regional water businesses following the MacDonald Inquiry²⁰ in that state. Under this approach, conventional depreciation charges, which are retrospective, are replaced by a forward oriented approach based on forecasts of required replacement expenditure over some future time horizon, for example, 50 years. These requirements are then converted to an annual equivalent and included in water charges, smoothing out price increases and borrowings. In this way capital costs are treated more like to maintenance expenditures for assets which are judged to be needed in perpetuity and the costs are borne by the users rather than by future generations.

Recommendation 4.3

The Tribunal recommends that local water authorities review the annuities approach to capital renewals charges in order to assess whether it suits their own needs.

4.2 Rates of return and new investment

Most participants in this inquiry do not accept prices should recover at a rate of return on equity capital, over and above other costs. While the COAG Working Group endorses real rates of return, councils challenge their appropriateness.

The principal advantage of including a return on equity in the prices charged by public enterprises that are monopolies is its effect on allocative and operating efficiency. The owners of the business are repaid by way of a dividend or reinvestment in the business.

In competitive businesses, the achievement of a satisfactory real rate of return is a prime indicator of sound investment. The ability to cover the cost of investment will depend on the firm's other costs, the market for its services and the competition it faces.

The problem is more complex for public monopolies, including local water services. Where revenues are capped by the price regulator, as is the case for the large metropolitan authorities, insistence on a satisfactory real rate of return acts as a discipline on other costs and a check on whether any new capital expenditures are justified.

Where revenues are not capped, monopolies may be able to charge what the market will bear. Operators could, if permitted, achieve arbitrary rates of return by setting prices sufficiently above operating costs. In such circumstances the effectiveness of a rate of return in achieving efficiency improvements is diminished, especially if other incentives to achieve cost effectiveness (benchmarking, yardstick competition, etc) are not in place. If revenues are informally capped by political pressure from local government to keep water charges down, rate of return targets may have a role to play in achieving cost efficiency. They can, in these circumstances, continue to play a role in investment decisions, for example, where councils in growth areas are considering the relative merits of augmenting water services and other community investments.

The issue of 'ownership' and the appropriation of dividends is a difficult one in an industry where both the state, through past grants, and local communities, through their own contributions, have contributed to the establishment of the asset base.

²⁰ Future Management Review, Rural Water Commission (Victoria). Final Report, January 1992.

The Tribunal is not aware of any plan by the state to recover dividends from its past investment in providing water services to country towns. The NSW Government has said in relation to this:

"The business would be expected to generate a return on capital employed that is comparable to rates of return for private sector business operating in a similar field. Any dividend would be retained by the council as the owner of the business."²¹

Rates of return provide signals which assist in evaluating alternative future investments. Under present policy, future augmentations will be funded without an equity contribution by the State. Local authorities will have to determine their rate of return target for future investments in water services and how the funds generated are to be distributed between the water operator and the general community. This is a higher priority than obtaining a rate of return on past investments which can be valued only with real difficulty.

Recommendation 4.4

The Tribunal considers that positive real rate of return targets can be appropriate in choosing and charging for new investments in water services in country towns, provided other measures of cost effectiveness are established and informal price restraint is imposed through yardstick competition.

To summarise, local water operators should modify their costs and charges to at least cover operating and administration costs in the immediate future. Minimum business cost recovery, including financing costs and some contribution to renewals, is required for sustainable business operations. Where augmentations are called for, a positive real rate of return test should be applied. In recovering these costs, environmental costs need to be examined.

²¹ NSW Government Policy Statement on the Application of national Competition Policy to Local Government, May 1996, p.8.

5 ENVIRONMENTAL COSTS AND WATER RELATED COSTS AND CHARGES

Many of the initiatives under way in the State's water sector owe their origins to environmental concerns. Changes to institutional arrangements as discussed in Chapter 2, have a strong environmental component. The standard setting process is being advanced by the EPA in conjunction with the DLWC and other agencies through the establishment of river flow and water quality objectives. This process will have implications for water services in country towns. So will the introduction of load based licensing of discharges, which is currently under consideration by the EPA.

The NSW Government has noted that the establishment of objectives for water quality and environmental flows are critical steps in protecting waterways. The EPA's responsibilities are being widened to include the setting of these objectives. The objectives for water quality will be based on the National Water Quality Management Strategy using criteria defined in the *Australian Water Quality Guidelines for Fresh and Marine Waters* (ANZECC, 1992). The strategy stresses the need for community participation in setting goals for water quality.

Improvements in water quality and stream flows can be achieved by:

- reducing extraction of water
- improving the flushing of regulated rivers with environmental flows
- upgrading effluent treatment
- increasing reuse of water
- better drainage management
- improved land use practices which reduce pollution from different sources.

Country towns have the ability to contribute to many of these, but at some cost.

5.1 The costs and benefits of environmental flows

The Water Act (section 22B) provides that rights to use water may be suspended or restricted by the DLWC during periods of low flow. This is determined according to a priority ordering which places the extraction of water for domestic and town and village water supply in the last category to be affected.

Still, abstractions from rivers or from aquifers in general will need to be reduced if environmental objectives are to be achieved. Existing provisions are designed to secure household consumption in periods of drought. They may not be equitable in the context of lower abstractions in total. The development of an equitable means of imposing stricter abstraction conditions on existing users is a major challenge.

As noted in the issues paper, larger off-stream storages will be required if stricter conditions are imposed regarding pumping from rivers. Particularly in growth areas, this will add to the costs of providing water services. These costs will feed through to higher water prices. Alternatively, consumers may be faced with periodic water restrictions or the costs of supplementing supplies from rain water tanks. Irrigators will face similar costs through the need for defensive measures (on-farm storage), or reduced crop yields and incomes through reduced water supply. Citizens in a catchment will receive the benefits of river systems and of riverine ecology undergoing less stress from extractions. The quantification of these benefits is likely to prove difficult and uncertain. However, it is

important that the costs of providing environmental flows should not be overemphasised simply because they are more readily identified and measured than the benefits.

Some flexibility in imposing pumping restrictions during periods of low flow may avoid significant costs for some communities. For example, a town experiencing rapid growth may be required to establish costly off-stream storages if pumping from its river is prohibited during periods of low flow. If it is allowed to pump 'one day in two', the required capital investment may be more than halved. Where such flexibility is possible at negligible environmental cost, it is preferable to more rigid regulatory approaches.

A recent water supply augmentation for Hastings Council provides a good example. Approximately \$20m would have been added to the basic cost of the scheme (\$50m) if the town had been unable to pump during periods of very low flow (i.e. those flow levels that are exceeded 80% of the time). Relaxation of these restrictions when *town storage* was low, reduced the additional cost to \$7-10m dollars while still protecting the low flows most of the time.

Recommendation 5.1

The Tribunal emphasises the importance of canvassing the views of local communities regarding:

- a) how in-stream water quantity and quality should be improved***
- b) the most acceptable means of paying for these improvements.***

The cost of achieving environmental goals may be reduced substantially by easing restrictions on pumping at times of greatest need.

Estimates of willingness to pay for improved water quality are likely to vary substantially from catchment to catchment. Comparative figures from Australia (Mattinson and Morrison 1985), New Zealand (Harris 1984) and the United States (Smith et al 1983) suggest, nevertheless, that willingness to pay is substantial. The availability of such evidence for Australia is very limited. So too is evidence on the value placed by the community on the environmental resources that would need to be sacrificed to provide increased water supplies. The ACT Electricity and Water Corporation, ACTEW, is currently undertaking a study of this issue.

Recommendation 5.2

The Tribunal considers that further evidence of willingness to pay for improved in-stream water quality will assist the process of setting realistic water quality objectives for catchments in NSW.

5.2 Management and regulation of effluent

The arrest and reversal of environmental degradation at minimum cost to local communities requires community participation in the standard setting process as well as clear and timely notification of any required change in standards. The EPA states (p.4):

'Generally, no changes are made to the EPA advice on performance criteria required of an industry or a public authority once the advice has been given and the operator has begun improvements needed to achieve those specifications'.

In the case of new or emerging standards

‘... the basis for change to more stringent criteria will be explained to the operator and it will be confirmed that the new requirements do not apply automatically and immediately. Depending on the environmental process and financial implications that later time might be as long as six to eight years.’

The mechanism used by the EPA as the chief environmental regulator, to achieve long term environmental improvements from sewage treatment plants (STPs) is the pollution reduction program. The EPA states that a pollution reduction program is required where a need for improvement has been identified but abatement is not feasible within a one year time frame. In such cases, an agreed program of works to be achieved over a space of years is attached as a condition for the licence. To date, 26 STPs operated by local authorities have been subject to these programs.

Despite this stated gradual approach, councils have expressed to the inquiry their concern about the EPA's failure to recognise local circumstances.²² The EPA for its part, has noted that some councils appear reluctant to engage in dialogue. Referring to the need for early consultation in the planning of sewage treatment plants, the EPA in its submission states that some local water authorities have been reluctant to approach the EPA in the past.²³

Recommendation 5.3

The Tribunal notes that further effort is required to achieve the necessary understanding between the EPA and some local water authorities concerning EPA requirements regarding effluent treatment and discharge.

As part of a catchment-wide approach to achieving improved environmental standards, upstream councils can create benefits for downstream users by upgrading their management of effluent from point and diffuse sources. There would appear to be little incentive for up-stream councils to bear these costs if they do not receive direct benefits. Some councils, however, see this as a responsibility that accompanies the use of a natural resource. Uralla Shire Council, for example, upgraded its sewage treatment plant in the belief that “we were using the natural resource, we were polluting it, it was our responsibility to return it to a reasonable standard before we put it back into the stream.”²⁴

The DLWC endorses the concept that work to reduce effluent and runoff impacts should be co-ordinated between upstream and downstream users. The department suggests that upstream and downstream councils could use a system of tradeable outputs to achieve the best regional outcome. The implementation of such a scheme involves certain costs, but the system could provide incentives for councils to improved raw water quality for downstream users because they would be able to sell any excess permits to pollute if they improve effluent quality beyond the minimum.

This is an area where difficult judgements are required about the extent to which a ‘polluter pays’ or a ‘beneficiary pays’ approach should be adopted. Ultimately, responsibility rests with different users of the environment for maintaining the quality of that part of the environment which they access. Catchment-wide processes, such as those being advanced under the Healthy Rivers Commission and the water quality and river flow objectives

²² Dubbo hearings, February 29 1996, p.62.

²³ EPA submission, p.4.

²⁴ Tamworth hearings, March 28 1996, p. 350.

exercises driven by the EPA, will emphasise a cooperative approach to awareness and acceptance of the responsibilities and the accompanying abatement costs.

If it is introduced, the EPA's proposed load based licensing scheme may help to price pollution loads in a way that improves incentives for the reduction of pollution on a catchment wide basis. Because charges under such a scheme can be varied to reflect different weights for different receiving environments, it may be possible to achieve a better environmental outcome at a lower total cost.

Recommendation 5.4

The Tribunal recommends that a catchment-wide approach be used to improve water quality. The introduction of load based licensing of point source discharges may help to reduce the burden of abatement costs through a catchment-wide approach.

The DLWC suggests that it may be more cost-effective to upgrade a small number of large sewage treatment schemes rather than a large number of small schemes.

The State's phosphorous action program is requiring large centres such as Albury and Wagga to limit the release of nutrients into the water system. There are problems relating to charging for effluent from diffuse sources, such as agricultural run-off. This impedes implementation of any system of tradeable permits.

5.3 Drainage

The difficulties associated with regulating stormwater flows and charging for drainage reflect the diffuse nature of the problem. A State Stormwater Coordinating Committee has been established under the chairmanship of the EPA. The committee is programming the work of the Urban Stormwater Taskforce, which has published broad ranging recommendations for reduced pollution from stormwater.

The Taskforce recommends that the EPA introduce stormwater licensing under the Clean Water Act.²⁵ The EPA will re-examine the feasibility of this approach by assessing the results of 20 pilot schemes. Councils have emphasised the difficulties of such licensing.

The capacity and treatment costs of urban sewage treatment works are designed to deal with wet weather flows. Thus, during normal flow times, sewerage treatment works operate significantly below capacity. While correction of infiltration problems will do nothing to reduce *capacity costs*, which are sunk, better control of stormwater will help to reduce both *treatment costs* and *the environmental costs* of overflows.

In its issues paper the Tribunal notes the contribution to drainage problems that is made by the built environment. These problems are, in a sense, created by the whole community. Adequate funds must be raised from the whole community to correct them. Levies may be a better approach than water charges.

²⁵ Urban Stormwater Pollution Taskforce, 'Improving the quality of urban stormwater in NSW', EPA November 1994, p.37.

Recommendation 5.5

The Tribunal recommends that local governments explore a separate drainage charge to provide funds for stormwater management. Drainage charges should depend on land area, land use, development intensity and pollution potential. They should be separate from the general rate and free from rate pegging restrictions. As suggested by the DLWC, the charging regime should allow flexibility of application so that 'top of catchment' problems can be addressed by a local charge per residential lot. Larger subregional flooding and pollution problems could attract a council-wide rate.

5.4 Rational effluent reuse

Communities are faced with both costs and opportunities in dealing with effluent from sewage and drainage systems. Waste water is a potential resource. The extent to which it is put to use should depend on the costs of supplying it in a suitable form at a particular site, compared to the full costs of alternatives, including the cost of potable water, and the cost of disposing of it as waste to the environment. These site specific costs should include any adverse effects of reuse on the environment. Where reuse reduces in-stream flows by removing high quality effluent, this may not always be a beneficial outcome. In other situations, the opportunity to substitute grey water, i.e. treated effluent, for high cost potable water in the irrigation of parks, golf courses, gardens, pasture and woodlots may be cost effective in comparison to disposal. The EPA has released draft guidelines on the use of effluent for irrigation. Stating that if treats every site on its own merit, the EPA has stressed to the Tribunal that at no time has it tried to implement minimum reuse levels.²⁶

Scale considerations are important. Opportunities for beneficial reuse are often restricted to relatively small volumes relative to discharge schemes because of land degradation problems and limited storage opportunities in cooler, wetter climates. Reuse schemes utilising 2 ML and 2.6 ML per day have been established at Moree and Lismore, producing salt bush for feedlots and irrigated turf respectively. The viability of these schemes depends in part on the price of the products.

If the EPA proceeds with its load based licensing proposals, local authorities which operate sewage treatment plants will receive direct price signals about the cost of discharge. This will influence their decisions about reuse.

The Tribunal is impressed by the need to adopt a whole-of-catchment approach to the discharge/reuse question. Catchment-wide river quality objectives are integral to this approach. So too, is a load based licensing system which has regard to ambient water quality objectives in various parts of the catchment. The EPA, which has a whole-of-catchment perspective, faces the task of coordinating this approach. In its inquiry into Bulk Water Pricing, the Tribunal examined the Land and Water Management Plans which have been implemented by private irrigation companies. These plans offer possible template which might be widened in the interests of better coordination.

²⁶ EPA submission, p.1.

Recommendation 5.6

Holding inquiries and establishing river flow and water quality objectives assist a joint approach to extractions and discharges. New effluent charges will help achieve the objectives. The Tribunal urges that further ways of achieving the objectives be explored and implemented.

6 THE STRUCTURE OF CHARGES, DEMAND MANAGEMENT AND ALLOCATIONS

6.1 Water supply charges

Non-metropolitan water authorities charge for water in three ways:

- (i) a property value based system (rates), plus, where metering is in place, usage charges for water consumption in excess of a water allowance
- (ii) an access charge accompanied by inclining block tariffs
- (iii) a simple two-part tariff consisting of an access charge and a single per kilolitre price for all water consumed.

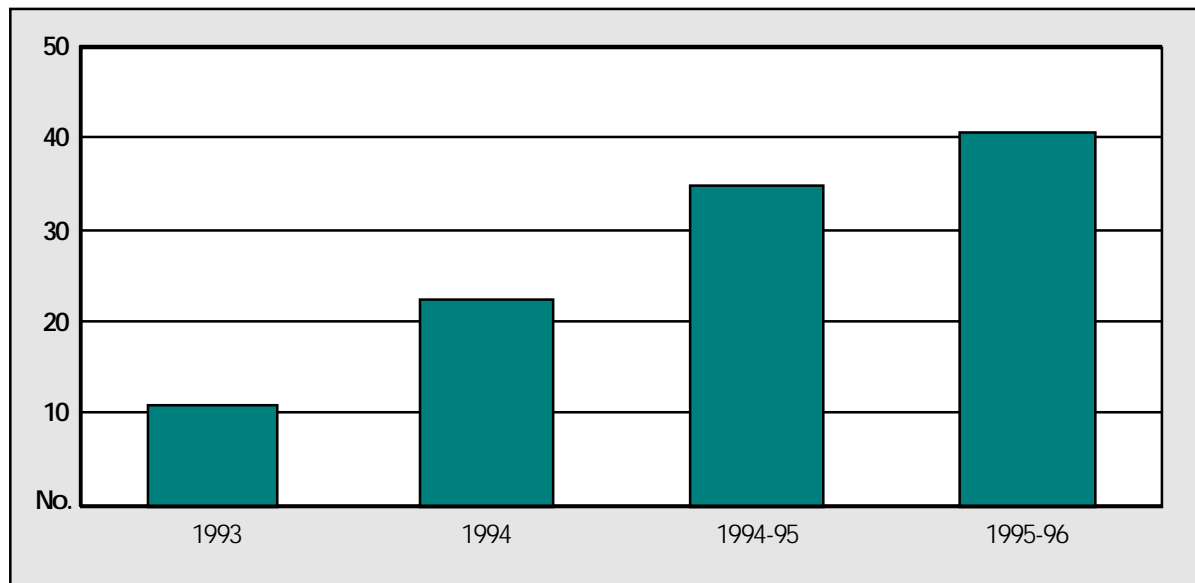
These alternatives were debated in an Industry Commission Inquiry (1992) and in the Tribunal's previous inquiry into water pricing. In this inquiry pricing alternatives are examined for their economic, environmental and social impacts on different regions of NSW.

The appropriate structure of charges remains a contentious issue and strongly held views have been put to the Tribunal. While there is widespread support for usage-based charging, the Tribunal notes that two-part tariffs (involving a charge for every kilolitre used) or inclining block tariffs have been adopted by only about 30% of the 126 local water supply authorities. A prepaid water allowance accompanied by 'excess water rates' for large consumption persists in many areas.

Recommendation 6.1

Prepaid water allowances contain undesirable elements of cross-subsidy. That means small users help to pay for the costs of water use by larger volume consumers. These cross subsidies are far from transparent and are unfair and undesirable.

Number of councils with two-part or inclining block tariffs



Data source: DLWC (1995).

Over the past three years, councils in NSW have been moving toward two-part tariffs. Currently, 40 councils have two-part tariffs or inclining block tariffs in place for water supply and a further eight councils have water allowances not exceeding 200 kL/pa. Twelve more councils have indicated that they will be moving to two-part tariffs in 1996-97.

It is important to note that 'free' allowances are not obviously equitable. It may be fairer to allow bill control through usage pricing, accompanied by direct assistance to hardship cases through rebates on bills.

The Tribunal notes the difficulties 'free' water allowances impose on total catchment management. Neighbouring councils may adopt fundamentally different approaches to water pricing through different interpretations of where 'discretionary' water consumption begins. Total catchment management requires councils to reinterpret their own notions of sovereignty in the interests of the broader, catchment-wide community interest. This may require an institutional structure which will allow the broader community interest to express itself.

While inclining block tariffs are common, the point at which the higher cost per kilolitre cuts in varies from authority to authority. The 200 kL 'trigger level' was suggested by the Tribunal in its major inquiry as a point beyond which higher per kilolitre charges might apply, was challenged by some participants. Parkes Shire Council has suggested that such a threshold is too low for some inland centres which experience low rainfall and hot dry summers.²⁷ A low threshold could lead to reductions in outside water usage to an extent detrimental to community aesthetics and amenity.

Councils which favour a generous allowance are, in effect, subsidising the amenity factor associated with outside water use.

While subsidisation will remain the prerogative of local councils, generous 'first step – low tariff' arrangements do little to support the range of nonprice demand management measures recommended by the Water Demand Management Forum that was sponsored by the Tribunal and reported on in *Water Demand Management: A Framework for Option Assessment* (1996).

Subsidised water consumption reduces the incentive to explore options such as reuse, use of grey water, or designing parks and gardens to minimise water use.

Recommendation 6.2

In most circumstances the Tribunal prefers that a simple two-part tariff with a single usage component based on the marginal cost of provision. However, as a transitional measure, inclining block tariffs can be useful in reducing the impact of a move away from property value based charges which include a prepaid water allowance.

Recommendation 6.3

In some small systems, however, there may be little gain in efficiency terms from moving to a user pays based system. These include systems where extractive demands are low compared to availability, the marginal cost of supply is low, customers are unmetered and metering costs are high. Very few water supply systems are likely to fall into this category.

²⁷ Parkes Shire Council submission, p.2.

The shift from a pricing system with a free water allowance to pay-for-use could create a burden for low income families. This raises the issue of the distributional impact of the proposed changes. A study commissioned by the Tribunal as part of its Major Inquiry examined these issues in connection with potential compensation policies for customers adversely affected by the introduction of pay-for-use. It found that larger, low income families may be adversely affected by a move to a pay-for-use system. The Tribunal is concerned that appropriate safety nets be put in place for low income families who are not able to adjust their use of water. However, the Tribunal emphasises that this should be a transitional mechanism only. In the longer term, explicit subsidies (discussed in section 6.2) will need to be funded by government, and not by the local water authority.

Recommendation 6.4

Local councils should consider introducing a transitional compensation scheme for families affected adversely by the introduction of usage related pricing. This could be funded by either the water supply operator or the water local authority.

6.2 Cross subsidies

Under current pricing arrangements, there is significant cross subsidisation of water services. Cross subsidies have generally been justified on the grounds of providing funding to meet community service obligations. For example, the New South Wales Council of Social Services (NCOSS) argued in the Tribunal's major inquiry that governments are responsible for ensuring that everyone has access to essential services, including an adequate supply of water. In order to accomplish this goal, NCOSS suggests that 'a progressive pricing system is essential for equity, and cannot satisfactorily be compensated for by reliance on add-on social programs, or income transfers which are the responsibility of another level of government.'²⁸

However, this may not be the most efficient method of ensuring that all members of the community have access to essential services. A general principle that has emerged from discussions on competition policy is that any funding of a community service obligation must be transparent. In other words, any subsidies that are granted to certain sectors of the community should be acknowledged explicitly. Moreover, payments should be made by government, not by the water supplier.

Recommendation 6.5

The Tribunal reiterates its view that community service obligations (CSO's) are essentially an issue of government policy and, as such, a matter for governments. The Tribunal considers that the preferred method of funding CSOs is through explicit and transparent government payment.

The CSOs provided by water suppliers in the past have not met these criteria. In its major inquiry, the Tribunal noted that cross subsidies of residential consumers by the business sector (in the order of \$250-300m per year in the Sydney region) provided cheaper water to *all* residential consumers, not merely to those who are economically disadvantaged. In recommending changes, the Tribunal also recognised that there were cross-subsidies within the residential sector from low water users to high water users and from users in low service cost areas to consumers in high water cost areas. This type of subsidisation goes

²⁸ Major Inquiry, p.41.

beyond the generally agreed principle of guaranteeing access for all members of the community.

Cross-subsidies are likely to be largest and least transparent for communities which have retained the system of charging that typified both metropolitan and other areas until the 1990s, that is, property value based charges accompanied by pre-paid water allowances.

The source of funding of the cross-subsidy may be limited. Pasmenco Mining Broken Hill has been jointly liable with other mine operators and the NSW State Government for the yearly deficit of the Broken Hill Water Board. As the only current operator engaged in mining operations, Pasmenco pays almost all the mining industry's liability for 46/59ths of the annual deficit, calculated as the difference between the Water Board's total expenditure and total revenue exclusive of water sales to the mining industry. As Pasmenco points out, this arrangement is not cost-reflective, does not provide appropriate incentives for water conservation, and is not a viable long-term strategy for funding given that the current mining operation has an estimated life of 15 years.²⁹

Recommendation 6.6

In introducing a user pays pricing system, councils should eliminate any significant cross subsidies. Explicit government payments can be used, where necessary, to ensure that community service obligations are met. This is particularly important in situations where the source of funding for the cross-subsidy is limited.

6.3 Sewerage charges

The case for introducing usage based pricing is weaker for liquid waste management services, particularly for domestic customers, than it is for water supply.

The benefits of including a separate volumetric component in waste water charges are related to:

- the ability to measure, or estimate, customers' waste water discharge volumes
- the customers' ability to control discharge-to-service volumes and so influence part of their sewerage bill
- the sensitivity of sewerage costs to variations in customers' usage, that is the responsiveness of sewerage costs to the size of, and variations in, dry weather flows.

None of the above conditions is likely to be favourable to domestic sewerage usage charging. Pricing signals have their greatest advantage in situations where they can result in modified behaviour, which in turn has an influence on the costs of service. These circumstances are largely absent with respect to charges for sewerage from residential premises.

Hydraulic factors relating to storm flows are the predominant determinant of the cost of sewerage. The DLWC states:

"The costs of providing sewerage services are only weakly correlated with the volume of sewage from residences — the costs of sewage collection and transfer are driven largely by hydraulic capacity which is dependent on wet weather flows, and the cost of treatment works is driven

²⁹ Pasmenco Mining Broken Hill submission with regard to the Deficit Funding Arrangement, p.4.

largely by biological and suspended solids loads which relate to the number of people serviced'.³⁰

Metering problems and the suspected weakness of the link between prices and discharge behaviour suggest that the gains from introducing sewerage pricing on a volumetric basis are likely to be small.

Environmental groups are concerned that adequate opportunities should exist for environmental costs to be reflected in sewerage charging. However, *volumetric* charging may have a limited or no effect on behaviour.

Recommendation 6.7

The Tribunal considers that, in most circumstances, the net benefits of volumetric charging for domestic sewage management have yet to be demonstrated. Sewage charging should be fully cost reflective and should include all costs of bringing effluent to acceptable quality levels for discharge.

6.4 Charging for non-residential sewerage services

Some local water and sewerage authorities favour a non-uniform access charge for sewerage services to non-residential properties in addition to volumetric charging. The Broken Hill Water Board believes the simplest and most satisfactory approach involves the use of a service charge which is based on water service pipe size.³¹ The service charge is then multiplied by a discharge factor which may vary across property classes. This is justified on the grounds that the available water flow and the assessed discharge factor will reflect each customer's share of the infrastructure cost, which, in turn, is related to the peak loading on the system. Anomalies, where the water service does not accurately reflect a customer's use of the system, could be addressed by adjusting the discharge factor.

Such an approach may be more attractive in regions where storm related loadings on systems are relatively unimportant and where dry and wet weather flow disparities are not great. This approach is easiest to apply where there are relatively few types of water users and discharge factors are realistic and relatively cheap to audit.

6.5 Trade waste charges

Under the Local Government Act 1993 and associated regulations, councils must approve the disposal of trade waste into the council's sewerage system. This approval may be given only with the concurrence of the DLWC. The EPA licenses the discharge from the treatment works. Thus, any changes in the EPA's licensing arrangements will have implications for the trade waste policy and accompanying charges.

For most non-metropolitan agencies trade waste management is a relatively small component of total waste water management. Most participants in the inquiry expressed overall satisfaction with the Urban Water Division's modified Model Trade Waste Policy. Recent changes to this policy, as advised by the DLWC, include:

- a format for adopting a local approvals policy based on the Local Government Act 1993 and associated regulations

³⁰ DLWC submission, p.8.

³¹ Broken Hill Water Board submission, p.32.

- revised guideline limits to allow for the use of concentration limits and/or total daily mass loads when appropriate. This approach is consistent with the ANZECC Guidelines for Sewage Systems – Acceptance of Trade Waste.

The incorporation of these options within the model may be important in achieving consistency between load based licences for sewerage treatment plants and for other licensed discharges now being considered by the EPA.

The model policy recommends categorisation of wastes into broad types according to their likely impact on the sewerage system. Of the three categories, two are roughly equivalent to the category ‘non-residential customers with domestic type wastes’ for which the Tribunal recommended the use of two-part tariffs in its major inquiry.

For the third category of waste, i.e. stronger and higher mass loads, the model policy guidelines are consistent with the principles set out in the major inquiry, namely:

- standards for acceptance should be set on the basis of the capacity of current systems to transport, treat and dispose of wastes, having regard to the health and safety of sewerage workers
- trade waste charges should at least cover the costs to the water authority of handling these wastes
- the water authority should retain at least this minimum level of funds
- charges should reflect differences in the costs of treating waste to the required standards at particular locations
- the water authority should set charges and standards in a manner that is transparent and accurate. The method of measurement should be reliable and the basis of setting charges should reflect costs incurred as far as practicable.

Recommendation 6.8

The Tribunal is satisfied that the principles underlying the Urban Water Division of the DLWC’s revised Model Trade Waste Policy are consistent with those already endorsed by the Tribunal for large urban authorities. The model policy provides a useful framework which country authorities can use in developing their acceptance of policies and charges.

6.6 Demand-side management and non-price measures

Setting charges for water services is only one part of the strategy to assist local water authorities to obtain satisfactory outcomes from their water related activities. Demand-side management can include both pricing policies and expenditure programs by the water agency. These strategies offer alternatives to building new storages to balance demands and supplies.

The Water Demand Management Forum recently reported on a range of opportunities for adopting demand-side initiatives, including the use of price, in preference to supply-side (augmentation) investment. In examining options, the forum considered whether water agencies should provide incentives. It acknowledged that there is often a case for incentives to encourage water efficient hardware, irrigation equipment, and landscaping, and in encouraging the construction of new buildings that are water efficient. Free retrofitting, and construction of demonstration buildings and gardens, were also discussed.

In its report, the forum discussed the main options for demand-side control and explored implementation problems associated with individual measures. A methodology for undertaking an economic evaluation of these alternatives has been developed, with an accompanying model. Its successful application depends on satisfactory determination of the avoided costs of water supply and sewerage services. The uncertainty and lack of precision in estimating avoided costs (avoided environmental costs in particular) creates difficulty in selecting the best demand management options.

Recommendation 6.9

The Tribunal encourages water authorities to explore the findings of the Water Demand Management Forum³² and to test the usefulness of its suggested approaches to modelling demand management.

Demand management may be most useful where demand is increasing relative to existing supply. Typically, this occurs in population growth areas where avoided capital costs provide a strong reason for exploring alternatives. Broken Hill, for instance, where population decline is occurring, is unlikely to incur augmentation costs whether or not demand management initiatives are introduced. The Broken Hill Water Board notes that a reduction in demand reduces revenue with important implications for water authorities which are attempting to recover infrastructure costs through usage charges. The Board nevertheless notes its residents' high level of awareness of water conservation issues and awareness of the need for inland areas to target outside water use in conservation campaigns.³³

Recommendation 6.10

The benefits of demand management will vary with the costs avoided. The Tribunal agrees that the benefits may often appear largest where substantial capital augmentation costs are at stake. However, the Tribunal considers that the potential to avoid operating and environmental costs still provides a strong reason to promote demand management in other situations. Any loss to revenue through optimal demand management can be offset through savings in operating costs and changes in standing charges. Revenue reductions should not be used to rule out beneficial demand management, but it is necessary to consider whether the benefits (including environmental benefits) of demand management outweigh the costs.

6.7 Charges to country towns for bulk water

The principles for setting prices for bulk water supplies to country towns and other users are being fully canvassed in the Tribunal's inquiry into bulk water prices. This report will not pre-empt those findings. As the resource manager, the DLWC is seeking to move closer to cost recovery in the provision of bulk water delivery and management services to its customers. Such a move raises difficult questions about apportioning costs when beneficiaries include in-stream users. A degree of arbitrariness is inevitable. Nevertheless, the Tribunal supports the principle that it is appropriate to recover delivery and metering costs, and some resource management and maintenance costs, from extractive users, including country towns, when these users are supplied from streams regulated by DLWC dams.

³² Water Demand Management Forum, Water Demand Management: A framework for option assessment, IPART, March 1996.

³³ Broken Hill Water Board submission, p.35.

On unregulated streams and where groundwater is a primary source of supply, periodic licence fees have been the only form of charge until the recent introduction of a resource management charge. No major DLWC infrastructure is involved. Management services are required on unregulated streams and aquifers, and some recovery of these costs from town users is appropriate.

Some councils have objected to volume based charging by the DLWC. Central Tablelands County Council, for example, has argued that no such charges should be introduced unless some protection of future yields, water quality and access to the resource can be guaranteed in the face of growing competition for water from other potential users.³⁴

Another issue is whether country towns should pay bulk water charges if they have paid for and operate dams on local streams. Tamworth City Council, for instance, operates the Dungowan Dam under licence from the DLWC as one part of the water supply for the city. It has challenged whether it should pay bulk water charges for water obtained by pipeline from this source. The *form* of bulk water charges is an issue for local authorities, as it is for irrigators. Some have expressed a preference for a move away from the fixed entitlement charge that is presently imposed irrespective of use, and a move to greater reliance on charging on a volumetric basis.

Recommendation 6.11

The structure of bulk water charges for towns will be considered as part of the Tribunal's bulk water inquiry. The Tribunal sees merit in DLWC costs being dependant on usage, and in a DLWC charging system which includes a pay-for-use element. The Tribunal recognises that many of the costs associated with storage and resource regulation are independent of water sales. A significant component of costs are fixed when users extract water from regulated streams.

Where local communities own and operate dams under licence, further charging issues arise when upgrading is required. The upgrading of spillways to accommodate probable maximum flood requirements may be financed by the State Government.

Where dam upgrades improve water supply capabilities to benefit both irrigators and towns, the cost of the upgrades should be recovered through water charges. If the State Government funds such infrastructure in future, it is likely that it will do so only on the basis that it will be able to recover all capital costs. Towns can be expected to pay for either greater security of supply or greater volumes. Where towns make initial financial contributions to capital costs, their share will be a matter for negotiation with the DLWC. Where there are multiple stakeholders in the investment program a catchment-wide approach to negotiations is advocated.

Resource rent charges are one way of charging for raw water. These charges are usually applied to non-renewable resources, and therefore are applicable only in the case of groundwater 'mining'. On the whole, it seems better to avoid overuse of aquifers through demand management measures, than to introduce additional charges for extractions that might lead to exhaustion of the resource.

³⁴ Central Tablelands County Council submission, p.8.

Recommendation 6.12

The Tribunal does not recommend the use of a resource rent charge. Instead monitoring, metering and the clear definition of property rights over groundwater resources should be implemented.

The appropriateness of present entitlements to country towns which receive high security water, is a matter which the state will have to resolve in addressing the over-allocation of water. This issue is not primary to this discussion of pricing principles. However, some councils indicate that they may own licence entitlements in excess of their requirements. For example, Broken Hill is licensed to extract 10 000 ML per year from the Darling River. The Broken Hill Water Board regularly assesses its needs and offers surplus water for temporary transfer to other users. The DLWC has considered putting caps on these entitlements. If the DLWC were to cap entitlements, this trading could be restricted or diminished.

Recommendation 6.13

There is an urgent need for the DLWC to clarify caps on entitlements for towns with contracting populations as well as those which are growing.

6.8 Charging arrangements for DLWC's water supply businesses

The Minister for Land and Water Conservation is responsible for two water supply government businesses enterprises:

- South West Tablelands Water Supply (SWTWS), which supplies water to Cootamundra, Harden and Young Councils, and the former NRCC Electricity and Water, and Southern Riverina Electricity and Water areas
- Fish River Water Supply (FRWS), which supplies water to four major customers; Sydney Water, Pacific Power, Greater Lithgow City Council and Oberon Council, and 328 minor customers including the villages of Rydal and Cullen Bullen and rural landowners along pipeline routes.

SWTWS's charges its major customers an access charge based on peak weekly supply for each customer (presently \$6.63/kL) and a usage charge of 51.5 c/kL. A surcharge of 51.5 c/kL applies for usage in excess of the agreed peak weekly supply. This supply is provided only if unused system capacity is available. This charging arrangement reflects the two main cost drivers: peak week demand in regard to capital costs, and overall usage in regard to operating costs.

The Tribunal requires more information on how the access charge has been calculated to ensure that it is a true access charge which recovers a share of the fixed costs of the system. The surcharge on usage in excess of the agreed peak weekly supply provides an incentive for customers to contain demand in periods when system capacity may be reached. In this situation, price is being used to ration scarce capacity. If the total \$1.03/kL usage charge for water in excess of agreed peak supply is the appropriate price by which to ration this capacity, scarce water will tend to go to those who place the highest value on it.

FRWS's current charges are based on a minimum annual quantity (MAQ). Customers pay for this MAQ even if their consumption is less than the MAQ. Water supplied in excess of MAQ is paid for at the current usage charge of 33c/kL. All the FRWS's major customers

seek to draw their full allocations in dry/drought periods so the annual payments for MAQs reflect each customer's share of capacity. The DLWC acknowledges that the MAQ system fails to provide strong incentives for customers to use water efficiently.³⁵

The DLWC is considering a capacity sharing arrangement under which 70 per cent of revenue for the FRWS scheme will be obtained on the basis of each customer's share of 'Required Annual Supply'. The remainder will be obtained on the basis of a usage charge (possibly 10 c/kL). The usage charge provides an incentive to customers to use water efficiently.

The DLWC estimates that variable costs account for less than 5 per cent of total annual costs. This suggests that, on a pure cost recovery basis, the efficient usage charge would be relatively low and most revenue should be recovered from a fixed charge along the lines proposed. The effectiveness of MAQ charging arrangements in providing signals for the efficient use of water is most important where the system is close to full capacity utilisation. Then the introduction of a usage charge, as suggested under the capacity sharing arrangements, is appropriate.

Recommendation 6.14

The Tribunal will give further consideration to charging arrangements for the South West Tablelands Water Supply and Fish River government trading enterprise.

6.9 Pay-for-use pricing and revenue instability

If usage related pricing was introduced, local councils could be subject to revenue instability because the revenue received would fluctuate with water usage. However, most councils do not regard revenue uncertainty as sufficient reason to avoid price reform. The Broken Hill Water Board has argued that the degree of revenue uncertainty will depend on how truly cost reflective the pricing structure is. A more certain revenue stream may be achieved through the access charge, but this tends to defeat the objective of cost reflectivity. Cowra Shire Council has stated that revenue instability is an excuse rather than a real reason for not introducing pay-for-use.³⁶ Its view is that if *all* access costs are identified and included in the availability charge, revenue instability and uncertainty will be overcome. The variable supply cost will be recouped from usage charges. These costs vary with usage, so charges will cover them.

Recommendation 6.15

Local councils need to have adequate cash management practices in place to ensure that they build appropriate reserves so that revenue instability will not impede the introduction of usage-based pricing.

6.10 Seasonal pricing

The capacity of the water service, and the capital costs associated with it, are closely related to peak daily demand.

In areas that have a significant weekend/holiday population, headworks capacity and hence costs are driven by the sharp increase in peak demand during holiday times. Pay-

³⁵ DLWC submission, p.19.

³⁶ Cowra Shire Council submission, p.9.

for-use pricing may not recover enough of the costs of headworks from seasonal populations. A fixed annual access charge will average these extra headworks costs between permanent and seasonal populations.

One method being explored to overcome these difficulties is to implement seasonal pricing, such as usage charges paid quarterly and varied according to the season. Higher usage charges can be applied during the peak holiday season. However, this method relies on having quarterly metering facilities in place, and this generates costs in itself. It does not fully overcome the problems experienced by councils which receive an influx of population during weekends. There is therefore an argument for setting higher access charges and a lower first step usage charge than would otherwise be reasonable. One ski field council has set access charges to reflect the quantity of water used, with a minimum quarterly charge.³⁷

Recommendation 6.16

Despite the costs incurred in introducing quarterly metering and charging, this option should be seriously considered by councils facing large seasonal population variations.

³⁷ DLWC submission, p.14.

7 FINANCIAL REQUIREMENTS AND PRICING PRACTICES

The best way for local authorities to fund capital works will depend on their growth prospects, renewal requirements and past practices. Choices must be made regarding the appropriate role for debt, retained revenue from customer charges and developer charges.

7.1 Debt funding

Changes to financial assistance provided by the State under the Country Town Water Sewerage and Drainage Program will cause many towns to revisit their funding arrangements. Changes to the strategic direction of this program involve:

- greater emphasis on assisting service providers to achieve best practice in strategic planning and operations, with this a prerequisite for financial assistance for capital works
- targeting government funds to backlog works. For unserviced towns, this will mean assisting with the provision of basic water supply and/or sewerage systems for *existing* dwellings.
- continuing government assistance for works in serviced towns which meet regulatory requirements and agreed operational service levels, and which extend services to unserviced dwellings within existing serviced areas.

This change of emphasis in the program will mean that local authorities must fund any growth related works.

The removal of government subsidies for growth related works in expanding country towns will mean increased reliance on debt and developer charges (which can be used to service debt) if annual charges to existing customers are not to rise considerably.

The DLWC has advised that the median debt/equity ratio of council water supply and sewerage schemes is approximately 25:75. There is a wide variety of attitudes to the use of debt to finance works. Several councils have drawn attention to debt reduction targets.

Local councils have expressed differing views regarding debt servicing and debt/equity ratios. Cowra Shire Council has stated that capital works must be carried out as needed, and therefore 'little consideration is given to debt servicing ratios.'³⁸ Cowra suggests that, as a rule of thumb, a debt servicing ratio of 50 per cent is not unreasonable. Hastings Council is opposed to a specified debt/equity ratio being imposed on councils because this would remove their flexibility.³⁹ The Local Government and Shires Association indicates that debt service ratios for NSW councils average less than 10 per cent. They do not support higher debt levels for local water authorities.⁴⁰

Recommendation 7.1

The Tribunal does not propose recommending a specific debt service ratio. Decisions regarding debt servicing should remain in the hands of local councils, and councils should be cautioned that debt avoidance may lead to excessive charges in areas experiencing substantial growth.

³⁸ Cowra Shire Council submission, p.12.

³⁹ Hastings Council submission, p.12.

⁴⁰ LGSA submission, p.17-18.

7.2 Developer charges

Developer charges are up-front charges paid by developers to recover part of the infrastructure costs incurred by water authorities in servicing new developments. The appropriate role for developer charges has been widely canvassed in the Tribunal's major inquiry, by the Water Industry Forum, in the Tribunal's *Determination No. 9* (Developer Charges for Sydney Water 1995) in its discussion paper on developer charges (Government Pricing Tribunal 1993), and in the issues paper for this inquiry.

Recommendation 7.2

The Tribunal considers that developer charges should be calculated by first working out a capital charge for the particular works serving the development, and then subtracting a reduction amount to avoid double charging. The reduction amount should reflect the amount which users of a development will be paying over time through future annual charges.

In its *Determination No. 9* on water service charges, the Tribunal states that developments should be charged only for the efficient cost of supplying water services infrastructure. Each development should be charged for that share of the service capacity of existing and future assets which it draws upon. The developer contribution is calculated as:

- *a capital contribution* — the capital charge for the share of full capacity of assets used by the development. Existing and future assets serving the development are covered by a net present value calculation expressing them in comparable terms. Assets are valued by the modern equivalent assets method.
- *less the reduction amount* — calculated as the net present value (NPV) of forecasted revenues less the forecasted operating, maintenance and administration costs.

The Tribunal endorses the idea that there are some existing assets which should be excluded from this calculation basis. They include:

- 'old' assets where the water authority should have already recovered the cost of building the service capacity. In the case of Sydney Water Corporation this was taken as assets whose service capacity was created before 1970.
- assets for which service capacity has been made available through changing land use.

The costs of these assets can be regarded as sunk and should not be recovered through charges on new development. However, the DLWC has expressed a contrary view that *all* assets which yield a service to the development should be included, regardless of how long ago the service capacity was created.

The Tribunal has prepared guidelines for using the NPV approach. The intention of this approach is to ensure that developer charges signal the true costs of servicing without unduly raising housing costs.

The DLWC has suggested a modified approach to the reduction amount, as explained in the issues paper.⁴¹ The Tribunal has encountered a mixed response to the usefulness of this modified approach for country towns. DLWC has expressed concerns about the Tribunal's method of calculating developer charges. It feels there is a circularity in using

⁴¹ p.63-71.

the future net revenue stream from a project to calculate the reduction amount, then using the reduction amount to calculate future developer charges for the authority, the level of which impacts on future annual charges and hence the reduction amount.

The Tribunal does not agree that the link between annual charges and the reduction amount causes any problems. In fact, this link is essential to stop councils charging twice, via developer charges and later through annual charges.

There is a potential concern that adjacent councils might artificially raise their annual charges to compete for development with lower developer charges. But this should not happen if annual charges are set to recover only the efficient level of those costs set out in chapter 4 of this report. Any differences in developer charges between adjacent councils would then signal true differences in the costs of providing water services in each area.

Aware of the need to provide principles for calculating developer charges which are flexible enough to cover most applications, the Tribunal has asked the Water Industry Forum to continue to monitor the practical application of the NPV methodology.

Recommendation 7.3

Subject to further confirmation of its practical application, the Tribunal continues to support the net present value (NPV) method of calculating developer charges. For country towns this approach should be regarded as providing a maximum calculation of such charges. Where councils elect to offer more favourable terms to developers, the cross subsidies involved should be transparent.

The Tribunal supports the view that costs arising from increased demand due to growth of a community should be met by those who benefit from the development. However, the Tribunal acknowledges that expenditure such as environmental upgrades may need to be subsidised by the State Government.

The Institution of Surveyors, New South Wales has expressed some concern about the inclusion of costs for assets yet to be built in developer charges. The Institution does not disagree with the general principle of using the NPV approach to value these assets, but does object to the time frame used for valuation.⁴²

In the issues paper, the Tribunal raises the matter of charging options for extending water services to *existing* towns, villages and nonurban customers. The DLWC has stated that the Local Government Act 1993 is sufficiently flexible to allow councils to use developer-type charges for these extensions. Although developer charges per se do not apply in cases of extension of services to existing towns and villages because no subdivision or building applications are involved, several charging options are available to councils. They are to:

- levy specific annual charges (rates) for the village to cover some or all costs
- levy a capital charge from each property that benefits from extension of the service together with a lower annual charge
- offer each customer the option of paying either a capital charge and low annual charges, or a high annual charge for a specified period (but no capital charge)

⁴² Institution of Surveys NSW Supplementary submission.

- levy the same annual charges as the main council area (which involves cross subsidisation).

At present, councils charge a 'connection fee' for extensions of service to *non-urban* areas. This is calculated in a similar manner to developer charges. Property owners in nonurban areas who elect to connect to a water supply extension become liable for payment of annual water supply charges. Any properties electing to connect in the future need to pay the indexed connection charge and annual charges.

Recommendation 7.4

The Tribunal considers that adequate flexibility exists in the Local Government Act 1993 to apply charges similar to developer charges for the extension of water services to existing towns, villages and rural customers.

Under present policy, grants will no longer be available for growth purposes. As a result, the Tribunal has sought advice on whether the private sector will assist in meeting the funding gap. The DLWC and the Local Government and Shires Association are exploring private sector options for cost-effective provision and operation of water services. Discussions have included the financial modelling of service delivery options. For example, the DLWC is involved in a project with Albury City Council and the DPWS to test the market for private sector delivery of services. The Council invited proposals from the private sector to upgrade the council's sewage treatment works. The options for the private sector are BTO (build, transfer, operate), BOO (build, own, operate) or BOOT (build, own, operate, transfer). After reviewing the proposals received, Albury Council decided to proceed with conventional delivery of its treatment works (design and construction by the private sector, operation by council).

The scope for private sector involvement may depend on the size of the project under consideration. Projects involving a capital cost of over \$10m such as water or sewage treatment works or dams may be attractive for the private sector. However, it is unlikely that BTO, BOO or BOOT projects would be cost-effective or smaller projects.

8 CONCLUSIONS

8.1 Broad conclusions

In its major inquiry into water services, the Tribunal established general principles for use in regulating prices for large urban authorities. These principles are also relevant to pricing for local water authorities.

The first principle is that prices should reflect costs, which in turn should reflect efforts to achieve efficiency gains. The Tribunal encourages efforts to lower costs by reforming the current business practices of local water authorities. These include: the adoption of business plans, benchmarking, and structural reform that might involve the amalgamation of some services. Where practical, water and sewerage operations should be separated from the other activities of Councils and placed on a business-like basis.

The Tribunal also supports the adoption of a **pay-for-use** approach to water pricing wherever this is cost effective. Not only does pay-for-use empower consumers to influence their bills through the amount they consume, it provides appropriate incentives to conserve water. With regard to environmental policies, the Tribunal encourages the involvement of local councils in decision making about environmental standards. If the community is well informed about relevant environmental issues, it is more likely to make appropriate decisions about willingness to pay.

The Tribunal recognises that, under certain circumstances, pay-for-use pricing for sewerage services will be beneficial. However, the Tribunal does not believe there is a strong case for volume based charges for domestic sewage discharges. Sewerage charges should nevertheless reflect all treatment and disposal costs.

Although the Tribunal believes that **pricing and investment** decisions are interrelated, it recognises that there are difficulties in recovering the cost of investment in capital works. In particular, local authorities need to address equity issues concerning whether present or future users should bear the burden of cost recovery. The Tribunal supports flexibility for local councils in determining appropriate debt-equity structures. This is particularly applicable where capital expenditures may be required to meet improved water quality standards.

In its major inquiry, the Tribunal acknowledged the arguments put by some community groups in support of 'social pricing', but did not accept that water services should be priced to meet social or other non-commercial objectives. The Tribunal considers that these objectives should be met by some other explicit, transparent means. The Tribunal strongly recommends the **elimination of cross subsidies**. This will have two effects. First, the elimination of cross subsidies will encourage efficiency by removing a source of funds that can support inefficient practices. Secondly, it will make the funding of disadvantaged groups transparent, and more easily transferred to government responsibility where it belongs. The Tribunal recognises that there could be some adverse distributional effects of changes to pricing. These should be catered for through safety nets.

8.2 Performance monitoring

The Tribunal has highlighted the important role that performance comparisons can play in achieving least cost delivery of water services. It acknowledges merit in the proposal of the

DLWC for an accreditation scheme for water authorities. The Tribunal also acknowledges the importance of the annual performance comparisons prepared by the DLWC's Urban Services Division in providing feedback to local water authorities on their performance.

Recommendation 8.1

In the interests of transparency and to facilitate performance comparisons, the Tribunal encourages the DLWC to provide the Tribunal, on an annual basis, with a summary of performance for each local water authority.

8.3 Appropriate treatment of authorities gazetted as monopolies under the Independent Pricing and Regulatory Tribunal Act 1992

As noted in Chapter 1, the Tribunal will only set pricing principles for local water authorities. The Tribunal has not used these pricing principles to set water charges for each of the local water authorities covered by this review. However, a number of local water authorities were included in Schedule 1 to the Independent Pricing and Regulatory Tribunal Act.⁴³ The Tribunal has a standing reference to establish maximum prices for the services provided by all Schedule 1 authorities, and this raises questions as to the extent of any further regulation of these authorities by the Tribunal.

The Tribunal recognises that monopoly positions held by local water authorities can be abused, and that prices may be excessively high. However, on balance, the Tribunal does not believe that the Schedule 1 local water authorities *outside the metropolitan area* should be treated differently from other local water supply authorities. The Tribunal believes that current arrangements whereby local water authorities are subject to scrutiny by elected officials can place effective informal restraints on the pricing practices of local water authorities.

In the case of authorities where boards of management are appointed by local stakeholders, eg local councils, major users, etc, the Tribunal recognises that price restraints may be weaker than for water supplied by local councils which are subject to the direct scrutiny of electorates. However, the Tribunal does not believe the current situation justifies differential treatment. Due to the need for consistency across the wider metropolitan area, Gosford and Wyong Councils are special cases being subject to the same detailed regulation by the Tribunal as Sydney Water Corporation and Hunter Water Corporation.

This approach needs to be reviewed if future amalgamations resulted in a reduced number of large non-metropolitan water supply authorities. The ability of elected officials to place effective pressure on local water authorities for price restraint may be weakened if these authorities grew and expanded to cover a number of local government areas. This weakening may occur as a result of:

- the greater ability of local water authorities to influence local decision makers as their size increases

⁴³ These are County Councils and Electricity Distributors listed in Appendix 2, Broken Hill and Cobar Water Boards (Water Supply Authorities Act), and the Fish River and South West Tablelands Government Business Enterprises.

- a sharing of responsibility for local water authorities across local governments, reducing the accountability of any one group of local government officials for the performance of the water authority.

In the absence of informal price restraints, formal price capping arrangements might need to be considered. A reduction in the number of water authorities would facilitate the establishment of formal price capping arrangements if the community considered such caps to be necessary. Formal price capping may also have to be considered if the "light handed" approach to regulation advocated in this paper proves to be ineffective.

8.4 Catchment-wide decision making and institutional reform

In earlier sections of this report, the Tribunal has highlighted the importance of catchment-wide decision making and coordination of the activities of the various agencies responsible for different aspects of catchment management. While some deficiencies in institutional arrangements have been remedied, there remains a large gap in these arrangements. This may hinder the implementation of measures to achieve water quality, river flow and other environmental objectives, and lead to poor outcomes for extractive and other users of water resources. These problems have been highlighted in the concerns voiced by some upstream councils about bearing the burden of the cost of improving their effluent management when the benefits accrue downstream. The Tribunal sees considerable merit in, and encourages, institutional developments to remedy the deficiencies in the current arrangements for the management of activity in the state's catchments.

8.5 The role of bulk water supply businesses within the local water supply framework

As discussed in chapter 6, the DLWC owns two water supply businesses which supply bulk water to a number of local authorities, utilities and individual landowners. These businesses are effectively water wholesalers, which on-sell to local retailers. This operation differs from the situation in the rest of the state where bulk water is delivered directly from the DLWC to local retailers.

It is unclear to the Tribunal whether these business arrangements can be justified as a more efficient means of supplying bulk water to retailers or are simply an historical development. No evidence has been put before the Tribunal. The DLWC should examine the appropriateness of this structure. If the present arrangements continue, the Tribunal may need to establish maximum prices for these businesses.

References

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Appendix 1 Terms of Reference

The Government Pricing Tribunal is to conduct a review of the pricing principles for water and related services which are provided by local water authorities. The review will cover local government authorities with water supply, sewerage, and drainage functions, and water county councils and electricity distributors exercising water supply functions. The review will not cover local authority areas that were covered by the Tribunal's previous water review (including Gosford and Wyong, and council areas within the Sydney Water and Hunter Water Corporation areas).

The Tribunal will not be setting maximum prices to be charged by the authorities covered by this review.

This review has been referred to the Tribunal by the Premier pursuant to Section 12(1)(b) of the Government Pricing Tribunal Act 1992. The services concerned have been gazetted as government monopoly services under Section 4 of the Act on 14 July 1994 and 19 May 1995.

The terms of reference for the review will be:

While having regard to the matters listed in Section 15 of the Government Pricing Tribunal Act 1992, the review is to examine:

1. general principles for the pricing of water and wastewater services provided by local water authorities, and of stormwater services provided by local water authorities in non metropolitan areas
2. the feasibility of a consistent set of pricing principles to be followed by all local water authorities in the State, having regard to climatic, social and community differences, the level of isolation, resource costs of water use and disposal, the ecological sustainability of water services for reticulated supply and access to alternatives to reticulated water supply
3. the evaluation of alternative pricing structures for water, wastewater and stormwater, including usage, access and property based charging, having regard to impacts on user groups and economic, environmental, social and regional development impacts
4. the effect of the form of regulation and the operating framework on the efficiency of service provision
5. the impact of alternative environmental and quality standards on the costs and benefits of providing the services.

In assessing pricing principles, the Tribunal may need to consider particular case studies of a local nature. However, the review will focus on pricing principles and the form and process of regulation rather than the resolution of specific case studies.

Appendix 2 Local Water Authorities

Local Water Authorities to be covered by this review:

Albury City Council	Greater Taree City Council
Armidale City Council	Griffith City Council
Auburn Council	Gundagai Council
Ballina Council	Gunnedah Council
Balranald Council	Gunning Council
Barraba Council	Guyra Council
Bathurst City Council	Harden Council
Bega Valley Council	Hastings Council
Bellingen Council	Hay Council
Berrigan Council	Holbrook Council
Bingara Council	Hume Shire Council
Bland Council	Inverell Council
Blayney Council	Jerilderie Council
Bogan Council	Junee Council
Bombala Council	Kempsey Council
Boorowa Council	Kyogle Council
Bourke Council	Lachlan Council
Brewarrina Council	Leeton Council
Broken Hill Water Board	Lismore City Council
Byron Council	Lockhart Council
Cabonne Council	Macleay Council
Carrathool Council	Manilla Council
Casino Council	Merriwa Council
Central Darling Council	Moree Plains Council
Cobar Council	Mudgee Council
Coffs Harbour City Council	Mulwaree Council
Conargo Council	Murray Council
Coolah Council	Murrumbidgee Council
Coolamon Council	Murrurundi Council
Cooma-Monaro Council	Muswellbrook Council
Coonabarabran Council	Nambucca Council
Coonamble Council	Narrabri Council
Cootamundra Council	Narrandera Council
Copmanhurst Council	Narromine Council
Corowa Council	Nundle Council
Cowra Council	Nymboida Council
Crookwell Council	Oberon Council
Culcairn Council	Orange City Council
Deniliquin Council	Parkes Council
Dubbo City Council	Parry Council
Dungog Council	Queanbeyan City Council
Eurobodalla Council	Quirindi Council
Fish River Water Supply	Richmond River Council
Forbes Council	Rylstone Council
Gilgandra Council	Scone Council
Glen Innes Council	Severn Council
Gloucester Council	Shoalhaven City Council
Goulburn City Council	Singleton Council
Goulburn City Council	Snowy River Council
Grafton City Council	South West Tablelands Water Supply
Great Lakes Council	Tallaganda Council
Greater Lithgow City Council	Tamworth City Council

Temora Council
Tenterfield Council
Tumbarumba Council
Tumut Council
Tweed Council
Ulmarra Council
Uralla Council
Urana Council
Wagga Wagga City Council
Wakool Council
Walcha Council
Walgett Council
Warren Council
Weddin Council
Wellington Council
Windouran Council
Wingecarribee Council
Wyang Shire Council
Yallaro Council
Yarrowlunla Council
Yass Council
Young Council

County Councils and Electricity Distributors to be covered by this review:

Central Tablelands County Council
Lower Clarence County Council
Northern Riverina Electricity and Water
NorthPower
Rous County Council
Southern Riverina Electricity and Water

Appendix 3 List of Submissions

Organisation:	Name:
BADGEE Caravan Park	Campbell, Pauline
Bathurst City Council	Chaffey, G & W
Bingara Shire Council	Halton, C C
Broken Hill City Council	McKeown, R
Broken Hill Water Board	Toussaint, Tony & Sandra
Cabonne Shire Council	Tustin, George T
Central Tablelands County Council	Woodward, Marie
Clarence Valley Conservation Coalition Inc	Bentink, HWN & TM
Cobar Shire Council	Pitkin, Chris
Coffs Harbour City Council	Harvey, Phil
Coleambally Irrigation	Boyle, Ken
Cooma-Monaro Shire Council	Edwards, Roger
Cowra Shire Council	Fleming, Graeme
Department of Land & Water Conservation	Jewell, Stephen
Dept of Local Government	Blain, Leonie
Dubbo City Council	Ramsland, Don
Dungowan Pipeline Water Users Association	Ferguson, Mark
Environment Protection Authority	Wray, A V
Forbes Shire Council	Watt, Neil
Gosford City Council	Armstrong, Neville
Goulburn City Council	Samra, Sam
Great Lakes Council	Payne, Garry
Griffith City Council	Kelly, Tony
Gunnedah Shire Council	Kelleher, Simon
Gunning Shire Council	Shepherd, Neil C
Hastings Council	Haley, Graeme
Hume Shire Council	Fry, Stephen
Hunter Catchment Management Trust	Horner, Ron
Institute of Surveyors	Fitzpatrick, John
Inverell Shire Council	Behl, Bob
Leeton Shire Council	Dutton, Darryl
Local Government & Shires Association	Wilson, Ern
Manilla Shire Council	Wood, S R
Murray Shire Council	Pollard, Don
Murrumbidgee Irrigation Areas and Districts	Henry, Richard
Nambucca Shire Council	Price, Peter
Northern Area ROCs Inc	Henry, Paul
NorthPower	Pluis, Ray
	Hartnett, Brendan
	Hunt, John S
	Murdoch, Greg
	Hood, B W
	Walker, D C
	Budge, Don
	Craggs, Ron

Organisation:

NSW Treasury
Parkes Shire Council
Parry Shire Council
Pasminco Mining - Broken Hill
Pasminco Mining - Broken Hill
Phillips Fox
Shoalhaven City Council
Southern Riverina Electricity
Tamworth City Council
Tourism New South Wales
Uralla Shire Council
Wakool Council
Walcha Council

Name:

Lambert, Michael
McCormack, Alan
Inglis, Glenn
DeLisio, N P
Dini, J R
Drury, Chris
Napper, G
Goldsworthy, J A
Pullinger, Barry

Fulcher, Bob
Moffitt, Craig
Callaghan, Rob

Appendix 4 Glossary of Acronyms

ACTEW	ACT Electricity and Water Corporation
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agricultural and Resource Management Council of Australia and New Zealand
AWRC	Australian Water Resources Council
Benchmarking	Comparison of performance with identified best practice.
BOO	Build, own, operate
BOOT	Build, own, operate, transfer
COAG	Council of Australian Governments
Cross subsidy	Occurs when one group of an enterprise's customers is charged a price higher than the cost of service provision allowing another group to be charged a price lower than the cost of provision.
CSO	Community Service Obligation
DLWC	Department of Land and Water Conservation
DPWS	Department of Public Works and Services
EPA	Environment Protection Authority of New South Wales
FRWS	Fish River Water Supply government business enterprise
IPART	Independent Pricing and Regulatory Tribunal of NSW
kL	Kilolitre
LGSA	Local Government and Shires Association
Major Inquiry	Government Pricing Tribunal's Inquiry into Water and Related Services (1993)
MAQ	Minimum annual quantity
NCOSS	New South Wales Council of Social Services
NHMRC	National Health and Medical Research Council
NPV	Net present value

Independent Pricing and Regulatory Tribunal

NRCC	Northern Rivers County Council
PRP	Pollution reduction program
RFO	River flow objective
STP	Sewage treatment plant
SWTWS	South West Tablelands Water Supply government business enterprise
Trade waste	Sewage sourced from commercial or industrial discharges - usually containing levels of chemicals or other waste products higher than those found in domestic sewage
Tribunal	Independent Pricing and Regulatory Tribunal of NSW
UWRAA	Urban Water Research Association of Australia
WQO	Water quality objective
Yardstick Competition	Comparison of performance with published performance indicators.

Appendix 5 Public hearings

The Tribunal held five public hearings for this review during February and March of 1996. These hearings were coordinated with hearings for the Tribunal's review of bulk water charges to allow presenters and the Tribunal the opportunity to address issues common to both reviews. :

- **Port Macquarie** - Hastings Council Chambers, Lord Street on 22 February 1996
- **Dubbo** - Dubbo Council Chambers, Church Street on 29 February 1996
- **Wagga Wagga** - Training and Customer Advisory Centre, Energy South Hammond Avenue on 6 March 1996
- **Sydney** - Hilton Hotel, Level 2, Pitt Street on 13 March 1996 and
- **Tamworth** - Powerhouse Boutique Motor Inn, Armidale Road on 28 March 1996.

Copies of all submissions and transcripts of the hearings are available for inspection at the Tribunal's offices, Level 2, 44 Market Street, Sydney. A list of submissions is included in Appendix 2 to this Report.

The Tribunal members who considered this Report were:

Professor Thomas G. Parry, Chairman

Mr James Cox, Full-time Member

Ms Joan McClintock, Member

Professor Warren Musgrave, Temporary Member

Organisations and persons who appeared at hearing were as follows:

Port Macquarie - 22 February 1996

Hastings Council

Mr John Hollis, Director of Finance

Mr Murray Thompson, Water Supply Manager

Coffs Harbour City Council

Mr Simon Thorn, Water Engineer

Mr Dale Allen, Coffs Harbour City Treasurer

Clarence Valley Conservation Coalition

Ms Leonie Blain, Secretary

Mr Stan Mussared, Vice President

Dubbo - 29 February 1996

Broken Hill Water Board

Mr Roger Edwards, President

Parkes Shire Council

Mr Kent Boyd, Manager,
Support Services

Pasminco Mining, Broken Hill

Mr Tom Hinds, Manager
Finance and Services

Mr Paul DeLisio,
Superintendent of Projects and
Design

Central Tablelands County Council

Mr Jewell, General Manager

Councillor John Park,
Chairman

Bathurst City Council

Mr Warrick Battye-Smith,
Waste Water Engineer

Wagga Wagga - 6 March 1996

Cowra Shire Council

Mr Neville Armstrong,
General Manager

Griffith City Council

Mayor John Dalbroi

Mr R Behl, General Manager

Mr David Tull, Engineer
Councillor J P Cox McGann

Shire of Murray

Mr Stuart Anderson, Mayor of
Murray Shire

Mr Greg Murdoch, Chief
Executive Officer

Hume Shire Council

Mr Don Pollard, General
Manager

Councillor William McDonald

Southern Riverina Electricity and Water

Mr John Goldsworth, General
Manager Water Supply

Mr Murray Nash, Network
Manager for Water Supply

Mr Gerald Pieper, Manager
Finances for Water Supply

Sydney - 13 March 1996

Department of Land and Water Conservation

Mr Peter McKenzie, Director of
Urban Water

Mr Sam Samra, Planning and
Policy Manager, Urban Water

Individual from Shoalhaven

Mr C.C. Halton

Institute of Surveyors

Mr Peter Price, Surveyor

Tamworth - 28 March 1996

Tamworth City Council

Mr Neil Sharpham, Acting
Technical Services Director

Local Government & Shires Association

Mr John Wearne, President of
the Shires Association of New
South Wales

Mr Shaun McBride, Economic
Development Policy Officer

Uralla Shire Council

Mr Bob Fulcher, General
Manager

Dungowan Creek & Valley Water Users' Association and Dungowan Pipeline Water Users' Association

Mr George Parker, President,
Dungowan Creek & Valley
Water Users' Association

Mr Simon Kelleher, Secretary,
Dungowan Pipeline Water
Users' Association

Mr John Holt, Assistant
Secretary Dungowan Water
Users' Association