

**DEPARTMENT OF LAND AND WATER
CONSERVATION**

BULK WATER PRICES

from 1 October 2001

DRAFT REPORT

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

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CONSERVATION**

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from 1 October 2001

DRAFT REPORT

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Inquiries regarding this document should be directed to:

Chris Spangaro (02) 9290 8419

Con Read (02) 9290 8436

Independent Pricing and Regulatory Tribunal of New South Wales

Level 2, 44 Market Street Sydney NSW 2000

 (02) 9290 8400 Fax (02) 9290 2061

www.ipart.nsw.gov.au

All correspondence to: PO Box Q290, QVB Post Office NSW 1230

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1 INTRODUCTION AND OVERVIEW

The Independent Pricing and Regulatory Tribunal of New South Wales (the Tribunal) regulates the charges that the Department of Land and Water Conservation (DLWC) levies for services relating to the delivery of bulk water to farmers, irrigators, industrial users and town water suppliers. The Tribunal's role is to set the maximum prices DLWC can charge for these services, in accordance with Section 11(1) of the *Independent Pricing and Regulatory Tribunal Act, 1992*. The Tribunal's determination will formally apply to the Water Administration Ministerial Corporation which is administered by DLWC.

Over the last five years, DLWC has been made significant changes to its structure and accounting processes, aimed at improving the efficiency and transparency of its operations and enabling the introduction of fully cost reflective pricing. These reforms - which have been driven partly by the Tribunal's 1996 review of pricing policies for water services in NSW and by the Council of Australian Government's 1994 Water Reform Framework - include the separation of its water delivery services from its resource management activities by establishing State Water as a separate business and accounting unit within DLWC.

During this time, the Tribunal has not been able to set a price path of more than two years. The main reason was that DLWC could not provide it with the sound basis for establishing and allocating costs that is required to move bulk water prices towards cost reflective levels. In its 2000 determination, the Tribunal indicated that it would consider setting a three-year price path as part of its review for its 2001 determination, subject to DLWC making sufficient progress in implementing its recommendations on further institutional reform and activity costing.

The Tribunal notes that DLWC still has considerable scope to further refine its structural separation and financial information. However, it believes that the costing information DLWC has provided - together with the reports of two consultants the Tribunal commissioned to review State Water's operating and capital expenditure and water resource management expenditure within DLWC and State Water - has given it a sufficiently sound basis for calculating costs.

The ACIL Consulting review of water resource management costs indicated to the Tribunal that the level of water resource management costs sought by DLWC in its submission is likely to be conservative. The application of an efficient planning process is likely to expand rather than contract requirements for water resource management expenditure. For this reason the Tribunal proposes adopting the consultancy recommendation to allow the full sum of water resource management costs sought by the Department. Whilst this results in an increase in the total cost base to be recovered, the Tribunal was satisfied that the inclusion of these costs was both appropriate to enable cost reflective pricing and necessary to encourage efficient resource management.

The ACIL consultancy also provided the Tribunal with a reasonable framework for allocating these costs between users and the broader community.

The Tribunal has completed its review of the information provided by DLWC, consultants' reports and the input provided by other stakeholders, and made a draft determination. It proposes to:

- **set a three-year price path from 1 October 2001 to 30 June 2004**
- **adopt an 'impactor pays' approach to allocating costs between bulk water users and the broader community, which involves allocating costs to individuals or groups in proportion to contribution they make to creating the costs or the need to incur the costs**
- **set a maximum price for each of DLWC's bulk water charges, and to increase these prices each year so that prices move closer to full cost recovery level by the end of the determination period, with full cost recovery achieved in the majority of regulated rivers**
- **cap the amount by which any individual price can increase at 20 per cent (real) per annum for water extracted from unregulated rivers and groundwater sources and 15 per cent (real) per annum for water extracted from regulated rivers**
- **allow DLWC to progressively introduce a two-part tariff structure on unregulated rivers that includes a fixed charge and a variable charge based on usage.**

Because the current level of cost recovery varies between valleys, the prices in some valleys will increase by significantly less than the cap, particularly on regulated rivers, with users on the majority of these rivers facing real increases of 8% per annum or less. The revised cost base and proposed prices will result in DLWC's overall level of cost recovery increasing from 61 per cent to 73 per cent during the determination period.

The Tribunal proposes to accept DLWC's proposal to extend the two-part tariff structure to unregulated rivers because this structure emphasises consumption-based pricing, and thus will give users some capacity to manage their bulk water costs and encourage demand management. It proposes to adopt the 'impactor pays' approach to cost allocation because it believes that this approach—which was recommended by ACIL Consulting after careful examination of DLWC's water resource management expenditure at a 'sub product' level - significantly reduces the risk of inappropriate cost allocation.

This report discusses the Tribunal's draft determination and the basis for its decisions in more detail:

- Chapter 2 outlines the review and price setting process the Tribunal followed to make the determination
- Chapter 3 assesses DLWC's progress since the 2000 determination
- Chapters 4, 5 and 6 explain the basis on which the proposed prices were set
- Chapter 7 discusses the proposed maximum price for each charge
- Chapters 8, 9 and 10 discuss the implications of these charges for DLWC, water customers and the environment.

The Tribunal invites submissions on this draft determination from interested stakeholders by Friday 9th November 2001. The Tribunal anticipates that its final determination will be released in late November 2001.

2 THE TRIBUNAL'S REVIEW AND PRICE SETTING PROCESS

One of the Tribunal's primary considerations for this determination is the need to set maximum prices for bulk water services that more adequately recover the costs DLWC incurs in providing these services, in line with a Government commitment to achieve full cost recovery for provision of bulk water. This commitment was made as part of the Council of Australian Governments' Water Reform Framework agreed in 1994. In relation to bulk water, this included a commitment to full cost recovery with prices set by a jurisdictional regulator, endorsement of consumption based pricing, full cost disclosure and institutional separation of service provision from water resource management, standards setting and regulatory enforcement.

The Tribunal recognises the importance of these commitments, particularly to ensure longer term environmental sustainability and economic efficiency. However, it is seeking to balance the need to implement these commitments with other important considerations, including the ability of bulk water users to absorb the prices rises required to achieve full cost recovery and its own obligations under the IPART Act.

To achieve this objective, the Tribunal has undertaken a detailed review and price setting process. The first step of this process was to seek input from a wide range of stakeholders. It invited DLWC to submit a proposal on the maximum prices it believes are necessary to recover its costs for providing bulk water and related services over the period from 1 July 2001 to 30 June 2004. It also invited bulk water users, environmental groups and members of the public to make submissions. And it held a public hearing where selected parties presented their views, and two regional workshops where key stakeholders discussed the proposals.¹

In addition, the Tribunal commissioned two consultants' reports, to review and supplement DLWC's pricing proposal and financial information. PricewaterhouseCoopers (PwC) and ACIL Consulting (ACIL) were asked to:

- assess the appropriateness of State Water's proposed operating and capital expenditures
- comment on State Water's processes for determining future infrastructure expenditures
- identify any potential efficiency improvements in State Water's capital and operating expenditures
- review the level of water resource management expenditure
- review the extent to which water resource management expenditure should be recovered from bulk water users.²

¹ The public hearing and workshops were held on 22 June, 29 June and 6 July 2001 respectively.

² Copies of all submissions, a transcript of the public hearing, and the two consultants' reports can be viewed on the Tribunal's website at www.ipart.nsw.gov.au or inspected at the Tribunal's office.

The Tribunal's next step was to determine whether DLWC had made sufficient progress towards meeting the requirements set out in the last determination to enable the Tribunal to set a medium-term price path. The Tribunal believes that although DLWC has only gone part way towards meeting these requirements, it has made reasonable progress in some of the key areas. In particular, it has provided the Tribunal with significantly improved financial information. The Tribunal is confident that this information - together with the consultants' reports - provide it with a sufficiently robust understanding of DLWC's and State Water's cost base to enable it to set a three-year price path.

Finally, the Tribunal used the information gained in the steps above to determine a proposed maximum price for each bulk water charge. The key steps in this process were to:

- establish the total level of efficient costs DLWC and State Water will incur during the determination period in managing and operating the bulk water system
- allocate these costs to the users of bulk water and to the Government, to determine the total costs to be recovered from users through bulk water charges
- calculate the price increases required to achieve full cost recovery by 2003/04, and determine a transition path that will protect users from unreasonable price increases
- determine bulk water prices in line with the outcomes of these steps.

Throughout this process, the Tribunal has had regard to its obligations under the IPART Act and other relevant government policy and legislation. The IPART Act requires it to achieve an appropriate balance between a range of economic, social and environmental considerations (listed in Section 15 of the Act), which include:

- economic efficiency
- financial sustainability
- the promotion of competition
- equity
- environmental sustainability
- simplicity and transparency
- certainty and control of the costs of regulation.³

The Tribunal was also mindful of the fact that the new Water Management Act 2000 will be implemented over the period of its price determination, and this is likely to have significant impacts on bulk water users and on the management of environmental issues related to the extraction of bulk water. The interaction of this Act and the Tribunal's proposed determination are discussed in Chapter 10.

The Tribunal appreciates the significant contributions made by stakeholders to this review and would strongly encourage the development of joint approaches, where possible, by stakeholder groups and the Department prior to the next determination.

The Tribunal members who considered this proposed determination are Dr Thomas Parry (Chairman), Mr James Cox (Full-time Member), and Dr Warren Musgrave (Member).

³ The Section 15 requirements and the regard the Tribunal has had to these requirements is outlined in Appendix 2.

Copies of all submissions, a transcript of the public hearing and the ACIL Consulting and PricewaterhouseCoopers reports can be viewed on the Tribunal's website at www.ipart.nsw.gov.au and are available for inspection at the Tribunal's office.

3 ASSESSING DLWC'S PROGRESS SINCE THE 2000 DETERMINATION

In its 2000 determination, the Tribunal set out some specific requirements that DLWC would need to meet before the Tribunal would consider setting prices for more than one year.⁴ The most important of these was improved financial information that provided a rigorous and clearly defined cost base for bulk water delivery and water resource management from which the Tribunal could determine cost reflective prices.

The Tribunal has reviewed DLWC's progress, and recognises that it has not met all the requirements. However, the Tribunal believes that it does have sufficient information to enable it to make a determination for three years, and move prices towards cost reflective levels. The information DLWC has provided on its cost base is of a much higher quality than for previous determinations. In addition, the consultants commissioned by the Tribunal to investigate DLWC's costs and propose sound cost allocation principles have provided additional input that filled many of the remaining gaps.

This chapter summarises DLWC's progress on some of the key requirements, including the provision of information on the separation of State Water from the rest of DLWC, improved financial information, and improved level of customer service.

3.1 Separation of State Water

While DLWC had established State Water as a separate business unit within DLWC at the time of the last determination, it still had significant work to do to effectively separate State Water's role and responsibilities as bulk water supplier from DLWC's broader water management and regulator role. That work is ongoing, and the Tribunal expects that DLWC will issue State Water with an operating authority and a water access authority, effectively ring fence State Water's operations from rest of DLWC and establish sound, transparent service agreements between State Water and DLWC.

3.1.1 Issuing an operating authority and water access authority

DLWC has made progress in developing operating and water access authorities for State Water which are intended to provide the framework for separating State Water's roles, responsibilities and accountabilities. These instruments are currently in draft form, and when finalised will require State Water to:

- make summaries of annual valley operating plans available to customers
- establish performance standards and an associated measurement and evaluation mechanism in consultation with Customer Service Committees (CSC's)
- establish, in consultation with CSC's, a Customer Service Charter that is to be reviewed annually
- maintain quarterly and annual financial reports in an auditable format and itemised performance against the Statement of Financial Performance
- prepare an annual report on each river operational system including performance against relevant IPART determinations or recommendations

⁴ See Appendix 6 for a complete list.

- allow a financial audit of State Water to be conducted in accordance with the directions of the Director-General and recommendations contained in IPART determinations
- develop a document of similar format to the Statement of Financial Performance to be used as an internal DLWC planning tool.

The Tribunal expects that the introduction and effective administration of these authorities will result in more transparent separation and further improvement in State Water's information provision.

3.1.2 Ring fencing State Water from DLWC

DLWC believes that it has made satisfactory progress in ring-fencing State Water. It has established State Water as a separate business unit within its financial accounting system, and undertaken an extensive program⁶ to ensure that State Water operates in an independent and clearly separate way from DLWC and is assessed in relation to its performance against financial and commercial targets.

Many stakeholders⁵ are concerned about the method of separation, however, and believe State Water should be established as a separate legal identity. They believe that there are potential conflicts of interest between service provision and regulation, that there is a risk of costs being incorrectly allocated to State Water or DLWC, and of costs being double counted. The NSW Irrigators' Council⁷ believes that the method of separation does not satisfy the COAG framework of accountability, increased efficiency and minimisation of conflicts of interest.

The Tribunal retains some concerns about the degree of separation achieved. However, it has decided it will monitor the effectiveness of the current arrangements over the determination period, and review this issue at the next determination.

3.1.3 Establishing sound, transparent service agreements

One of the criteria for effective ring-fencing is the existence of sound, transparent agreements in relation to any services provided by the ring-fenced business and a related business and vice versa. Ideally, the provision of these services should be subject to open tender so that customers can be confident that services of a particular standard are delivered at the lowest price. DLWC currently provides a range of services to State Water, only some of which are charged for by way of service agreements. DLWC considers⁸ that none of these services can be substituted by those of a commercial service provider, although some customers dispute this.⁹

⁵ DLWC, *Transcript of Public Hearing*, 22 June 2001, p 7.

⁶ See, for example, submissions from NSW Irrigators Council, Border Rivers Food and Fibre, Namoi Valley Water Users' Association Inc., Macquarie Customer Service Committee, Murray Customer Service Committee.

⁷ See NSW Irrigators' Council submission, p 10.

⁸ DLWC submission, Appendix 1.

⁹ See for example submissions from NSW Irrigators Council and Lachlan Valley Customer Service Committee.

As part of its review of State Water's operating and capital expenditure, PwC examined DLWC's service agreement process. It found that the existing agreements for service provided by DLWC to State Water fall into two categories - those related to program activities (such as technical services for river gauging, surveillance surveys, and software application development), and those related to corporate support and shared facilities (including payroll services, legal services, and human resources management). However, not all the services supplied by DLWC are covered by service agreements at this stage. The process is still developing, and some agreements have not been signed.

PwC recommends that service agreements for all services provided by DLWC to State Water and vice versa should:

- include output performance measures and monitoring processes
- clearly identify costs related to outputs
- be subject to documented and agreed variations
- be signed
- be subject to market testing.

The Tribunal expects DLWC to quickly formalise and finalise the process of charging for services between DLWC and State Water. It also expects that, as State Water becomes more experienced in conducting its business, it will be able to seek tenders from and engage external service providers for some of the services currently provided by DLWC.

3.2 Financial information

DLWC was required to provide a range of financial information including audited special purpose valley financial statements, and a copy of its current total asset management plan (TAMP).

3.2.1 Audited valley financial statements

State Water now produces valley financial reports, which provide better quality financial information than that supplied to previous reviews. However, the valley financial accounts are still not independently audited. DLWC believes an independent audit cannot be carried out because the valley financial reports are not derived from separate sets of accounts. The Tribunal is aware that there are cost implications in setting up separate accounts for each valley, but it considers that further work needs to be done to ensure the integrity of the cost database. The Tribunal notes that, in discussions, ACIL commented that while State Water's process for recording information is sound, it is not consistently implemented across all valleys.

3.2.2 Total Asset Management Plan (TAMP)

State Water has developed a TAMP, which provides a basis for its future asset management and hence asset related expenditure. PwC reports¹⁰ that the current TAMP provides a more detailed assessment of State Water's forecast costs than has been available in the past, and probably provides a better assessment than is available from most other major headwork owners. It notes, however, that the TAMP is undergoing continuing revision.

Some customers¹¹ have also commented on this revision, and are concerned that it seems to translate into increases in costs. They are also concerned about the complexity of some of the methods used to calculate costs, such as the use of annuities. The Tribunal has also had concerns about what has been an uncertain and varying cost base, although it anticipates a greater degree of certainty following the PwC capital and operating expenditure review.

3.3 Customer service

The Tribunal requested a range of information to show what progress DLWC had made in improving its customer service standards, including:

- consulting with user groups and other stakeholders
- establishing a Customer Service Charter
- reviewing and improving the billing system
- establishing a protocol for dealing with customer complaints; and
- conducting a customer satisfaction survey.

3.3.1 Consultation

At the time of the last determination, State Water had already established customer service committees (CSC's) made up of representatives of bulk water customers in individual valleys to provide it with advice on issues such as service levels and asset management priorities. However, some customers were concerned about how effective the CSC could be in influencing costs and service levels. Twelve months later, these concerns remain. The Tribunal received several submissions from CSC's, in which they complained about a lack of information, late arrival of financial information, and lack of consultation over costs and service levels.

The Tribunal is concerned that the objective of the CSC's - to enable stakeholders to influence decisions about how bulk water services are delivered in their valley - may not be realised. The Tribunal expects that in meeting the obligations set out in its Operating Authority and Access Authority, State Water will better manage its consultation with CSC's in the period up to the next determination.

¹⁰ PricewaterhouseCoopers, *Review of Capital and Operating Expenditure in the New South Wales Department of Land and Water Conservation's State Water Business*, July 2001, p 82.

¹¹ See, for example, submission from NSW Irrigators Council.

3.3.2 Billing system

State Water has made several improvements and changes to its billing system, including having an audit conducted by the NSW Auditor General. These appear to have been effective, as few stakeholders mentioned billing problems in submissions to the current determination. However, the Tribunal will look at this issue again at the time of its next determination, when it expects DLWC will have undertaken customer surveys that will give the Tribunal a better view of customer perceptions of the new billing system.

3.3.3 Customer surveys and customer service charter

The Tribunal notes that DLWC has not conducted a customer survey since 1999, but intends to do so in October 2001. It also notes that DLWC has not completed negotiating a customer service charter with CSC's, but that such a charter is being developed. The establishment and annual review of this charter has also been included in State Water's draft Operating Authority.

4 ESTABLISHING DLWC'S EFFICIENT COST BASE

The first step in determining maximum prices for bulk water services for this determination was to assess the efficient costs of DLWC's water operations and water resource management activities. To do this, the Tribunal examined estimates of these costs submitted by DLWC¹², together with the reviews of these estimates it commissioned from PricewaterhouseCoopers (PwC) and ACIL Consulting (ACIL) and stakeholder submissions. The Tribunal concluded that the total efficient annual cost base for the period 2001/02 to 2003/04 is \$99.5m per annum (expressed in 2001/02 dollar values), which is 5 per cent less than DLWC's estimate of \$104.9m.¹³ It then subtracted the estimated savings resulting from the implementation of *A New Tax System (Goods and Services Tax) Act, 1999* (ANTS)¹⁴, to arrive at an annual total cost base of \$97.3m.

Table 4.1 summarises the Tribunal's proposed revisions to DLWC's estimate of total costs for the NSW bulk water system. This system is the responsibility of the DLWC with bulk water delivery the primary responsibility of State Water, a business unit of the Department, with the latter also having broader responsibility for managing the system and its water resources. The balance of this chapter discusses these major components of this total cost figure - operating and maintenance costs, water resource management costs and capital costs.

¹² To arrive at this estimate, DLWC took its 1999/2000 actual costs, then subtracted an amount for efficiency savings and added an amount for costs which it argues should be part of the operational costs recovered. These 'additional' costs are largely related to water resource management. The efficiency savings are not forecast productivity improvements per se, but rather are the unachieved portion of the savings required in the 1998 determination. The additional costs result from several factors, including higher levels of resource management, some reclassification of costs (from annuity capex to routine (asset maintenance) opex), implementation of TAMP, etc.

¹³ The return on assets included in these costs is the expected return in 2003/04. The expected return in 2001/02 is \$1.3 million (see section 4.3.3).

¹⁴ This savings estimate was based on the Econtech model, which has been widely used by regulators, business and government, to assess GST impacts.

**Table 4.1 Total efficient costs of the NSW bulk water system
(2001/02 \$,000 constant for each year of the pricing period)**

Costs	DLWC's estimate	Tribunal's revised estimate
Operating and maintenance	33,798	30,637
Water resource management	42,098	42,098
Capital		
State Water renewal annuity	6,693	5,040
State Water compliance annuity	10,868	11,263
MDBC renewal annuity	5,935	3,870
MDBC compliance annuity	-	2,757
DBBRC annuity	85	85
Depreciation	1,582	1,582
Return on assets	3,800	2,178
Total capital	28,964	26,774
Total costs	104,860	99,508
Total cost after ANTs savings	102,544	97,321

Note:

1. The cost have been indexed to real 2001/02 values using CPI for the 8 Capital Cities and IPART's forecast CPI of 3.0 per cent.
2. Totals may not add up due to rounding.

4.1 Operating and maintenance costs

Operating and maintenance costs are those that relate to the daily operations and administration of DLWC's bulk water business. After considering DLWC's estimate of these costs and PwC's review of this estimate, the Tribunal accepts PwC's view that the DLWC estimate could be reduced by around 9 per cent. As a result, it proposes to assess operating and maintenance costs as \$30.6 million per annum.

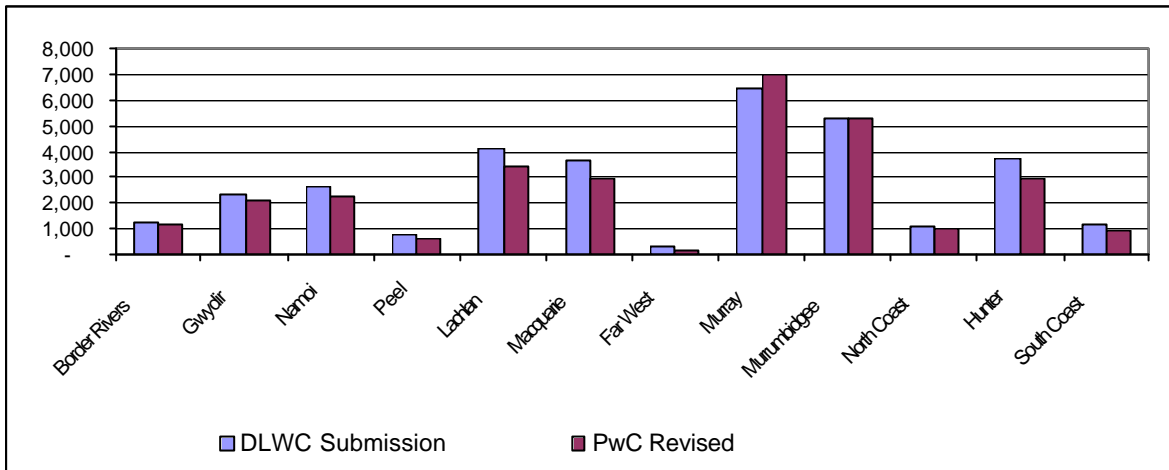
4.1.1 DLWC's estimate

DLWC estimated its operating and maintenance expenditure at \$33.8m. This amount includes operating costs related to State Water, the Murray-Darling Basin Commission (MDBC) and the Dumaresq Barwon Border River Commission (DBBRC). While the costs related to DBBRC are very small, those estimated to MDBC are significant, at \$7.9m.

4.1.2 PwC's review

PwC examined the operating and maintenance costs included in DLWC's estimate at a detailed, sub-product level. PwC recommended a net reduction in total operating and maintenance costs of \$3.2m per annum, or around 9 per cent. This reduction resulted from removing costs that should not be included as operating and maintenance costs, scaling down proposed costs to benchmark levels, and identifying areas for efficiency improvements.

Figure 4.1 Operating Costs (2001/02 \$'000)



PwC's recommended adjustments in operating costs vary from valley to valley as shown in Figure 4.1. In some valleys it has recommended reductions higher than the overall 9 per cent, while in other valleys it has recommended increases.¹⁵

After considering PwC's report and the arguments raised in submissions, the Tribunal proposes to accept PwC's revisions to DLWC's operating costs, as shown in Table 4.2. The Tribunal recognises that the industry is in the process of reform brought on by the introduction of the new Water Management Act which will continue for some years as the Act is progressively implemented¹⁶. At the next review, DLWC's operating costs are likely to be reviewed again in the light of ensuing developments in the industry. Therefore the costs allowed in this determination should not necessarily be regarded as the benchmark efficient costs.

Table 4.2 Revised operating and maintenance costs, (2001/02 \$'000)

	DLWC estimate	Revised estimate	Difference
Regulated	30,439	27,394	-3,045
Unregulated	2,753	2,643	-110
Groundwater	606	600	-6
Total	33,798	30,637	-3,161

Note:

The values in the table refer to operating costs after exclusion of efficiency savings and the inclusion of proposed additional costs.

¹⁵ For full details of the operating costs, please refer to the PwC report *Review of Capital and Operating Expenditure in the New South Wales Department of Land & Water Conservation's State Water Business*.

¹⁶ See Chapter 10 for an overview of the Water Management Act.

4.2 Water resource management costs

Water resource management (WRM) costs are those incurred by DLWC to manage river and ground water systems. There was some debate among stakeholders about what WRM costs should be considered for this determination. ACIL's review of the WRM costs commented that:¹⁷

...the water resource management costs tabled by DLWC in its submission are almost certainly conservative in the sense that continued application of an efficient planning process is likely to expand rather than contract the expenditure items, possibly quite substantially...

After considering the various views expressed on this issue, together with DLWC's estimate of its WRM costs and ACIL's review of this estimate, the Tribunal proposes to accept the DLWC estimate of \$42.1 million per annum.

4.2.1 WRM costs considered for this determination

The term WRM is very broad, and can include a wide range of activities. WRM costs can be operating costs or capital costs or both. The Tribunal's main issue for this determination was to isolate which WRM costs DLWC should recover in its bulk water prices. It accepted the essence of ACIL's definition of WRM costs as any costs that are:

- made necessary as a consequence of extractive water use activities, including construction and operation of dams, weirs, pumps, etc
- concerned directly with the hydrology of the NSW surface and groundwater systems
- not justified by the benefits they provide to current and future extractive users alone.

Environmental groups and NSW Fisheries argued that WRM costs incurred by agencies other than DLWC, such as NSW Fisheries, should also be included as part of the assessment of the 'full cost' of the bulk water services and recovered from users. However, it is beyond the scope of the Tribunal's review to evaluate WRM costs that may be incurred by other agencies.

4.2.2 DLWC's estimate

DLWC estimated its WRM costs as \$42.1m per annum. This estimate only includes operating costs relating to WRM. Capital costs incurred may serve several purposes including WRM, occupational health and safety and bulk water delivery but any WRM component of these costs has not been separately identified.

¹⁷ ACIL, *Review of Water Resource Management Expenditure in the NSW Department of Land and Water Conservation and State Water Business*, p vii, 2001.

Table 4.3 DLWC estimate of non-capital WRM costs

	2001/02 \$'000
Regulated	19,799
Unregulated	14,682
Groundwater	7,616
Total	42,098

4.2.3 ACIL's review

ACIL commented that the ongoing water reform process and the introduction of the *Water Management Act, 2000* will affect DLWC's WRM costs, and that the full impact of these changes are not yet known. (For example, the new Act requires DLWC to introduce new systems and procedures, and the cost impact of this is not fully known.) Hence estimating efficient WRM costs for the current review period is an inherently uncertain process. In this context, ACIL recommends that the Tribunal approve the DLWC estimate of WRM costs for this pricing determination, which they note is likely to be conservative. The Tribunal recognises that current changes in the industry make it difficult to forecast efficient levels of WRM costs at this stage, and so proposes to accept ACIL's recommendation.

4.3 Capital costs

Capital costs for water delivery and water resource management include direct capital expenditure, depreciation and return on assets. As part of its review of the operating and capital expenditure proposed by DWLC, PwC carried out an assessment of capital costs which includes a:

- detailed review of the capital projects in the State Water Total Asset Management Plan (TAMP), reviewing the timing, necessity and reasonableness of the expenditure proposed in the TAMP
- review of the portion of the Murray Darling Basin Commission's (MDBC) capital costs included by DLWC
- review of the portion of the Dumaresq Barwon Border Rivers Commission (DBBRC) capital costs included by DLWC
- high level review of the assets making up the asset base.

The Tribunal has examined DLWC's estimates for each of these categories of capital cost, along with PwC's detailed review of DLWC's capital expenditure program. The Tribunal proposes to accept PwC's recommendations for changes in the components of this capex program — both in the quantity and timing of expenditure. These changes, and a revision to the rate of return from 7 per cent to 5 per cent (discussed at 4.3.3), reduce the total capital costs included in the cost base from \$29.0 million to \$26.7 million per annum. The Tribunal also believes the allocation and timing of expenditure in the revised capex program is more realistic.

Table 4.4 below shows DLWC’s estimated capital cost base. Note that it excludes capital costs negotiated directly and shared between DLWC and irrigators, such as those for capacity enhancements. As the cost share is negotiated prior to incurring the capacity enhancement expenditure, it is not appropriate to subsequently reallocate the Department’s costs for this expenditure by including it in the regulated cost base. The rest of this section explains the revisions the Tribunal proposes to make to this base, in line with PwC’s recommendations.

Table 4.4 Updated DLWC estimate of capital cost (2001/02 \$’000)

	Capital expenditure				Depreciation Charges	Return on Capital	Total
	State Water Renewals Annuity	State Water Compliance Annuity	MDBC Assets Renewals Annuity	DBBRC Asset Annuity			
Regulated	6,559	10,855	5,935	85	84	3,734	27,253
Unregulated	134	12	0	0	0	66	213
Groundwater	0	0	0	0	1,498	0	1,498
Total	6,693	10,868	5,935	85	1,582	3,800	28,964

Note:

The Groundwater depreciation charges were subsequently revised from \$0.9m in the original submission to \$1.5m. The \$0.9m was current at the submission date, but subsequently an updated version of the asset data was attained. This higher value of \$1.5m was reviewed by the consultants.

4.3.1 Capital expenditure (capex)

PwC derived DLWC’s estimate of capital expenditure over the next 30 years from its TAMP. PwC commented that the current TAMP provides a far more detailed assessment of DLWC’s projected capex than has been available in the past.¹⁸ Nevertheless, PwC found inconsistencies in how DLWC allocated costs to the areas of renewals, compliance and enhancements in the TAMP, and identified some areas where inadequate expenditure had been allowed. Its assessment concluded that revisions to DLWC’s capex, particularly compliance capex, are needed in order to meet safety standards.

PwC revised the 30 year capital expenditure program to a level higher than proposed by DLWC. This was mainly a result of increasing compliance capital expenditure, and the inclusion of a component for compliance in MDBC costs. These are discussed below. Generally the Tribunal has adopted the revised capital expenditure numbers from PwC. The Tribunal intends, as part of its next bulk water review, to compare DLWC’s actual capital expenditure with the amounts allowed for in this determination.

¹⁸ PwC, *Review of Capital and Operating Expenditure in the New South Wales Department of Land & Water Conservation’s State Water Business*, 2001 p 82.

DLWC capex is broken up into the following major areas, which are discussed separately below:

- State Water renews capital expenditure funds renewal, replacement and/or refurbishment works on dams, regulators and weirs to ensure the continuation of the function/services.
- State Water compliance capital expenditure on dams, regulators and weirs is incurred to ensure that the assets and operations meet relevant safety, environmental and technical standards set by various regulatory bodies.
- State Water enhancement capital expenditure augments the assets to increase their capacity.
- MDBC and DBBRC capital expenditure – these two organisations are inter jurisdictional bodies, set up to manage rivers systems bordering VIC, NSW and SA (MDBC) and QLD and NSW (DBBRC).

State Water renewals capex

Renewals capex relates to expenditure incurred to refurbish existing structures, or to replace them at the end of their useful life, so that the organisation retains the same service capacity. State Water's renewal capex is categorised according to the major asset type it relates to - either dams or regulators and weirs:

- **Dams.** A recent review of State Water's dams found that past maintenance was inadequate, and that the dams have deteriorated significantly. To rectify this, DLWC plans an intensive program of renewal works for dams in the coming few years. While PwC believes this expenditure is justified, it is concerned that the current TAMP may not include sufficient renewals capex in later years. This could result in another increase in renewals at the start of the next 30 year cycle of the TAMP. However, because increasing renewals capex in the later year will have only a small impact on the renewals annuity for this determination period, PwC did not recommend adjusting the capex forecast.
- **Regulators and weirs.** PwC believes the renewal expenditure for these assets is generally sufficient. However, it is concerned with the overall lower than expected levels allocated to major periodic maintenance/rehabilitation. In addition, some stakeholders commented on the large capital expenditures planned for the first five years of the TAMP. PwC comments that this expenditure is required due to inadequate maintenance in the past. The Tribunal notes that it is important that CSC's and other stakeholders ensure that State Water's maintenance program is implemented.

As Figures 4.2 and 4.3 show, PwC's revised estimate of renewals capex is much lower than DLWC's estimate. The main reasons for this are that PwC amended some costs and deferred the timing of some projects into the future years. Additionally, DLWC provided PwC with an updated version of the TAMP which included lower costs than those in the version of the TAMP DLWC's original submission was based on.

Figure 4.2 Dam renewals capex - DLWC estimate compared to Tribunal's revised estimate

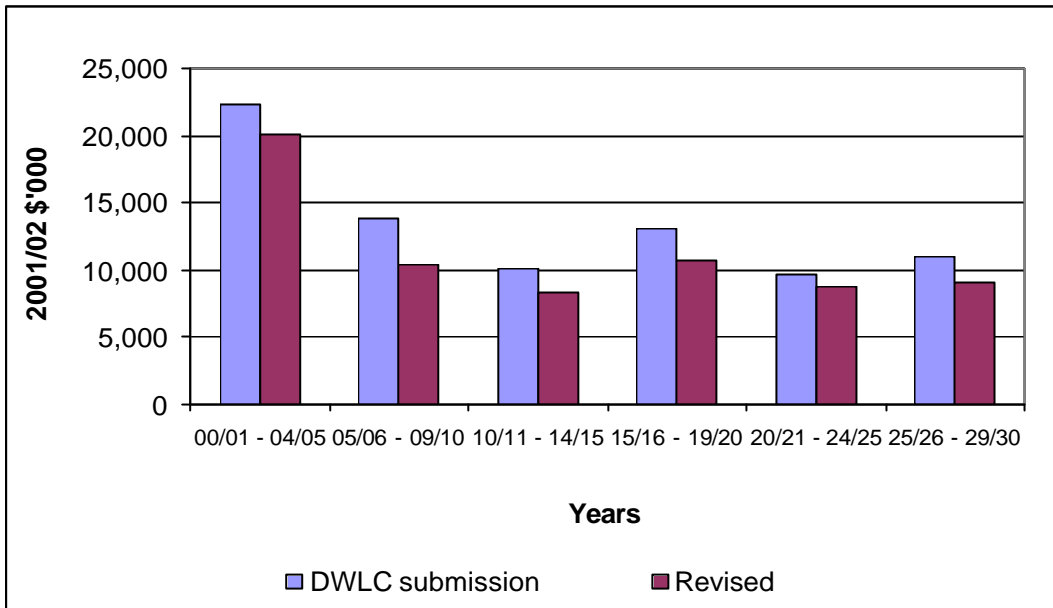
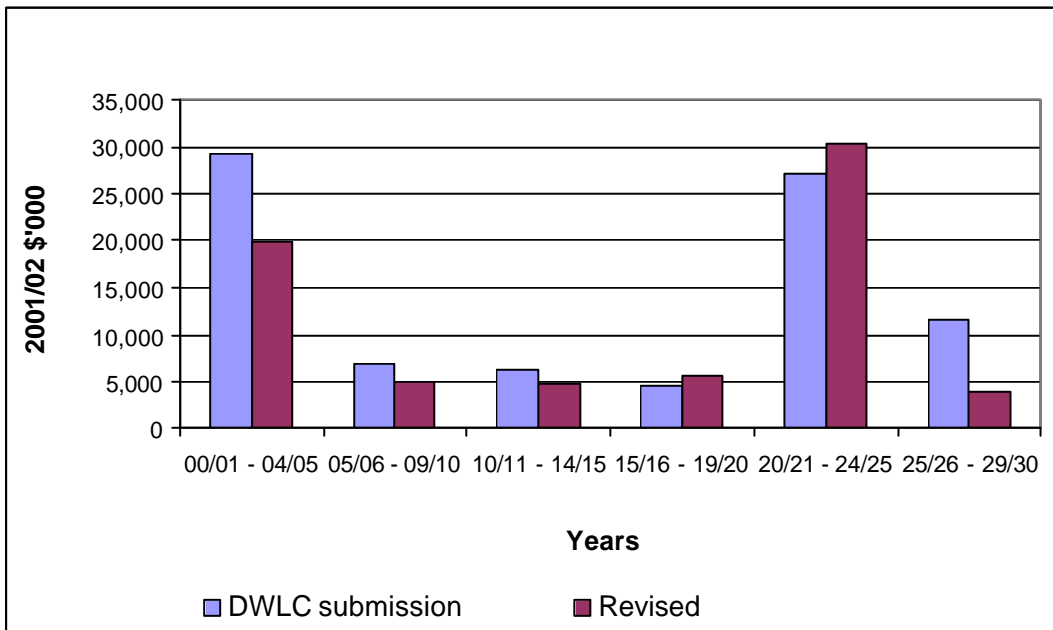


Figure 4.3 Regulator and weir renewals capex - DLWC estimate compared to Tribunal's revised estimate



Allocation for 2020/21 – 2024/25 period includes allowance for replacement of Berembed Weir and Regulator.

State Water compliance capex

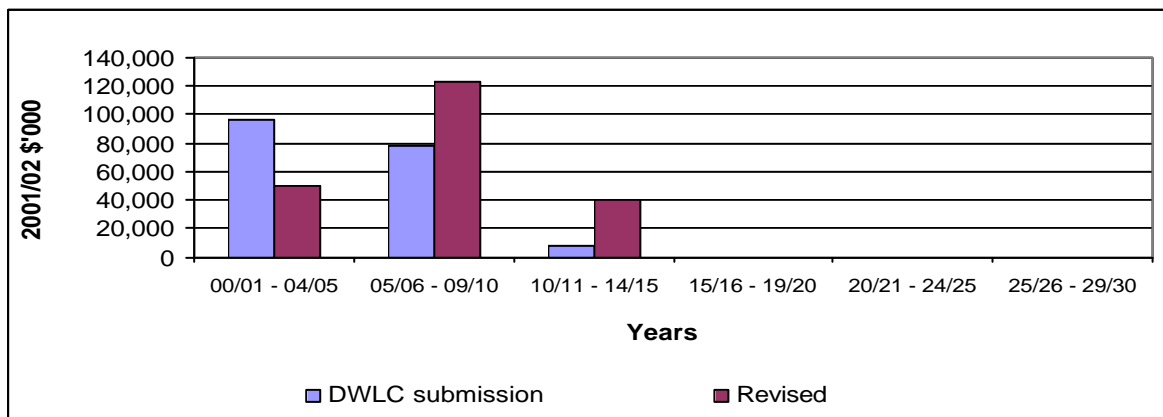
Compliance capex aims to ensure that an organisation's assets and operations meet the standard requirements set down by various authorities. It differs from renewal capex in that it increases an asset's functionality, whereas renewals capex merely maintains its current capacity and quality. As a result of its review, PwC has recommended significant changes to the timing and quantity of State Water's compliance capex:

- **Dams.** As Figure 4.4 shows, PwC recommends increasing the overall amount of compliance capital expenditure. This is largely to enable State Water to undertake more dam upgrades, so it can meet new guidelines in relation to floods and seismic activities. PwC also recommends adjusting the timing of this expenditure, extending it further into the future, as it believes that the current timetable in the TAMP is not achievable.

PwC also notes that more dams compliance capex may be needed to address environmental impacts associated with extraction - for example to mitigate thermal pollution, create fishways and improve environmental flows - than is allocated by DLWC. However, because currently available information is insufficient to estimate how much additional expenditure is required to offset environmental damage caused by water extraction, PwC did not recommend adjusting DLWC's compliance capex at this time. Once these issues are further clarified, an increased compliance annuity may be required.

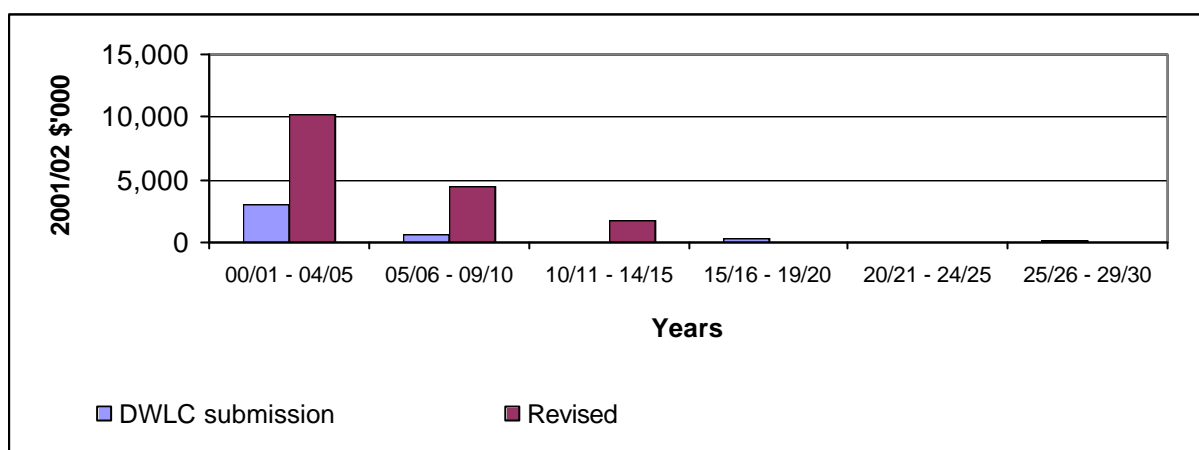
- **Regulators and weirs.** Most of the compliance capex DLWC allocated to State Water's regulators and weirs is to improve fishways and upgrade 'drop boards'¹⁹ (for OH&S reasons). NSW Fisheries has argued for even more fishways to be constructed on these river structures. PwC notes that DLWC's program in this area is unlikely to satisfy NSW Fisheries and proposed an increased allocation for this purpose. Additionally PwC recommends reallocation of additional expenditure from the Renewals/Replacement category in DLWC's submission into the OH&S Compliance category - principally for 'drop board' upgrades. This is reflected in Figure 4.5.

Figure 4.4 Dam compliance capex - DLWC estimate compared to Tribunal's revised estimate



¹⁹ Drop Boards are structures on dams which may be raised or lowered to moderate the flow of water through the dam. Drop boards can be either manually operated or automated.

Figure 4.5 Weir and regulator compliance capex - DLWC estimate compared to Tribunal's revised estimate



State Water's enhancement capex

The major enhancement capex included in DLWC's TAMP is the off-creek storage on Lake Mejum in the Murrumbidgee Valley. This project has been on the drawing board for the last 20 years, and has recently been the subject of renewed interest. However, its capital costs will be recovered directly from the users, not through this determination (the price is to be negotiated at the inception of the project). It therefore falls outside this bulk water review, and is not included in the Tribunal's capex estimate.

MDBC and DBBRC capex

MDBC capital costs are shared between the NSW, Victorian, South Australian and Commonwealth governments. The Commonwealth Government pays 25 per cent of the capital costs, while the states pay a set proportion of the remaining 75 per cent in line with their share of operating costs (with NSW paying 40 per cent, Victoria 36 per cent and SA 24 per cent).

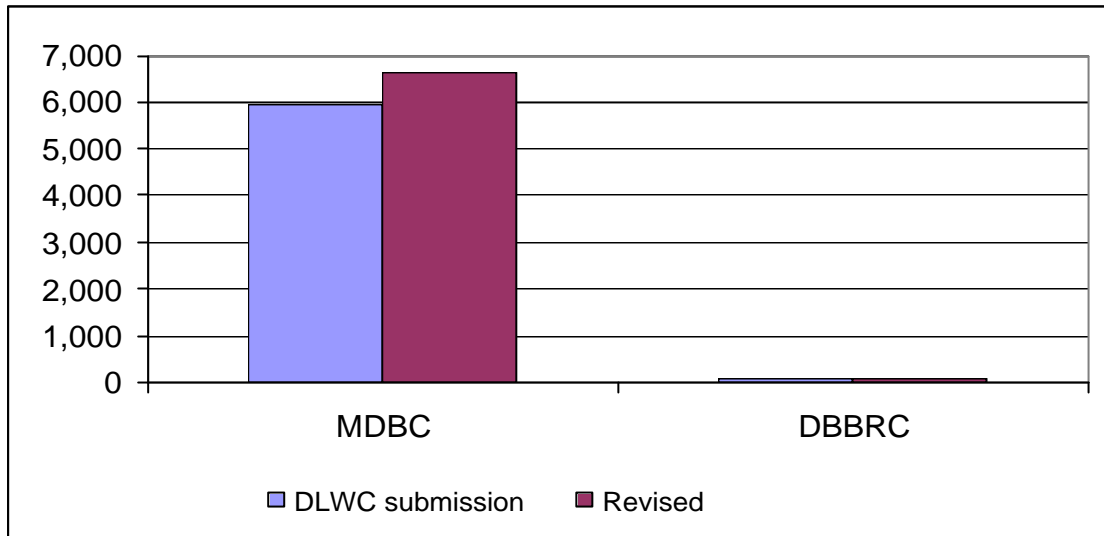
DLWC included a \$5.9m annuity for MDBC renewals capex in its estimate of capital costs. PwC recommends this amount be reduced to \$3.9m in order to:

- take into account the Commonwealth government's 25 per cent share of capital costs, which DLWC had not allowed for (thereby overstating NSW's share)
- exclude Hume Dam remedial works which have largely been completed
- convert the 100 year MDBC annuity to a 30 year annuity, in line with DLWC
- reallocate \$0.3m of renewals capex, which it believes is more appropriately allocated to the DLWC product dealing with salinity strategies.

DLWC did not include an annuity for MDBC's compliance capex. In its review, PwC have found that compliance capex is being incurred in relation to MDBC and recommends that an amount of \$2.8 million be included to cover these costs.

DLWC included a small annuity for DBBRC's capex, which has remained unchanged.

Figure 4.6 Comparison of DLWC's submitted and revised MDBC and DBBRC annuities (2001/02 \$'000 pa)



Note:

The MDBC annuity under DLWC's submission was \$5.9m renewals annuity. Under the revised annuities, the MDBC capex is made up of \$3.91m renewals and \$2.8m compliance annuities.

4.3.2 Annuities and depreciation

As discussed in the 1996 interim report,²⁰ the Tribunal considers that using capital annuities of renewals capex as a proxy for depreciation is the best approach for assets without a market value, and which need to be maintained, refurbished and/or replaced over time. This method involves estimating an organisation's future capital needs for renewal/refurbishment over a set time horizon, then calculating this as an annuity (or annual amount) that needs to be recovered from users or government to ensure that sufficient funds are available to meet these needs. Thus, the necessary revenue allocation or collection is 'smoothed' although expenditure of these funds may vary significantly from year to year. Assets that do have a market value can be depreciated in the usual way.

Many of State Water's assets, such as dams and weirs, do not have a ready market. In addition, the useful life of these assets can be extended indefinitely through renewal and refurbishment. DLWC also has many depreciable assets with shorter lives. Its estimated capital costs therefore include annuities for renewals capex for State Water, MDBC and DBBRC, as well as depreciation charges for State Water's shorter lived assets.

In its submission, DLWC proposed that compliance capital expenditure be similarly converted into an annuity which is then included in the cost base. The Tribunal decided to accept this method of treating compliance capital expenditure for the current determination.

²⁰ IPART, *Interim Report on Bulk Water Prices*, October 1996, p 54.

State Water's renewals and compliance annuities

State Water submitted renewals and compliance annuities for Regulated and Unregulated Rivers only. These annuities were based on the capital expenditure program outlined in its TAMP and calculated over a 30-year time horizon based on a discount factor of 7.0 per cent. Therefore, the adjustments the Tribunal has made to this capital expenditure program (discussed in section 4.3.1) need to be reflected in these annuities.

Figures 4.7 and 4.8 compare DLWC's submitted annuities with the Tribunal's revised annuities for each valley. The figures show that although the Tribunal has increased compliance capex significantly, because it has also 'postponed' substantial elements of this expenditure the net effect on the compliance annuity over the determination period is minimal. They also show that the annuities differ significantly across valleys. This is due to the different characteristics (and hence the required capital expenditures) of each valley.

Figure 4.7 Regulated renewals annuity (2001/02 \$'000 pa) - DLWC submitted compared to Tribunal's revised

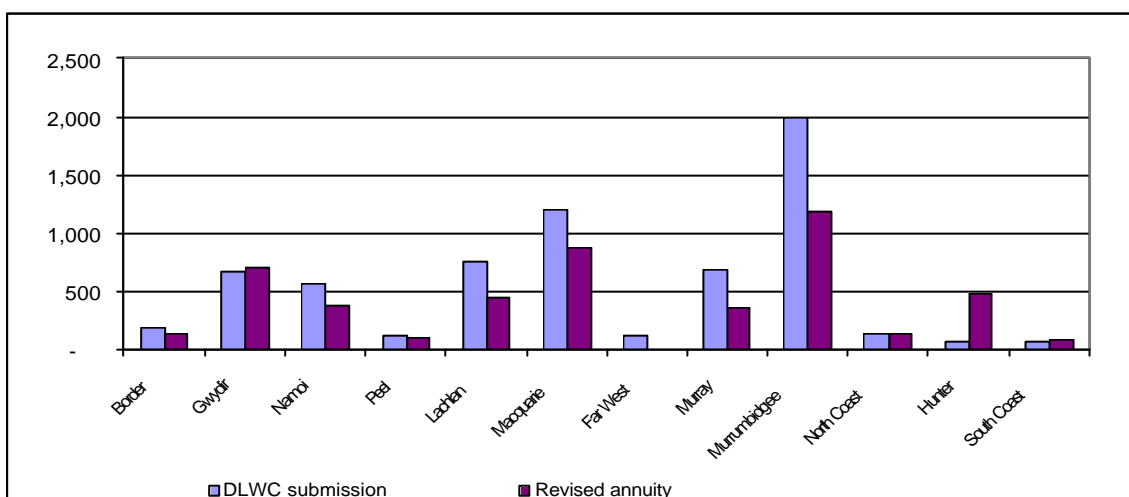
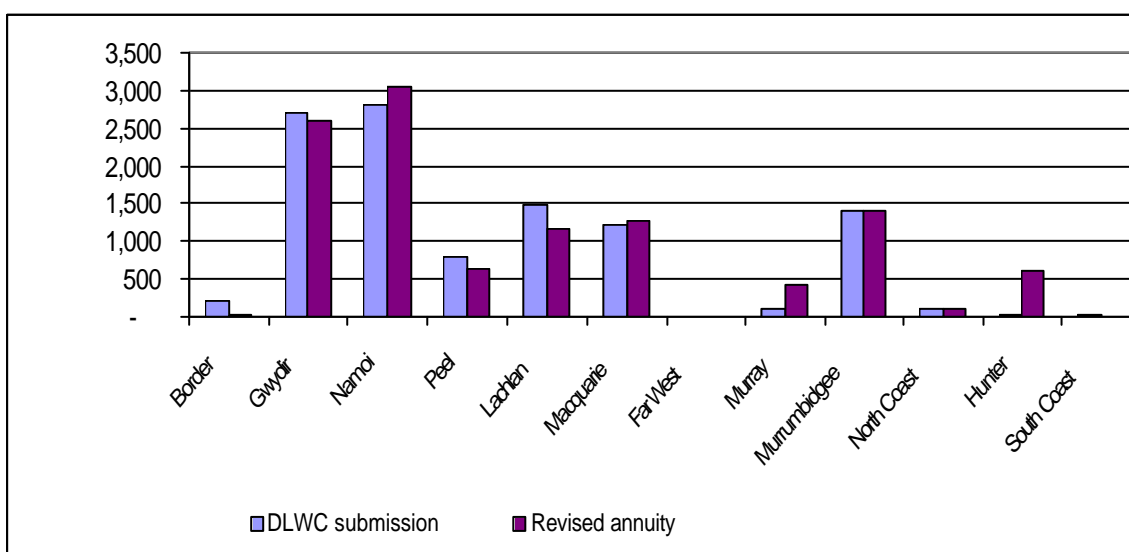


Figure 4.8 Regulated Compliance Annuity (2001/02 \$'000 pa) - DLWC submitted compared to Tribunal's revised



Depreciation charges

DLWC included depreciation charges of \$1.583m to cover the capital costs of assets for which the annuity approach is not appropriate.²¹ Exclusion of these types of assets from the annuity precludes double counting. Examples include depreciation on ground water monitoring bores and non-infrastructure assets like mobile plant and equipment. PwC did not recommend any changes to this estimate, so the Tribunal proposes to include this amount in its assessment of capital costs.

4.3.3 Return on assets

DLWC's submission sought a return on assets of \$3.8m per annum in its capital cost base. The Tribunal has previously stated its intention to allow a return on assets for refurbishment and replacement expenditure undertaken by DLWC since 1 July 1997. In considering what level of return on assets is appropriate, the Tribunal has examined the rate of return, as well as the underlying asset base to which this rate is applied. It proposes to reduce the rate of return from 7.0 per cent to 5.0 per cent, and to make several reductions to the asset base. This will result in a revised return on assets of \$2.2m per annum in 2003/04.

Rate of return

DLWC's proposed return on assets translates to a 7.0 per cent (real pre-tax) rate of return. Based on current interest rates, the Tribunal estimates that a reasonable WACC for water businesses is somewhere between 4.7 and 7.5 per cent (real pre-tax).²² However, it believes that the lower end of this range is appropriate for State Water. This is because, as an internal department of DLWC, it is not subject to the financial distribution requirements of the NSW Government (that is, it is not required to pay dividends or tax equivalents). It therefore proposes to reduce the rate of return for DLWC's assets included in the cost base for this medium term price path to 5.0 per cent (real pre-tax).

Asset base

State Water has a portfolio of assets which, for pricing purposes, were written down to zero value as at 1 July 1997, recognising the probability of inefficient past investment decisions and poor past practice.²³ The Tribunal effectively deemed them to be sunk costs. Therefore the asset base on which State Water can claim a return should only include assets acquired after 1 July 1997.

DLWC has proposed an asset base using the actual capital expenditure (not the annuity), relating to replacement and refurbishment capex only. The Tribunal has examined this asset base and made a number of downward adjustments, principally deducting pre-1997 items. Table 4.6 compares the proposed revised asset base with that submitted by DLWC. For further detail about adjustments to the asset base and the Weighted Average Cost of Capital (WACC) calculation see Appendix 7.

²¹ These include assets that do not have to be replaced, have a ready market, are short lived, or provide surplus capacity. DLWC has many of these 'depreciable assets' within its Groundwater and Regulated river operations.

²² This estimate is based on adopting the WACC parameters in the Tribunal's medium term metropolitan water price determinations, 2000 for Hunter, Gosford, Wyong and Sydney Water, and updating it for the current risk free rates. Refer to Appendix 7 for details.

²³ For more details and reasoning, see IPART, *Interim Report on Bulk Water Prices*, October 1996, section 5.3 and 5.5, pp 51- 57.

Table 4.6 Capital asset base (at year end in 2001/02 \$'000)

	1997/98 Actual	1998/99 Actual	1999/00 Actual	2000/01 Forecast	2001/02 Forecast	2002/03 Forecast	2003/04 Forecast
DLWC	15,532	22,468	29,098	33,395	45,589	52,527	54,746
Revised	5,529	7,981	10,929	18,160	26,832	36,417	43,553

Allowed return on assets

The Tribunal's revisions to the rate of return and asset base has resulted in an allowed return on assets of \$2.2m by 2003/04, as shown in Table 4.7 below.

Table 4.7 Allowed return on assets (\$'000, 2001/02 dollar values)

2001/02 Forecast	2002/03 Forecast	2003/04 Forecast
1,342	1,821	2,178

For the next determination, the Tribunal requires DLWC to review the integrity of the asset base on which it is seeking a rate of return. In doing so it must submit a clear accounting of the manner in which renewals capex is added to the asset base.

5 ALLOCATING COSTS BETWEEN USERS AND GOVERNMENT

The second key step in the Tribunal's price setting process was to determine what portion of the total efficient cost base should be allocated to the users of bulk water (and therefore recovered in bulk water charges) and what portion should be allocated to the Government (and therefore borne by the community). This issue arises because the costs incurred by DLWC in managing the rivers, dams, weirs and other parts of the NSW bulk water system are not related exclusively to bulk water delivery. For example, some of these costs are incurred to meet other needs, such as environmental protection, flood mitigation and navigation. In addition, some costs relate to past practices and activities. The inclusion of these 'legacy' costs in today's prices may distort the signal to users of the current and future cost of providing bulk water services.

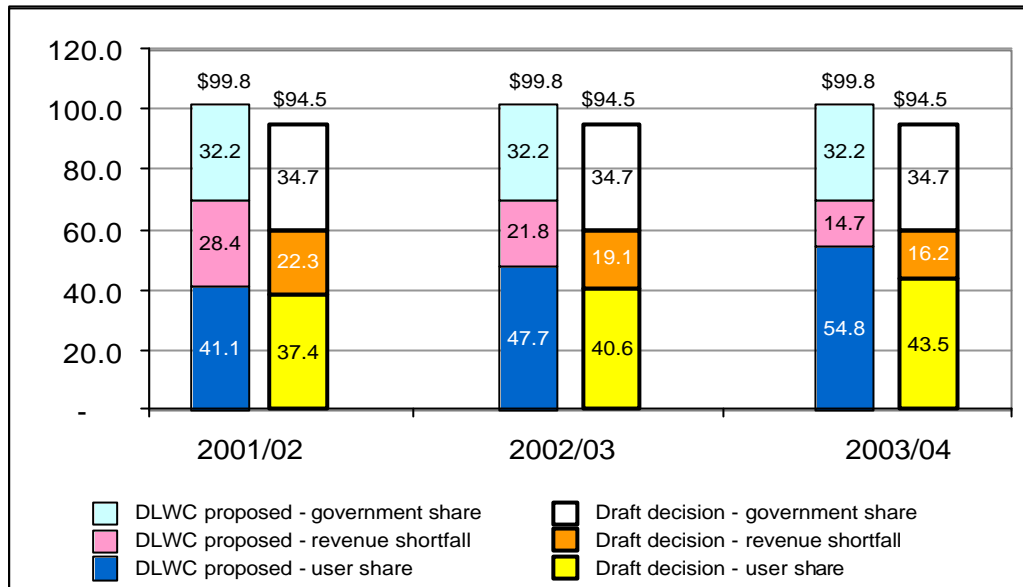
The Tribunal commissioned ACIL, as part of its review of DLWC's water resource management expenditure, to review the existing approach to cost allocation and recommend the most appropriate approach. It also asked ACIL to review the current basis for allocating NSW's share of MDBC water resource management costs.

The Tribunal proposes to accept ACIL's recommendation to revise the basis for total cost allocation by adopting an 'impactor pays' approach. It also proposes to accept ACIL's recommendation to exclude legacy costs from current charges. However the Tribunal is concerned that neither of the methods for allocating MDBC water resource management costs suggested by ACIL or DLWC is sufficiently robust. DLWC proposed that the Murray be charged the bulk of these costs, as this is where the money is spent. ACIL proposed that the costs be charged to each valley in proportion to the amount of water extracted. ACIL used water extraction as a proxy for the impact of usage and the need to incur water resource management costs.

For the purposes of this determination, the Tribunal proposes to allocate half the MDBC water resource management costs in the manner proposed by DLWC and half on the basis of relative long-term extractions from the Murray and Murrumbidgee only. This is a transitional approach in the absence of better information.

Figure 5.1 shows the Tribunal's proposal for bulk water charges over the period of this determination. It highlights the total government/user split as well as showing the aggregate level of under recovery of costs over the period. This is contrasted with the proposal by DLWC for charges over the same period.

Figure 5.1 Comparison of proposed total cost allocations to bulk water users



Note:
 Figures may not add up due to rounding.

The amounts in Figure 5.1 have been adjusted for ANTS savings, miscellaneous income and quoted in 2001/02 dollars.

These aggregate total cost allocations between bulk water users and government are allocated between the various valleys. Figure 5.2 shows the Tribunal proposal for cost allocations on a valley by valley basis for 2001/02. For the purpose of comparison DLWC’s proposal for 2001/2 on a valley by valley basis is presented in Figure 5.3. Both these sets of figures have been adjusted for ANTS savings and miscellaneous income.

Figure 5.2 Tribunal proposed valley by valley total cost allocations (2001/02)

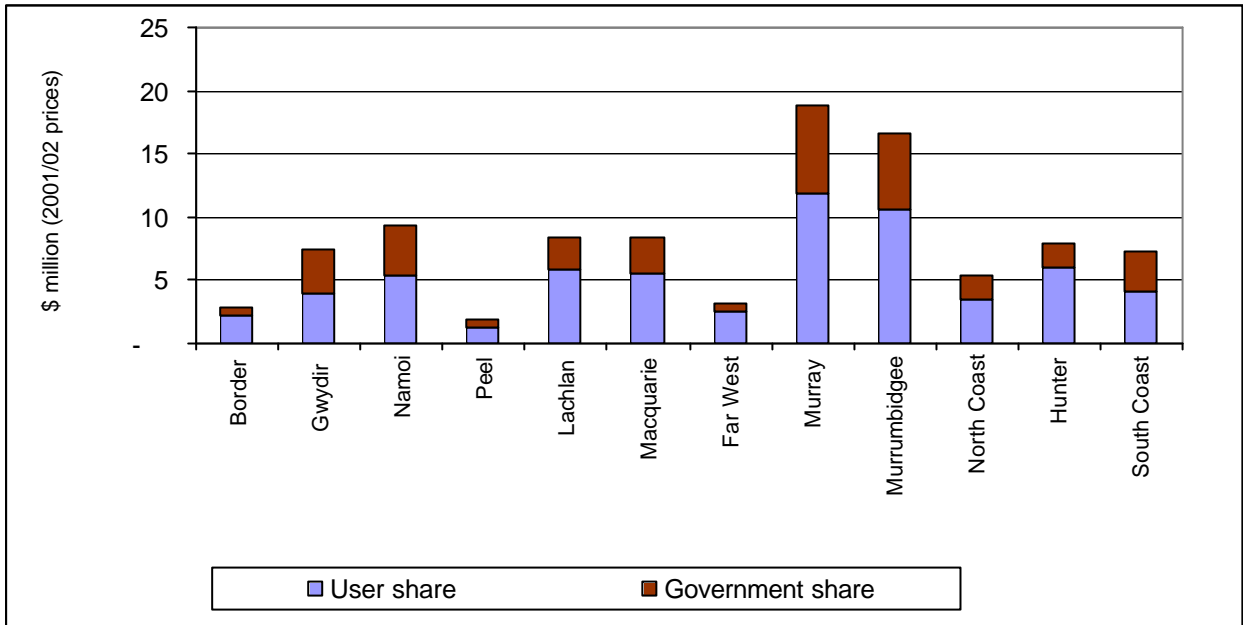
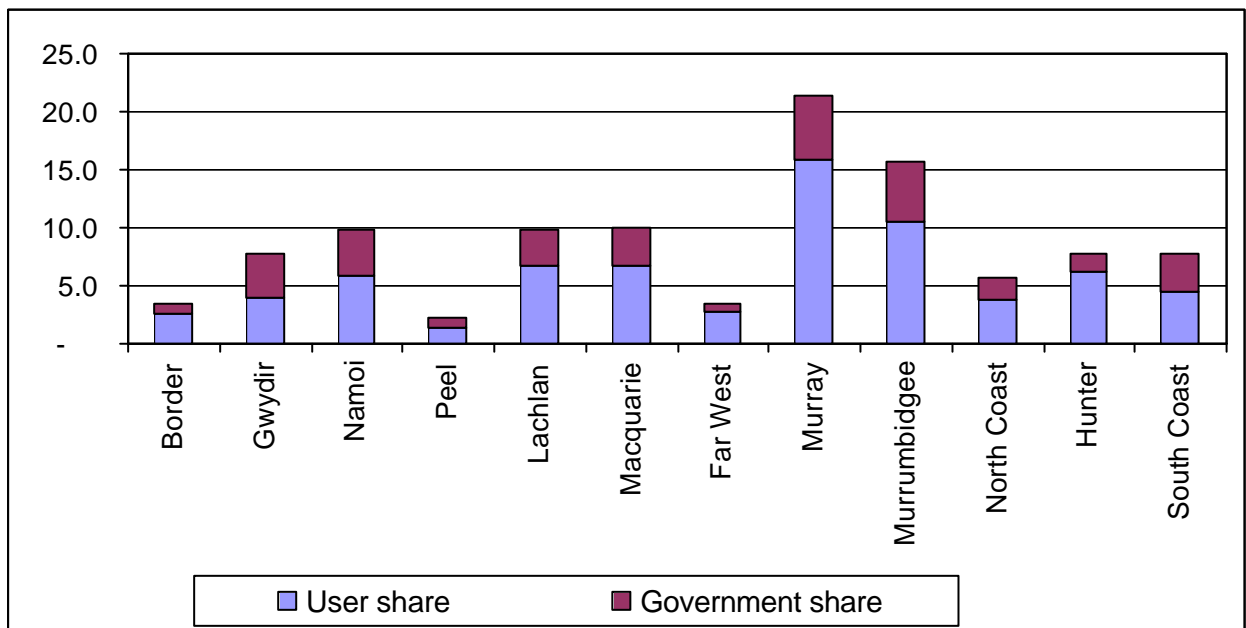


Figure 5.3 DLWC's proposed valley by valley total cost allocations (2001/02)



Allocating total costs

In its 1998/99 report, the Tribunal nominated a set of ratios for allocating DLWC's costs between bulk water users and the Government. Individual ratios were allocated to 20 'products', which categorised DLWC's bulk water activities.²⁴ The ratios were based on a mix of 'impactor pays' and 'beneficiary pays' principles, developed through consultation with DLWC and user groups. The result was a somewhat hybrid approach which was more weighted towards a beneficiary pays approach. The cost allocations proposed by DLWC were based on these ratios.²⁵

Impactor versus beneficiary

'Impactor pays' and 'beneficiary pays'²⁶ are both approaches for addressing the problem of how to allocate costs that arise within a system — such as the NSW bulk water system. These costs could arise directly, in order to deliver particular services. They could also arise indirectly, through investments designed to reduce the damage resulting from the service delivery.

Impactor is defined as any individual or group of individuals whose activities *generate the costs* or a justifiable *need to incur the costs* that are to be allocated. **The impactor pays principle** seeks to allocate costs to different individuals or groups *in proportion to the contribution* that each individual or group *makes to creating the costs or the need to incur the costs*.

Beneficiary is defined as any individual or group of individuals who *derive benefits from the costs* that are to be allocated. These benefits may result from their own use of the services involved (in which case the beneficiary is also the impactor) or be in the form of reduced damage to their interests due to the usage patterns of others. In the later case the beneficiary is sometimes referred to as the victim. **The beneficiary pays principle** seeks to allocate to costs to different individuals or groups *in proportion to the benefits* that each individual or group stands to derive from the costs being incurred.

Note that the allocation principles do not require that the costs be met solely by the direct impactor or beneficiary unless these are final consumers. The costs may well be passed on to end users in the form of higher prices for goods or services derived from the use of the resource system.

As part of its review of water resource management expenditure, ACIL examined the expenditure related to the some 100 separate items (sub-products). It developed two alternative approaches, one based on the impactor pays principle and one on the beneficiary pays principle.

As part of this process it distinguished between expenditure that related to current and future uses (forward look costs) and those that related to past uses and activities (legacy costs).

²⁴ IPART, *Bulk Water Prices for 1998/99 and 99/00*, July 1998.

²⁵ DLWC has introduced two new product categories; PD1 River quality/Flow reforms, 50 per cent users' share; and PE1 Rivers and Groundwater income, 100 per cent users' share.

²⁶ The two principles were recently addressed in some detail by the Productivity Commission in their report *Cost Sharing for Biodiversity Conservation: A Conceptual Framework*, accessible at the Productivity Commission website (<http://www.pc.gov.au/research/staffres/csbccsbcc.pdf>).

Legacy versus forward looking costs

The Tribunal is concerned with future usage and future investment decisions. In setting prices, it is therefore important to distinguish the effects of past usage and investment decisions. The Tribunal has adopted a pragmatic approach to returns on assets and concluded that a line-in-the-sand be drawn on 1 July 1997. Assets owned by State Water prior to this date are deemed to have zero value for pricing purposes and as such no return on asset is charged against these assets. In doing this the Tribunal has shown that it will not pass on costs to bulk water users that are a legacy of past practices and decisions. ACIL proposes, and the Tribunal concurs, that a similar approach be adopted for other expenditure items.

For example, poor management practises in the past have seen insufficient maintenance carried out in the prior years which means that present bulk-water users may have been asked to pay for corrective rather than preventative maintenance. The Tribunal does not intend to charge current bulk-water users for these costs that are a legacy of previous inefficient maintenance practise.

Where the community wishes to raise standards above the levels set at 1 July 1997 the Tribunal believes that bulk water users should not be burdened with increased costs that are a legacy of a change in community standards. Similarly, if DLWC undertook work to repair the environment to a standard above that of 1 July 1997 the Tribunal believes these costs should not be borne by bulk water users but by the community generally.

In contrast to these examples, are forward looking costs that are incurred in the construction of new assets or made necessary by the availability of new information or risk assessments that require changes to current practices.

This implies that any new structures such as dams or weirs that are required for extractive use will have no legacy costs associated with them. In addition, any expenditure associated with these new devices, including fish ladders, will be charged to bulk water users on the principle that the new structure built for their needs impacts on the access of fish and whilst the community as a whole benefits from the fish ladder it would not have been needed other than for the impact of the dam built for extractors.

Table 5.1 details definitions of legacy and forward costs.

Table 5.1 Examples of distinction between legacy and forward looking costs

Expenditure Items – Examples	Legacy	Forward
Upgrades of established assets to meet new community standards/values eg Flood design standards; fish passage and other environmental objectives	High	Low
Upgrades to reflect new information/impact assessments/risk assessment	Low	High
Asset rehabilitation necessitated by less than optimal past maintenance regimes, judged by the standards of the time	High	Low
New major assets to support extractive use, incorporating flood/passage design elements purely to mitigate impacts of the asset	No	Yes
Monitoring/R&D necessitated by established high allocations/existing damage	High	Low
Normal monitoring as part of adaptive management from conservative base	No	Yes
Interception of salt attributable to past irrigation practice/non-irrigation causes	Yes	No
Management of salt attributable to current and future extractive uses	No	Yes
Management of algae due to nutrient run-off and flows depressed by extractions	Low	High
Activities to maintain the functionality of assets	No	Yes

ACIL notes that some decisions between ‘legacy’ and ‘forward’ costs are straightforward on this basis, but others such as salt mitigation strategies, are somewhat blurred and necessarily more subjective. ACIL also argues that legacy costs should be allocated between bulk water users and others taking into consideration the equity of the total pricing package. This should not however be done, at the cost of reducing the efficiency of the overall planning process.

ACIL recommended that the Tribunal adopt the cost allocations based on the impactor pays approach, and which allocated no legacy costs to users. The Tribunal has considered this recommendation and ACIL’s detailed report, together with the limited responses to this report from stakeholder groups. It acknowledges that the time available to respond to the complex report was not extensive. It noted the concerns of environmental groups and NSW Fisheries about proposed categorisation of certain costs related to, for example, provisions for fishways and thermal pollution mitigation associated with assets built prior to 1 July 1997 as legacy costs. It also noted support from environmental groups and some irrigator groups for the impactor pays approach.

For the purpose of allocating costs in this determination, the Tribunal proposes to accept ACIL’s recommendations. The Tribunal considers that the impactor pays approach, with no legacy costs attributed to users, is preferable for several reasons:

- Retaining the current ratios is problematic in that there are no clear underlying principles on which these ratios are based. The current ratios apply at the broad product level and may no longer be relevant to the underlying DLWC activities which have changed over time.
- The impactor pays approach is more likely to send appropriate economic signals for minimising overall future costs, bearing in mind the consensus-based approach to river management inherent in the new Water Management Act.

- The impactor pays approach is more straight forward to apply in practice than the beneficiary pays approach. Formally assessing the benefits to different stakeholder groups to determine the cost shares is likely to be much more difficult.
- The exclusion of all legacy costs (ie, allocating 0 per cent of these costs) from the users' share is consistent with the 'line-in-the-sand' approach adopted by the Tribunal in allocating a zero value to pre-1997 assets.

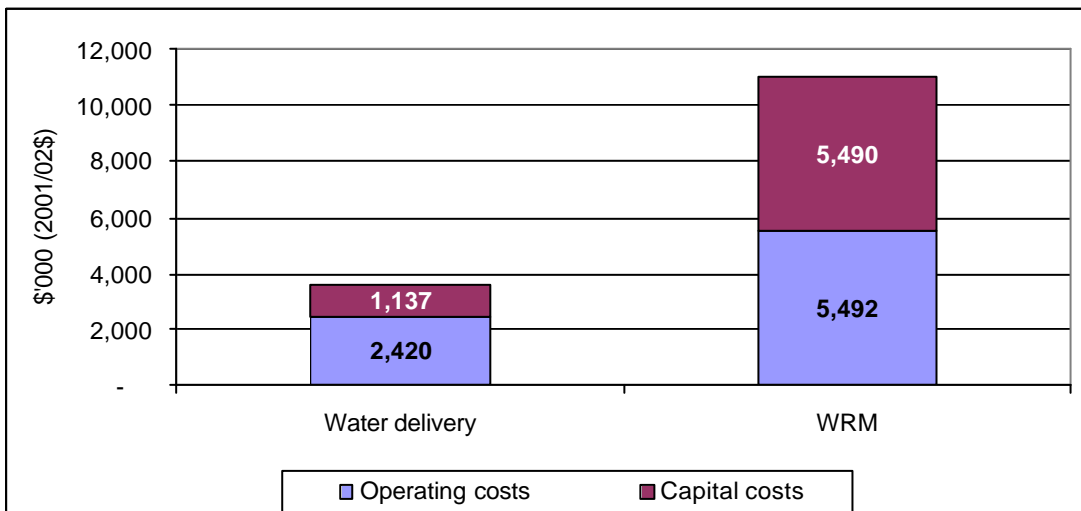
In addition, while the Tribunal acknowledges that there is degree of subjectivity in ACIL's allocation of costs between 'impactors', it believes that its careful examination of water resource management expenditure at the sub-product level significantly minimises the risk of inappropriate cost allocation.

Several stakeholders raised concerns that current and future costs may be higher than otherwise expected due to poor management of DLWC's assets in the past. This is a legitimate concern. When drawing the line-in-the-sand for physical assets in July 1997, the extent of degradation of the assets was not entirely clear. The Tribunal notes that State Water's total asset management process, and the current PwC review of capital expenditure, have ascertained that DLWC's dams and weirs are in worse condition than previously thought. The result is that more capital expenditure will be required to rehabilitate the assets back to acceptable standards. The Tribunal accepts that these costs should be recognised as a legacy and should be borne by the community rather than users.

5.1 Allocating MDBC costs

MBDC costs comprise both water resource management (WRM) costs and the costs associated with water delivery. Both of these components, in turn, consist of operating and capital costs. As shown in Figure 5.4, according to the Tribunal's revised cost base (discussed in Chapter 4), water delivery costs comprise \$3.5 million of the total cost of \$14.5 million, and WRM costs comprise the remaining \$11.0 million. Operating costs comprise 68 per cent of water delivery costs and 50 per cent of WRM costs.

Figure 5.4 The WRM and delivery components of MDBC costs



In its current submission, DLWC proposed allocating some 92 per cent of the water resource management costs to the Murray Valley, 7 per cent to the Murrumbidgee Valley and the remainder to the other inland valleys. ACIL also reviewed this issue, and commented that it believes the most appropriate approach would be to allocate MDBC costs according to the level of EC salinity credits for each inland valley in NSW as MDBC WRM costs principally involve salinity mitigation. However, since the information required to apply this approach is not currently available, it recommended an alternative approach whereby these costs are allocated across all the inland valleys based on DLWC's estimates of long-term water extraction in each valley.

The Tribunal has considered the DLWC and revised ACIL approaches to allocating MDBC WRM costs. As Figure 5.5 shows, compared to the DLWC approach, the ACIL 'long term extractions' approach would result in a lower amount being allocated to the Murray Valley and a higher amount allocated to the Murrumbidgee Valley. It would also slightly increase the amounts allocated to the other inland valleys.

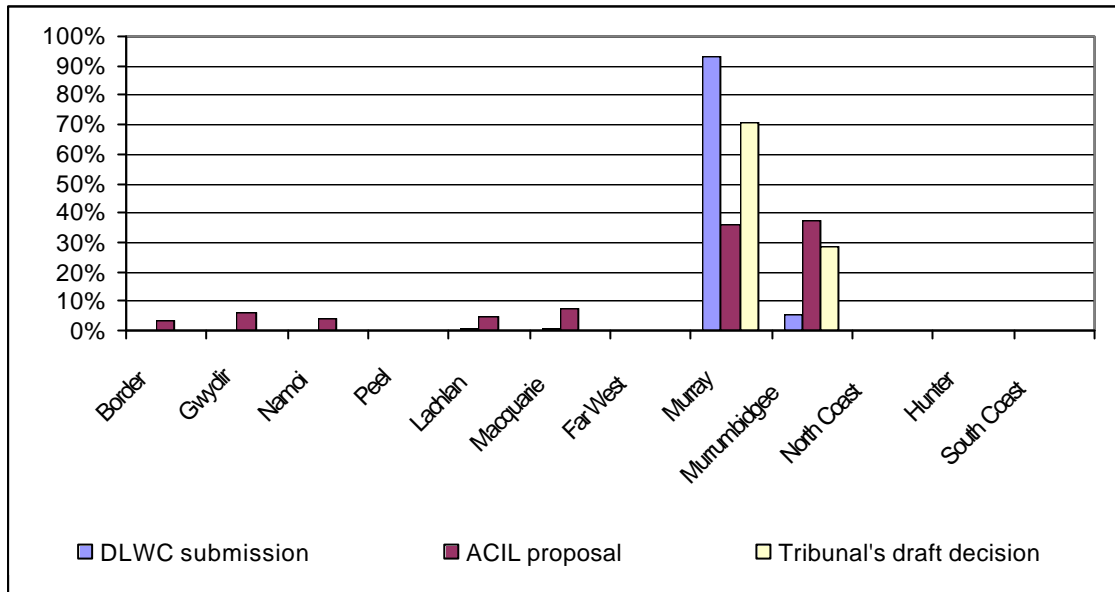
The Tribunal is concerned that users in the Murray do not pay for more than their fair share of the MDBC WRM costs. It therefore favours the allocation of these MDBC costs to valleys other than the Murray, on an impactor pays basis. While it acknowledges the merits of ACIL's suggested approach, it is not convinced, at this stage, that this method is sufficiently robust to be adopted in full.

As a way forward, for the purpose of this determination, the Tribunal proposes that:

- all the water delivery cost (\$3.6 million) is to be allocated to the Murray Valley
- 50 per cent of MDBC's WRM costs is to be allocated in the manner proposed by DLWC, (hence an immaterial amount would be allocated to some inland valleys)
- the remaining 50 per cent of WRM costs is to be allocated on the basis of long-term extractions to the Murrumbidgee and Murray only, along the lines of ACIL's suggestion.

Once these costs are allocated to the valleys, the user cost shares are applied to determine the portion that should be recovered from users and the Government. Figure 5.5 presents the percentage allocation of MDBC water resource management costs under DLWC's approach, ACIL's approach and the Tribunal's draft decision.

Figure 5.5 Percentage of MDBC WRM costs allocated to valleys under the DLWC approach, the ACIL approach and the Tribunal's proposed approach



Note:

Allocations to the other inland valleys under the Tribunal's draft decision are between 1.1 per cent and 0.2 per cent.

In the course of this review, the Tribunal and its consultants have gathered much information in relation to the nature of the MDBC's costs and how NSW's share of these costs are allocated to users. It greatly appreciates the assistance of the MDBC in this regard. In addition, given the new information now available, the Tribunal proposes to require DLWC to develop a robust and transparent method of allocating MDBC costs to users for the next determination.

6 DETERMINING A REASONABLE TRANSITION PATH TO ACHIEVE FULL COST RECOVERY

The third step in the Tribunal's price setting process was to calculate the price increases required to achieve full cost recovery by 2003/04, and determine a transition path that will move prices significantly closer to this level without subjecting bulk water users to unreasonably steep price rises. This included considering the impact of water charges on irrigation customers, and the concerns of some stakeholders that increased water charges could affect the viability of certain irrigation businesses, and the prosperity of regions that depend on irrigated agriculture.

The Tribunal acknowledges that significant increases in bulk water prices will put pressure on profit margins throughout the irrigation sector. It also acknowledges that some irrigators are currently experiencing financial difficulties, and price increases will exacerbate these problems. However, it believes that pricing is not the best instrument to achieve social goals. Nevertheless, it believes it is in the best interests of all parties, including the wider community, to phase in tariff increases over a reasonable period to allow users to adjust to the higher prices

The Tribunal therefore proposes to cap price increases on regulated rivers at 15 per cent per year over the period 2001/01 to 2003/04, and prices on unregulated rivers and for ground water at 20 per cent per year over this period (with an adjustment for the CPI also allowed in 2002/03 and 2003/04).

6.1 What proportion of costs do current prices recover?

Current tariffs recover varying proportions of the costs allocated to users. As Table 6.1 shows, the proportions vary from as low as 7 per cent in the North Coast to 112 per cent on regulated rivers in the Macquarie Valley.²⁷ This means that in some valleys, only small (if any) increases to regulated water charges are required to achieve (or maintain) full cost recovery. In other valleys, however, very large increases in both regulated and unregulated water charges and ground water charges would be required to achieve full cost recovery by 2003/04.

²⁷ Over-recovery in the Macquarie Valley in 2000/01 is the result of a downward revision of both operating and capital costs compared to the costs used to determine existing tariffs.

Table 6.1 Proportion of allocated costs recovered from tariffs in 2000/01

	Cost recovery in 2000/01		
	Regulated Water	Unregulated Water	Ground Water
Border	82%	26%	
Gwydir	84%	53%	Barwon region
Namoi	82%	26%	23%
Peel	44%	Included in Namoi	
Lachlan	82%	17%	Central West
Macquarie	112%	43%	21%
Far West	No regulated rivers	20%	21%
Murray	87%	20%	34%
Murrumbidgee	95%	42%	17%
North Coast	7%	13%	16%
Hunter	35%	19%	15%
South Coast	23%	13%	6%
Total	82%	19%	20%

Note:

Tariffs for 2000/01 were determined with reference to DLWC's previous cost estimates. These tariffs more than recover the current estimate of costs in the Macquarie Valley due to the downward revision of these costs.

6.2 How would increasing prices to full cost recovery level affect farm incomes?

Much of the analysis on the impact of water prices on farm incomes previously presented to the Tribunal has focussed on water usage charges as a percentage of variable farm costs. The conclusion has generally been drawn that water is too small a proportion of (variable) costs to be cause for concern. DLWC argued along these lines in its submission to the Tribunal for this determination.²⁸

However, the Tribunal believes this approach can be misleading, as entitlement charges (a fixed cost) are often the major component of a farmer's water bill. The significance of these fixed entitlement charges is reflected in the fact that DLWC expects to derive 68 per cent of its total revenue from regulated water charges in 2000/01 to come from entitlement charges. The proportions range significantly between the valleys, but are never lower than 50 per cent. This suggests that fixed costs should be included in any analysis of the impact of water prices on farm profitability.

²⁸ See Chapter 6 (Impact Assessment) and Appendix 7 of DLWC's 2001 submission.

6.2.1 Impacts on farmers using regulated water

The Tribunal had limited information with which to assess the likely impact on irrigation farmers using regulated water. However, these farmers are likely to be the most severely affected by the large price increases required to meet cost recovery levels in some valleys. This is because the costs related to regulated water are significantly higher than those for unregulated water and ground water in most valleys.

The best information comes from two studies recently conducted by NSW Agriculture on irrigation farming in the Peel and Lachlan Valleys.²⁹ These studies divided each of the valleys into a number of geographical zones, and constructed a 'representative' commercial farm for each of the zones. They then investigated the impact on farm profitability of the price increases needed to achieve full cost recovery by 2003/04. The main findings of these studies were as follows (see Appendix 9):

- In the Peel Valley, prices would need to increase by almost 200 per cent to achieve DLWC's initial estimates of full cost recovery levels. Price increases of this size would reduce net farm incomes by more than 10 per cent on all the farms, and by more than 20 per cent on two of the four 'representative' farms.³⁰
- In the Lachlan Valley, prices would need to increase by some 60 per cent in order to achieve DLWC's initial estimates of full cost recovery levels. Price increases of this size would reduce net farm incomes by between 4 per cent and 8 per cent on five of the six 'representative' farms, and 19 per cent on the remaining farm.

In both studies, a farm's level of profitability was the main indicator of its ability to absorb the required price increases. There may be a number of less profitable farmers in the Peel and the Lachlan Valleys who would find it difficult to absorb large and ongoing price increases. It is likely that this would also be true in other valleys, at least to some extent, although no similar studies have been done.

6.2.2 Impacts on farmers using unregulated water and ground water

To the Tribunal's knowledge, no information is available on the impact on farm incomes of increases in the price of unregulated water and ground water. However, water from these sources is significantly cheaper to provide than regulated water (see Chapter 7). Therefore the impact of price increases required to meet full cost recovery on total farm costs, and thus on profitability, is likely to be smaller than is the case for regulated water. Nevertheless, it is likely that some irrigators at least would face significant problems in adjusting to these price increases if they occurred over the next determination period.

²⁹ Economic Assessment of Water Charges in the Peel Valley. Report to the Department of Land and Water Conservation. Jason Crean, Fiona Scott and Anthea Carter, NSW Agriculture (July 2000) and Economic Assessment of Water Charges in the Lachlan Valley. Report to the Department of Land and Water Conservation. Rohan Jayasuriya, Jason Crean and Rendle Hannah, NSW Agriculture (February 2001).

³⁰ Neither DLWC nor the Tribunal have proposed such large price increases. Both parties accept that costs in the Peel Valley will not be fully recovered by 2003/04.

6.3 What is a reasonable transition path?

Given the NSW Government's commitment to move bulk water prices towards full cost recovery - and to achieve this level by 2001/02 wherever practical - the Tribunal believes its primary task in setting the transition path is to balance the interests of the extractors and DLWC, while taking into account possible signalling effects. It believes that pricing is not usually the best instrument to achieve social goals, such as assisting struggling farmers. Other mechanisms exist for this purpose, some of which are discussed in Chapter 9. Nevertheless, it did take the impacts discussed above into account in considering the maximum rate of increase in prices and the price structure for this determination.

6.3.1 The rate of increase in prices

In its submission, DLWC proposed that tariff increases be capped at 20 per cent per year in real terms, because of the potential impacts on customers of increases to full cost recovery over a three-year period. After considering the interests of all parties, the Tribunal proposes that prices on regulated rivers should be permitted to increase by no more than 15 per cent per year, plus an adjustment for inflation in 2002/03 and 2003/04. Prices on unregulated rivers and for ground water will be permitted to increase by 20 per cent per year, plus an adjustment for inflation in 2002/03 and 2003/04. The higher increases allowed for unregulated water and ground water charges are justified given their currently low level and low levels of cost recovery relative to those for regulated water. It is noted that the users on the majority of regulated rivers, including the largest river systems, will face real increases of 8 per cent per year or less.

6.3.2 The structure of prices

The structure of water prices affects the level and variability of the costs incurred by extractors and the revenue raised by DLWC. Price structures also serve a signalling function to extractors, which can affect both the volumes of water they use and, where a market exists, the volumes they trade.

The Tribunal recognises that the current balance of charges between fixed entitlement charges and volume-based usage charges in the two-part tariff for regulated water may not be ideal. However, for reasons discussed in Chapter 7, it has chosen not to change the tariff structure. DLWC is progressively introducing a two-part tariff for unregulated water (discussed in Chapter 7). The Tribunal believes that this structure will provide better signals to users and DLWC.

7 MAXIMUM PRICES

Based on the outcomes of the process outlined in Chapters 4 to 6, the Tribunal proposes to set a maximum price for each bulk water charge for each year of the determination period. The proposed prices are designed to move each charge towards full cost recovery. Most prices include an increase in each year, but the size of the increase varies. This is because the proportion of user-allocated costs that current prices recover varies widely - from more than 100 per cent for regulated water in the Macquarie Valley to only 7 per cent for regulated water in the North Coast. However, the Tribunal proposes to limit the rate by which prices can increase to 15 per cent per year (in real terms) for tariffs for bulk water on regulated rivers and 20 per cent per year (in real terms) for bulk water on unregulated rivers and from groundwater sources.

This chapter discusses the proposed maximum prices and changes to tariff structure for bulk water on regulated rivers, unregulated rivers and from groundwater sources, and the proposed changes to large customer charges and licence fees. The Tribunal's rationale for capping increases to bulk water tariffs at 15 and 20 per cent per year is discussed in Chapter 6.

7.1 Regulated river tariffs

The Tribunal proposes to set a maximum price for each bulk water charge on regulated rivers for each year of the determination period. These prices include an increase of up to 15 per cent in 2001/02, and a further increase of up to 15 per cent plus CPI in both 2002/03 and 2003/04. As Table 7.1 shows, in the majority of valleys price increases of less than 15% are proposed to enable full cost recovery by 2003/04.

Table 7.1 Maximum increases in bulk water tariffs for regulated rivers

	2001/02	2002/03	2003/04
Border	8.0%	8.0%+CPI	8.0%+CPI
Gwydir	7.0%	7.0%+CPI	7.0%+CPI
Namoi	8.0%	8.0%+CPI	8.0%+CPI
Peel	15.0%	15.0%+CPI	15.0%+CPI
Lachlan	8.0%	8.0%+CPI	8.0%+CPI
Macquarie	0%	-3%+CPI	-3%+CPI
Far West	No regulated rivers		
Murray	6.0%	6.0%+CPI	6.0%+CPI
Murrumbidgee	2.5%	2.5%+CPI	2.5%+CPI
North Coast	15.0%	15.0%+CPI	15.0%+CPI
Hunter	15.0%	15.0%+CPI	15.0%+CPI
South Coast	15.0%	15.0%+CPI	15.0%+CPI

All tariffs on regulated rivers have a two-part structure - comprising a volume-based entitlement (fixed) charge and a usage charge. Entitlement charges vary according to whether the customer's entitlement is classified as high or low security, with high security entitlements attracting a higher charge. For this determination the Tribunal proposes not to change the difference between high and low security entitlement charges. In addition, it proposes not to change the balance between entitlement and usage charges (all bulk water charges in a valley are to be increased by the same rate). Finally, it proposes not to change the discounts applied to the entitlement charges of wholesale customers.

Table 7.2 compares the current prices with the maximum prices allowed under this determination in 2003/04 (the latter expressed in 2001/02 dollar values).

Table 7.2 Bulk water tariffs on regulated rivers in 2000/01 and 2003/04 (\$/ML)

	2000/01 tariffs			2003/04 tariffs		
	(\$/ML in 2000/01 prices)			(\$/ML in 2001/02 dollars)		
	HS entitlement	LS entitlement	Usage charge	HS entitlement	LS entitlement	Usage charge
Border	4.53	3.03	3.53	5.71	3.82	4.45
Gwydir	4.26	2.83	3.30	5.22	3.47	4.04
Namoi	7.53	5.02	6.01	9.49	6.32	7.57
Peel	7.53	5.02	6.01	11.45	7.63	9.14
Lachlan	5.20	3.46	3.97	6.55	4.36	5.00
Macquarie	4.37	3.36	4.54	4.12	3.17	4.28
Far West	No regulated rivers					
Murray	4.18	3.79	1.02	4.98	4.51	1.21
Murrumbidgee	3.39	3.22	0.84	3.65	3.47	0.90
North Coast	6.85	5.27	3.51	10.42	8.02	5.34
Hunter	5.36	3.83	3.81	8.15	5.82	5.79
South Coast	6.85	5.27	3.51	10.42	8.02	5.34

High flow licences permit access to water only when river flows reach a certain height. The Tribunal proposes to continue the current charging method for high flow water with users billed the relevant valley specific, regulated water usage charge for high flow extractions.

7.1.1 Difference between high and low security entitlement charges

Owners of high security entitlements can generally extract the total volume of the entitlement in all but the severest drought, while owners of low security entitlements can extract an allocated proportion of the entitlement volume each year, which varies according to water availability. The costs involved in providing high security entitlements are higher than those for low security entitlements, as greater storage capacity is required.

The Tribunal is aware that the current difference between low and high security entitlement prices does not necessarily reflect the different costs involved. For example, in some valleys it appears to be cheaper for an extractor to hold a high security licence than a low security licence for an expected volume of delivered water which is less than the full entitlement. Therefore, in these circumstances, if the extractor converts from a low security to a high security licence DLWC's revenue from entitlement charges will go down, but its costs will not change. In addition, DLWC noted in its submission that some of State Water's customer service committees are concerned about this issue. The coastal valleys in particular have asked the Tribunal to address it. The Peel irrigator representatives believe the relative price of high entitlements should be increased, to share the fixed costs more equitably between low and high security entitlement holders. Other committees, however, either did not address this issue, or requested that there be no change in the relative prices.

The Tribunal will look at this matter in its review for the next determination. At that time, the water sharing rules currently being developed for each valley should be in place and information from this process will be available to assist the Tribunal in determining the appropriate price ratios between high and low security entitlements. In addition, it will have had an opportunity to seek the views of all valleys.

7.1.2 The balance between entitlement and usage charges

There is currently a wide variation in the balance between entitlement and usage charges in different valleys. For example the usage charge, expressed as a percentage of the low security entitlement charge, varies from 26 per cent in the Murrumbidgee Valley to 135 per cent in the Macquarie Valley. These variations do not reflect the different costs involved, but rather are a result of the Tribunal's decision to moderate the impact on individual customers and DLWC's revenue when the current two-part tariff structure was introduced in July 1997.

The Tribunal is aware that the current balance may be problematic in individual valleys. However, as it does not have a sufficiently sound basis on which to propose an alternative structure and DLWC did not propose any significant changes to the current balance,³¹ it proposes not to change this balance in this determination. However, it encourages DLWC to investigate the matter further before the next determination. Such an investigation would need to include an assessment of the impact of changes on different customers and the effectiveness of consumption price signalling.

7.1.3 Wholesale customer discounts

Wholesale irrigation customers currently receive discounts on their entitlement charges. DLWC believes these are not justified on cost grounds, but because the wholesalers provide information that assists it in performing its functions, it has proposed that the discounts be retained at current levels. The Tribunal proposes to accept this proposal, primarily because the information required for it to fully evaluate these discounts is not available. However, it intends to review wholesale customer discounts in the next determination, and encourages DLWC to investigate them further in the intervening period.

³¹ In DLWC's submission, usage charges increase slightly relative to entitlement charges in the Border region, and decrease slightly in the Lachlan, Macquarie and Murray valleys.

In addition, the Tribunal proposes to modify the way the discounts are calculated and applied:

- In the 2000/01 determination, the discount was calculated in such a way that the discounted low security entitlement price was applied to both high and low security entitlement volumes.
- The discounts have been recalculated in such a way that the discount is applied to both the high and the low security entitlement volume at the applicable high and low security entitlement prices.

This modification will not have an impact on wholesale customers' bills. Table 7.3 shows the proposed discounts applicable to wholesale customers during this determination period.

Table 7.3 Wholesale customer discounts on high and low security entitlements

Licence holder	Discount applied to the price of high and low security entitlements
	%
Murray Irrigation	40
Western Murray Irrigation	27
West Corurgan	35
Moira Irrigation Scheme	30
Eagle Creek Scheme	25
Murrumbidgee Irrigation	29
Coleambally Irrigation	32
Jemalong Irrigation	27

7.2 Unregulated river tariffs

The Tribunal proposes to increase each bulk water charge on unregulated rivers by a maximum of 20 per cent in 2001/02, and by a maximum of 20 per cent plus CPI in both 2002/03 and 2003/04. The exception is the \$100 fixed charge per licence paid by those town water supply agencies and industrial customers who have not yet been allocated an entitlement volume (explained in section 7.2.2). This charge will remain unchanged in 2001/02, and increase by the CPI in 2002/03 and 2003/04.

DLWC is in the process of introducing a two-part tariff that comprises a fixed entitlement charge and a volume-based usage charge. This involves two stages - converting current licences to volumetric licences and introducing the two-part tariff. Table 7.4 shows the proposed maximum prices for customers at Stage 1, and Table 7.5 shows the proposed maximum prices for customers at Stage 2. The remainder of this section explains the new licences and tariff structure, and the introduction process in more detail.

Table 7.4 Maximum Stage 1 Entitlement charges on unregulated rivers (\$/ML)

	2000/01 \$/ML (2000/01 prices)	2001/02 \$/ML (2001/02 prices)	2002/03 \$/ML (2001/02 prices)	2003/04 \$/ML (2001/02 prices)
Border	1.86	2.23	2.68	3.21
Gwydir	1.86	2.23	2.68	3.21
Namoi	1.86	2.23	2.68	3.21
Peel	1.86	2.23	2.68	3.21
Lachlan	1.50	1.79	2.15	2.58
Macquarie	2.19	2.63	3.16	3.79
Far West	1.01	1.21	1.46	1.75
Murray	1.50	1.80	2.16	2.59
Murrumbidgee	2.63	3.16	3.79	4.55
North Coast	1.99	2.39	2.87	3.45
Hunter	1.30	1.55	1.87	2.24
South Coast	1.46	1.75	2.11	2.53

Table 7.5 The two-part tariff applicable to unregulated rivers (\$/ML, 2001/02 prices)

	2001/02 (2001/02 prices)		2002/03 (2001/02 prices)		2003/04 (2001/02 prices)	
	Entitlement \$/ML	Usage \$/ML	Entitlement \$/ML	Usage \$/ML	Entitlement \$/ML	Usage \$/ML
Border	1.24	1.00	1.48	1.20	1.78	1.43
Gwydir	1.24	1.00	1.48	1.20	1.78	1.43
Namoi	1.24	1.00	1.48	1.20	1.78	1.43
Peel	1.24	1.00	1.48	1.20	1.78	1.43
Lachlan	0.70	1.09	0.84	1.31	1.01	1.57
Macquarie	1.54	1.09	1.85	1.31	2.22	1.57
Far West	0.12	1.09	0.15	1.31	0.18	1.57
Murray	1.24	0.56	1.48	0.68	1.78	0.81
Murrumbidgee	2.07	1.09	2.48	1.31	2.98	1.57
North Coast	1.30	1.09	1.56	1.31	1.87	1.57
Hunter	0.61	0.95	0.73	1.14	0.87	1.37
South Coast	0.66	1.09	0.80	1.31	0.95	1.57

Note:

Town water supply agencies and industrial customers who are not yet on the two-part tariff will pay the usage component of the two-part tariff as shown in Table 7.5, plus a fixed charge of \$100 per licence per year in 2001/02, and the same price plus CPI in 2002/03 and 2003/04.

7.2.1 Converting to volumetric licences and introducing a two-part tariff

DLWC is in the process of converting licences previously based on the area (ha) or the licence holder's pump capacity to volumetric licences. The conversion of licences will occur in two stages:

- Stage 1 involves granting each licence holder an annual volumetric entitlement, by converting the authorised irrigation area using a crop conversion ratio (developed by DLWC and NSW Agriculture). The conversion ratios within a valley may differ, according to the customer's irrigation practices, climatic conditions and crop type. This stage is nearly completed.
- Stage 2 involves defining the volume of water the licence holder is authorised to extract from different flow events. This will require DLWC to meter and monitor unregulated rivers. Some irrigators will be required to install meters at their own expense.

As licences are converted, DLWC will change the way it calculates bills:

- In Stage 1, customers will be charged per ML of their entitlement (\$/ML), instead of the old area-based charge (\$/ha). The charge per ML for each valley is calculated using the average crop conversion rate for the valley.³²
- In Stage 2, a two-part tariff will be introduced so customers will be charged a volumetric entitlement component (\$/ML) and a usage component (\$/ML). The two-part tariff will be set by splitting the customer's stage 1 entitlement charge into a stage 2 entitlement charge and a usage charge.³³

Table 7.6 shows the average crop conversion rates and converted charges for 2001/02 by valley.

³² For example, in the Murray Valley, where 2.5ML/ha is the average conversion rate $(\$4.50/\text{ha})/(2.5 \text{ ML}/\text{ha}) = \$1.80/\text{ML}$.

³³ For example, for the Murray Valley:
 $\$1.80/\text{ML}$ stage 1 charge = $\$1.24$ stage 2 entitlement charge + $\$0.56/\text{ML}$ usage charge

Table 7.6 Conversion of area-based charges to stage 1 entitlement charges and two-part tariffs (2001/02)

	Area-based charge (\$/ha)	Average conversion ratio (ML/ha)	Stage 1 Entitlement charge (\$/ML)	Two-part tariff Entitlement charge (\$/ML)	Usage charge (\$/ML)
Border	7.14	3.20	2.23	1.24	1.00
Gwydir	7.14	3.20	2.23	1.24	1.00
Namoi	7.14	3.20	2.23	1.24	1.00
Peel	7.14	3.20	2.23	1.24	1.00
Lachlan	7.90	4.40	1.79	0.70	1.09
Macquarie	7.90	3.00	2.63	1.54	1.09
Far West	7.90	6.50	1.21	0.12	1.09
Murray	4.50	2.50	1.80	1.24	0.56
Murrumbidgee	7.90	2.50	3.16	2.07	1.09
North Coast	7.90	3.30	2.39	1.30	1.09
Hunter	6.84	4.40	1.55	0.61	0.95
South Coast	7.90	4.50	1.75	0.66	1.09

Note:

There may be errors due to rounding.

The new tariffs are set in such a way that:

- a bill calculated on a stage 1 entitlement charge will be the same as one calculated on area-based charges *if* the average conversion ratio for the valley is used to convert the licence
- a bill calculated on the two-part tariff will be the same as one calculated on stage 1 entitlement charges *if* usage is 100 per cent of entitlement.

As for regulated water users, charges for high flow users in unregulated valleys will be the valley specific, unregulated water, usage charge of the two-part tariff regime levied on unregulated users.

7.2.2 Converting town water supply agencies and industrial customers to the two-part tariff

Town water supply agencies and industrial customers whose usage is metered, but who have not yet been allocated an entitlement volume, will pay a charge per licence (currently \$100) per year plus a usage charge (\$/ML). Once these customers have been allocated an entitlement volume, the fixed charge will fall away and the valley-specific two-part tariff will apply. The usage component of the two-part tariff will be the usage charge applicable prior to the allocation of an entitlement volume.

7.2.3 Should the structure of the two-part tariff be revisited?

The proposed two-part tariff has been set in such a way that the usage component is the same as the current usage charge paid by town water supply and industrial customers who have not yet been allocated an entitlement volume. The entitlement component is the difference between the stage 1 entitlement charge and the usage component. This formula leads to wide variations in the balance between the entitlement and usage component of the two-part tariff. For example the entitlement component varies from 12c/ML in the Far West in 2001/02 to \$2.07/ML in the Murrumbidgee Valley while the usage charge is \$1.09/ML in both areas.

The Tribunal encourages DLWC to further investigate composition of the two-part tariff, with reference to its implications for DLWC revenue, customers and the potential signalling effects of the charges. Since there are as yet no customers on this tariff, the Tribunal urges DLWC to review this prior to finalisation of this determination.

7.3 Ground water tariffs

The Tribunal proposes to set maximum prices for all ground water tariffs that include an increase of up to 20 per cent in 2001/02, up to 20 per cent plus CPI in 2002/03 and 2003/04. The exception is the \$75 base charge per property in unmanaged areas, which it proposes not to change in 2001/02 and to increase by the CPI in 2002/03 and 2003/04.

Table 7.8 shows the proposed maximum increase for each ground water charge.

Table 7.8 Maximum increases in ground water charges

	2000/01	2001/02	2002/03	2003/04
	Current tariff	Proposed nominal increases		
Base charge per property in unmanaged areas	\$75	0%	CPI	CPI
Base charge per property in managed areas	\$100	20%	20%+CPI	20%+CPI
Entitlement charges (managed and unmanaged areas)	Vary between valleys (see Table 7.9)	20%	20%+CPI	20%+CPI
Usage charges (managed areas only)	Vary between valleys (see Table 7.9)	20%	20%+CPI	20%+CPI

The Tribunal proposes to retain the current difference between charges in managed and unmanaged areas, as it reflects DLWC's higher costs in managed areas. (Managed areas require higher levels of information collection, analysis, monitoring and management, and metering of water usage.)

Table 7.9 shows the proposed maximum tariffs for ground water. Future prices are shown in 2001/02 dollar values (ie, excluding the impact of CPI increases).

Table 7.9 Maximum ground water prices (\$/ML)

	2000/01 (2000/01 prices) \$/ML		2001/02 (2001/02 prices) \$/ML		2002/03 (2001/02 prices) \$/ML		2003/04 (2001/02 prices) \$/ML	
	Entitle- ment	Usage	Entitle- ment	Usage	Entitle- ment	Usage	Entitle- ment	Usage
Border	0.42	0.21	0.50	0.25	0.60	0.30	0.72	0.36
Gwydir	0.42	0.21	0.50	0.25	0.60	0.30	0.72	0.36
Namoi	0.42	0.21	0.50	0.25	0.60	0.30	0.72	0.36
Peel	0.42	0.21	0.50	0.25	0.60	0.30	0.72	0.36
Lachlan	0.67	0.34	0.80	0.41	0.96	0.49	1.15	0.59
Macquarie	0.67	0.34	0.80	0.41	0.96	0.49	1.15	0.59
Far West	0.73	0.37	0.88	0.44	1.06	0.53	1.27	0.63
Murray	0.66	0.33	0.79	0.40	0.95	0.48	1.14	0.58
Murrumbidgee	0.41	0.20	0.49	0.24	0.59	0.29	0.71	0.35
North Coast	0.73	0.37	0.88	0.44	1.06	0.53	1.27	0.63
Hunter	0.73	0.37	0.88	0.44	1.06	0.53	1.27	0.63
South Coast	0.73	0.37	0.88	0.44	1.06	0.53	1.27	0.63

7.4 Large customer charges

DLWC levies a range of charges on large users who have Part 9 Water Management licences,³⁴ including Sydney Catchment Authority (SCA), Hunter Water Corporation (HWC) and Macquarie Generation (MG). These three large users made submissions to the Tribunal questioning the charges proposed by DLWC, which include usage charges to recover the costs of supply; application and annual charges to recover the costs of water licences; and a charge specific to SCA to fund an aquatic weeds task force. The Tribunal's proposed determination on each of these charges is discussed below.

7.4.1 Usage charges

After considering DLWC's proposal and the arguments and evidence put forward by SCA, HWC and MG, the Tribunal proposes that these large users' usage charges should be in line with other users in their respective valleys. Its main reason is that DLWC has not provided appropriate evidence to support its proposal for differential charges for large users.

Sydney Catchment Authority and Hunter Water Corporation

DLWC proposed to increase these customers' usage charge by 20 per cent per annum, because the level of the charge has not changed since its introduction in 1995 and there is a need to increase the charge to move towards full cost recovery. The Tribunal investigated the evidence presented to support DLWC's proposal, but found it was not conclusive enough to justify levying SCA and HWC charges different to other users.

³⁴ Part 9 Water Licences under the *Water Act 1912* are granted to the following water management authorities: Sydney Water Corporation; Hunter Water Corporation; Sydney Catchment Authority; Delta Electricity; Eraring Energy; Macquarie Generation.

HWC proposed that the current usage charge should be held at \$1.80 per megalitre until the charges of other customers in their respective valleys reach that level. At that point, it proposes that their charges increase in line with those for other users. The Tribunal accepts the principle that HWC and SCA should be charged on the same basis as other users in their valley or region. However, as these agencies do not have an entitlement, total usage will be used as a substitute. Effectively, this means that the valley specific entitlement charge and usage charge components of the two-part tariff will be combined and billed for each megalitre used.

Tables 7.10 and 7.11 show the proposed maximum usage charges for these customers. Note that the Tribunal also proposes that HWC be charged for groundwater and surface water separately, based on usage, in line with HWC's request for separate charging.

Table 7.10 Sydney Catchment Authority Usage Charges (\$/ML of usage)

	2001/2002	2002/2003	2003/2004
Surface water	\$1.96	\$2.35	\$2.82

Table 7.11 Hunter water Corporation Usage Charges (\$/ML of usage)

	2001/2002	2002/2003	2003/2004
Surface water	\$1.80	\$2.04	\$2.45
Groundwater	\$1.80	\$1.80	\$1.90

Macquarie Generation (MG)

In relation to MG, the Tribunal proposes to accept DLWC's proposal to set MG's usage charge in line with that of other users. Prior to this determination, the structure of MG's charges was complicated and the Tribunal requested³⁵ that DLWC normalise MG's licensing arrangements and hence pricing structures. DLWC and MG have undertaken extensive negotiations which have resulted in DLWC issuing a Part 9 licence to MG, and introducing usage charges for MG equivalent to other users in the Hunter valley. MG supports the principle that it should be charged bulk water rates similar to those of other users, but believes it should be compared to other large users with Part 9 licences. Under this proposed determination, both SCA and HWC will in due course be charged usage charges similar to those charged to other users in their areas.

7.4.2 Application and annual charges

The Tribunal notes that DLWC has negotiated application and annual management charges with SCA, HWC and MG in relation to these Part 9 licences. At least one of these agencies has questioned the basis for these charges. Consequently, the Tribunal considers that it may be appropriate for it review and set these charges. In order to allow further consideration of this issue the Tribunal is seeking details from DLWC about the purpose of the charges and the cost basis used in their calculation.

³⁵ IPART, *Bulk Water Prices for 1998/99 and 1999/00*, p 45.

7.4.3 Charges to fund Aquatic Weeds taskforce

DLWC proposes to charge SCA a special levy to fund an aquatic weeds task force. This task force is to be formed to reduce the threat posed by aquatic weed infestations in the Hawkesbury-Nepean. The Tribunal does not believe it has the legislative power to determine the proposed aquatic weeds levy.

7.5 Licence fees

As DLWC has proposed to maintain the same structure and fees for licences, the Tribunal proposes not to make any changes to licence fees for the current determination.

8 IMPLICATIONS FOR DLWC AND STATE WATER

The proposed maximum prices will result in an increase in DLWC's total revenue of around \$6.9m over the determination period. This translates into an increase in the proportion of costs recovered from 61 per cent in 2000/01 to 73 per cent in 2003/04.

8.1 Increase in revenue

As Table 8.1 shows, DLWC's total revenue from bulk water tariffs is projected to increase by approximately \$6.9 between 2000/01 and 2003/04 (in real 2001/02 prices). The largest portion of this increase - \$4.5m - will come from increased tariffs on regulated rivers (based on DLWC's long-term usage volumes). A further \$1.3m will come from increased tariffs on unregulated rivers (assuming that the two-part tariff is not yet in operation³⁶). Increased tariffs for ground water will contribute another \$1.1m (assuming that the volume of extraction and the proportions of managed and unmanaged areas will remain unchanged). However, revenue from ground water tariffs may be less than the projected amount due to lower usage volumes.

Table 8.1 DLWC's total projected revenue from bulk water tariffs by water source (\$'000, 2001/02 dollars)

	2000/01	2001/02	2002/03	2003/04
Regulated Rivers	32,858	33,220	35,435	37,366
Unregulated Rivers	1,950	2,167	2,696	3,221
Ground Water	1,829	2,018	2,487	2,953
Total revenue	36,636	37,404	40,618	43,540

Notes:

1. Revenue from regulated rivers has been calculated using DLWC's estimated long-term usage.
2. Revenue for unregulated water has been calculated using the stage 1 Entitlement charge for irrigators and the \$100 fixed charge plus usage charge for towns and industry. It has been assumed that entitlement volumes remain unchanged. Revenue from Sydney Catchment Authority and Hunter Water Corporation has been excluded.
3. Projected revenue from ground water has been calculated assuming that entitlement and usage volumes will remain unchanged, and that no more areas will become managed areas.
4. Revenue in 2001/02 has been calculated on the assumption that prices increase from 1 October 2001.

DLWC will also receive \$2.7 million in miscellaneous income from regulated rivers over the determination period. This amount is offset against costs when the level of cost recovery on regulated rivers is calculated.

³⁶ It is not possible to make an accurate prediction of revenue from the two-part tariff, firstly because town water supply agencies and industrial customers have not yet been given entitlement volumes, and secondly because irrigators' usage volumes are unknown. Revenue from towns and industries will increase once the two-part tariff is adopted, but revenue from irrigators may decrease if usage volumes are lower than entitlement volumes.

8.2 Improvement in cost recovery

Based on the revised costs and cost allocation methodology, the proposed maximum price increases will result in an increase in the level of cost recovery, from 61 per cent in 2000/01 to 73 per cent in 2003/04. As Table 8.2 shows, the overall level of cost recovery across the valleys will vary significantly, from 96 per cent in the Murray Valley to 19 per cent in the South Coast in 2003/04.

Table 8.2 Percentage of costs recovered by valley (all water sources)

	2000/01 %	2003/04 %
Barwon Region (Border, Gwydir, Namoi, Peel)	66	83
Central West (Lachlan, Macquarie)	79	87
Far West	20	33
Murray	81	96
Murrumbidgee	81	87
North Coast	12	20
Hunter	30	45
South Coast	12	19
Total NSW	61	73

Table 8.3 shows that levels of cost recovery are far higher on regulated rivers than on unregulated rivers or for ground water in all valleys except the North Coast. The majority of regulated rivers will reach full cost recovery by 2003/04. However, levels of cost recovery will improve for all sources between 2000/01 and 2003/04.

Table 8.3 Percentage of allocated costs recovered from tariffs in 2003/04

	Cost recovery in 2003/04		
	Regulated Water	Unregulated Water	Ground Water
Border	100%	42%	
Gwydir	100%	89%	Barwon region
Namoi	100%	43%	37%
Peel	65%	Included in Namoi	-----
Lachlan	100%	28%	Central West
Macquarie	103%	71%	35%
Far West	No regulated rivers	33%	----- 34%
Murray	100%	33%	56%
Murrumbidgee	100%	70%	28%
North Coast	11%	21%	22%
Hunter	51%	31%	21%
South Coast	34%	20%	8%
Total	93%	31%	32%

Note:

Cost recovery levels in 2000/01 are shown in Table 6.1.

The continuing low level of cost recovery in some valleys is due to several reasons. In the Far West, there are no regulated rivers, and current prices for unregulated water and ground water in this area are low relative to the costs involved. In the coastal valleys, most of the bulk water used is from unregulated rivers and ground water with current prices well below the delivery costs. In addition, the current price on coastal regulated rivers is low relative to costs, largely because there are relatively few extractors to share the costs of the infrastructure. It is possible that the costs on some coastal valley rivers will never be fully recovered.

The Tribunal's proposed prices will result in a shortfall in DLWC's revenue of \$16.12m in 2003/04, as shown Table 8.4. Whilst the largest portion of DLWC's revenue comes from regulated river tariffs, the bulk of its revenue shortfall comes from tariffs for unregulated water (\$7.0 million) and ground water (\$6.4 million). This indicates the new levels of cost recovery on unregulated rivers and for ground water are still significantly lower than the level on regulated rivers.

**Table 8.4 Revenue shortfall in 2003/04 by valley and water source
(\$ million, 2001/02 prices)**

	Regulated rivers	Unregulated rivers	Ground Water	Total
Border	0	0.1		
Gwydir	0	0.0	Barwon region	Barwon region
Namoi	0	0.3	1.4	2.1
Peel	0.3	Included in Namoi		
Lachlan	0	0.3	Central West	Central West
Macquarie	-0.1	0.2	1.0	1.3
Far West	na	0.9	0.8	1.6
Murray	0	0.2	0.4	0.5
Murrumbidgee	0	0.1	1.1	1.3
North Coast	0.4	2.0	0.4	2.8
Hunter	2.0	0.8	0.4	3.3
South Coast	0.3	2.2	0.8	3.3
Total	2.9	7.1	6.2	16.2

Note:

Numbers may not add up due to rounding.

9 IMPLICATIONS FOR CUSTOMERS

The proposed maximum prices represent significant increases in bulk water charges for many bulk water users, and some customers may find it difficult to absorb these increases. However, given that prices need to move towards full cost recovery level, the Tribunal believes its proposed price path represents a fair balance between the interests of customers, DLWC and the broader community. This section looks at the implications of the proposed prices for customers that use regulated water, unregulated water and ground water, and discusses the options it considered for reducing the impact of the proposed price increases on farmers.

9.1 Implications for regulated water users

Customers on regulated rivers will pay a maximum of 15 per cent more each year, in real terms, for the same entitlement and volume extracted. As Table 9.1 shows, a typical bill for a customer with a low security entitlement of 1,000ML per year and an extraction rate equal to the long-term average for the valley will change by between -\$500 and \$3,300 over the period 2000/01 to 2003/04. (Note that the values shown in this table are in real terms; nominal increases are likely to be more as the percentage by which prices can increase in 2002/03 and 2003/04 will be adjusted for inflation.)

Table 9.1 Increase in typical bills for customers on regulated rivers (2001/02 prices)

	Usage as % entitlement volume ¹	Bill in 2000/01 (\$ per year)	Bill in 2003/04 (\$ per year)
Low Security Entitlement = 1,000ML			
Border	75	5,840	7,143
Gwydir	66	5,171	6,150
Namoi	83	10,330	12,633
Peel	21	6,451	9,526
Lachlan	39	5,145	6,293
Macquarie	61	6,316	5,780
Far West		-	-
Murray	84	4,791	5,540
Murrumbidgee	73	3,946	4,126
North Coast	5	5,604	8,274
Hunter	75	6,905	10,195
South Coast	26	6,382	9,424

Note:

- DLWC's projections of average long-term usage per valley.

Increases of this magnitude may have significant impacts on farm incomes in some areas. However, the cumulative increases between 1999/00 and 2003/04 that will result from the Tribunal's proposed prices are significantly lower than the increases used in the NSW Agriculture impact studies in the Peel and the Lachlan valleys (discussed in Chapter 6), and the impact on farm incomes will be similarly lower. Table 9.2 compares the proposed cumulative increase in prices between 1999/00 and 2003/04 with those used in the NSW Agriculture studies.

Table 9.2 Proposed cumulative price increases compared with those used in NSW Agriculture studies in the Peel and Lachlan valleys

	Cumulative increase in a typical bills, ^{1,2} 1999/00 – 2003/04	
	Increase with Tribunal's proposal (real)	Increase used in NSW Agriculture study
Peel Valley	70%	200%
Lachlan Valley	30%	65%

Note:

1. Typical bills were calculated assuming usage of 21 per cent of entitlement volumes in the Peel Valley, and 39 per cent in the Lachlan Valley. These are DLWC's projections of long-term usage.
2. Percentage increase are rounded to the nearest 5 per cent.

9.2 Implications for unregulated water users

Bills for water from unregulated rivers will increase by a maximum of 20 per cent per year in real terms over the determination period (assuming the customer remains on the same tariff structure and no change in other conditions, such as area, entitlement and/or usage volumes). (Nominal increases will be higher in 2002/03 and 2003/04, as the maximum price increase allowed will be adjusted for inflation.)

The bills of irrigation customers may increase by more than 20 per cent when they are converting to the two-part tariff structure. However, they may also increase by less than 20 per cent, depending on the crop conversion rate applied and on the customer's usage volumes. The bills of most town water supply agencies and industrial customers will increase by a relatively large amount when they are converted to the two-part tariff. However, these customers currently pay little for water from unregulated rivers. The increases will result when they move on to the same tariffs as irrigators.

9.2.1 Irrigation farmers

The Tribunal's proposed changes to prices and the tariff structure for irrigation farmers using unregulated water will result in a significant increase in the bills of many of these farmers. However, in dollar terms, water from unregulated rivers is much cheaper than water from regulated rivers in all valleys. Therefore, bulk water payments to DLWC are likely to remain a small proportion of total farm costs.

Table 9.3 illustrates how the bills of irrigation farmers may change during the determination period, as a result of price increases and conversion to the two-part tariff. Column 2 shows that bills for farms converted to a volumetric licence (and thus paying a stage 1 entitlement charge) and with an entitlement of 1,000ML per year are likely to increase by between \$700 and \$1,840 over the period 2000/01 to 2003/04 (in real 2001/02 prices). For farms converted to the two-part tariff who use only 80 per cent of their 1,000ML annual entitlement, the increase is likely to be smaller (Column 3). This is because the conversion ratio assumes that 100 per cent of an entitlement is extracted each year although typically actual usage will be less than this.

Table 9.3 Examples of bills for customers on unregulated rivers under the current tariff structure and the two-part tariff (2001/02 prices)

	Bill in 2000/01 Entitlement charge only (\$ per year)	Bill in 2003/04 Entitlement charge only (\$ per year)	Bill in 2003/04 Two-part tariff with usage of 80% of entitlement (\$ per year)
Entitlement = 1,000ML			
Border	1,915	3,213	2,926
Gwydir	1,915	3,213	2,926
Namoi	1,915	3,213	2,926
Peel	1,915	3,213	2,926
Lachlan	1,540	2,584	2,270
Macquarie	2,259	3,790	3,476
Far West	1,043	1,749	1,435
Murray	1,545	2,592	2,430
Murrumbidgee	2,711	4,548	4,234
North Coast	2,054	3,446	3,131
Hunter	1,334	2,239	1,966
South Coast	1,507	2,528	2,213

However, note that when customers convert from the area-based charge to the volumetric entitlement charge, the actual change in their bill will depend on the crop conversion rate used to establish their entitlement volume. If the average rate for the valley is used, no change will be experienced. The entitlement volume is subject to negotiation between irrigators and DLWC. Conversion to the two-part tariff will only result in a smaller increase in the bill if the volume of extraction is lower than the entitlement volume. Given that a farm's long-term usage will usually be lower than its entitlement volume, most customers should be better off as a consequence of conversion to the two-part tariff.

9.2.2 Town water supply agencies and industrial customers

Most town water supply agencies and industrial customers will face large increases in their bills when they convert to the two-part tariff. However, the Tribunal is satisfied that bulk water costs are usually a very small proportion of total costs. Since town water supply agencies and industrial customers currently pay very little for the water, the impact of the increases on total costs should be small. In addition, the bills for customers with licences for small extraction volumes may be lower, as the \$100 per year fixed charge will be removed.

In general, the impact on individual customers will vary, depending on:

- the size of the entitlement charge, which varies from \$0.12/ML in the Far West to \$2.07/ML in the Murrumbidgee Valley in 2001/02
- the size of the entitlement volume
- the percentage of this volume they use.

The impact of the entitlement charge can be seen by taking a customer with an entitlement of 600ML per year and a usage volume of 500ML per year as an example. When this customer is moved on to the two-part tariff in 2003/04, the (real) increase will be:

- 18 per cent if they are located in the Far West
- 156 per cent if they are located in the Barwon Region
- 241 per cent if they are located in the Murrumbidgee Valley.

When these increases are compared with those for a customer with an entitlement of 50ML per year and a usage volume of 40ML per year, the impact of usage volumes can be seen. When this customer moves on to the two-part tariff in 2003/04, the (real) increase will be:

- -53 per cent if they are located in the Far West
- 0 per cent if they are located in the Barwon Region
- 40 per cent if they are located in the Murrumbidgee Valley.

These increases are far lower than for a customer with an entitlement of 600ML per year and a usage volume of 500ML. For some customers, such as those located in the Far West, conversion to the two-part tariff will result in a lower bill.

9.3 Implications for ground water users

Ground water users will face fairly large price increases in relative terms. However, the dollar value of these increases is small compared to total farm costs.

Table 9.4 compares the typical bill for ground water customers with an entitlement of 500ML per year in 2000/01 with a typical bill for those customer in 2003/04. The bills for customers in unmanaged areas are lower than those for customers in managed areas, and will increase by less, because the \$75 per property fixed charge will remain unchanged in real terms after 2001/02.

Table 9.4 Examples of bills for customers using ground water (2001/02 prices)

	Bill in 2000/01 (\$ per year)	Bill in 2003/04 (\$ per year)
Unmanaged areas – 500ML per year entitlement (\$ per year)¹		
Barwon Region (Border, Gwydir, Namoi, Peel)	292	435
Central West (Lachlan, Maquarie)	421	651
Far West	455	709
Murray	416	644
Murrumbidgee	288	428
North Coast, Hunter, South Coast	455	709
Managed areas – 500ML per year entitlement and usage (\$ per year)²		
Barwon Region (Border, Gwydir, Namoi, Peel)	425	713
Central West (Lachlan, Maquarie)	622	1,044
Far West	670	1,123
Murray	614	1,030
Murrumbidgee	416	698
North Coast, Hunter, South Coast	670	1,123

Note:

1. The average size of entitlements in unmanaged areas is approximately 650ML per licence.
2. The average size of entitlements in managed areas is approximately 150ML per licence.

9.4 Options for reducing the impact of price increases

In making this draft determination, the Tribunal recognised that price increases could have significant impacts on the profitability of some farms. However, it believes that this is better addressed through mechanisms other than pricing. It therefore investigated some possible options available to farmers to mitigate these impacts. These included trading water on regulated rivers, handing back entitlement volumes in over-allocated valleys, and using the assistance schemes available to farmers facing financial difficulty.

9.4.1 Trading water

When water entitlements can be traded, entitlement holders have the option of converting their rights into an alternative source of revenue. However the magnitude of this revenue and the extent to which trading might alleviate the any financial difficulties caused by water price increases are unclear. It is also possible that when less profitable farmers sell their water entitlements they may further jeopardise the viability of their farms. This is because they will have less water is available for irrigation but may not have the resources to switch to alternative methods of farming or to adopt water-saving irrigation practices.

Furthermore, the market for water trading in NSW is not fully established, and is not always a simple option. For example, trade between the Peel and Namoi valleys is not currently permitted. If trade were permitted, water transfers from the Peel to the Namoi would increase system losses by up to 30 per cent, thereby reducing attractiveness.

This suggests that while water trading may have the potential to assist some farmers to adjust to higher prices, it is unlikely to substantially mitigate the impacts of price increases on others.

9.4.2 Handing back entitlement volumes on regulated rivers

It is commonly accepted that entitlements on regulated rivers are much higher than the permitted allocations in some valleys, notably the Lachlan and Peel valleys. This means that the affected farmers are paying an entitlement charge for water that they are not permitted to extract.

Extractors can hand back their entitlements at any stage. However, because water is allocated as a proportion of entitlement volumes, individual farmers would lose allocated volumes if they handed back entitlement volumes unilaterally. But if all extractors in an over-allocated valley handed back a uniform percentage of entitlements:

- Allocated volumes would remain unchanged, and would simply be a higher proportion of entitlements.
- For a given tariff structure, the fixed component of bills would be reduced while the usage component would remain unchanged. The total bill would therefore be lower.

However, there are risks associated with this strategy:

- If DLWC chose to re-issue the entitlement to other parties, the initial entitlement holders would lose allocation volumes. For the strategy to work, DLWC would need to guarantee that the entitlements handed back would be cancelled.
- It may be very difficult to persuade all the (low security) entitlement holders in a valley to hand back entitlements. Such a strategy presupposes a high level of cohesiveness, and faith in DLWC's intention to cancel the returned entitlements.
- Over time, the advantage to users of lower bills would be eroded as DLWC increases prices to full cost recovery levels.
- The handing back of entitlements would mean that less of DLWC's revenue came from entitlement charges. It may seek to rectify this by increasing these charges relative to usage charges. Alternatively, DLWC may seek compensation for greater levels of volatility in income, and this would increase full cost recovery levels.

In addition, informal advice from DLWC indicates that the administrative burden of changing entitlements could be significant, and the costs would probably outweigh any advantages derived. The Tribunal therefore believes that handing back entitlement volumes is not a practical solution to the problem of the over-allocation of entitlement volumes.

9.4.3 Using assistance schemes available to farmers

The Tribunal noted that there are a number of assistance schemes available to farmers experiencing difficulty in adjusting to higher water prices (and, where relevant, lower volumes). The Water Reform Structural Adjustment Programme (WRSAP) brings together a number of existing and new initiatives that may be of benefit to NSW irrigation farmers. The WRSAP aims to provide help in three areas:

- financial assistance for redevelopment
- easier access to extension, education and training services
- re-establishment and retraining assistance through the Commonwealth Government's Agriculture – Advancing Australia (AAA) initiatives.

Some of these schemes are part of broader assistance measures for farmers that have been available in some form for many years. Schemes such as this exist because of the well-documented need for ongoing structural adjustment in an industry where the growth in demand for output is slow, competition is fierce, and increasing productivity is the only way a farmer can remain viable.

The Tribunal believes that although the proposed increases in the price of water will undoubtedly put pressure on profit margins throughout the irrigation sector, most farmers should, with the assistance available, be in a position to absorb moderate increases. The farmers who are least able to absorb the increases in water prices are those who are already only marginally profitable. The Tribunal considers that the underlying problem is one of low profitability, and this is best addressed through targeted measures and not through water prices.

10 IMPLICATIONS FOR THE ENVIRONMENT

In developing the draft determination, the Tribunal considered its implications for the environment. In particular, it examined DLWC's water resource management expenditure in the light of the new *Water Management Act, 2000*. The Tribunal believes that the adoption of the impactor pays approach to allocating costs to users will serve to encourage efficient environmental outcomes in the longer term.

The Tribunal has previously stated its belief that the most effective way of addressing environmental problems on NSW rivers is for DLWC to manage water use within ecologically sustainable river flow regimes. This approach is consistent with that of the new Water Management Act (discussed in *Brief overview of the Water Management Act, 2000*, below). The role of water pricing in this context is to ensure DLWC has adequate funding to cover its water resource management costs³⁷, and to encourage demand management.

10.1 Ensuring adequate funding for water resource management

The Tribunal is concerned to ensure that the prices it sets provide adequate funding to cover DLWC's efficient water resource management activities. For this determination, it commissioned ACIL to assist it in determining:

- the appropriate level of water resource management expenditure to be allowed for in determining prices
- the extent to which water resource management expenditure should be recovered from users.

ACIL found that the water resource management costs tabled by DLWC in its submission are almost certainly conservative. It believes that the continued application of an efficient planning process is likely to expand rather than contract the expenditure items, possibly quite substantially, over the three years for which DLWC has estimated costs.³⁸

The Tribunal has allowed for total water resource management expenditure of \$42m. This is in line with ACIL's recommendation and the amount proposed by DLWC in its submission.

³⁷ ACIL has defined water resource management cost to be, any costs

- that would *not be necessary*, at least at the level proposed, were it not for past, current or planned *patterns of extractive water use*, including construction and operation of dams, weirs, pumps etc;
- that are concerned *directly with the hydrology* of the NSW surface and groundwater systems (as opposed to wider catchment management, although the close linkages are recognised); and
- where the justification requires that *benefits falling outside of the group of current and future extractive water users* be taken into account — ie, the benefits to extractive users are insufficient, on their own, to justify the costs.

(*Review of Water Resource Management Expenditure in the NSW Department of Land and Water Conservation and State Water Business - A report to the Independent Pricing and Regulatory Tribunal*, ACIL Pty Ltd, July 2001, p ii).

³⁸ Ibid p vi.

10.2 Encouraging demand management

The Tribunal considers that the prices it determines should encourage water conservation. However, the full nature of the impact of price changes on the demand for bulk water is not clear. The Tribunal recognises that price plays a supplementary role in encouraging demand management, but believes that decisions or planning instruments such as the MDBC cap are likely to be much more effective. It also notes the significant emphasis the new Water Management Act gives to securing environmental outcomes. In particular, the Act will provide priority and security for environmental water allocations. In addition, it will introduce a more effective water trading regime that is likely to lead to more efficient use of available water resources.

Most irrigators incur substantial costs in using bulk water in addition to water usage charges, including pumping and equipment costs. The Tribunal believes these costs alone would send some signals encouraging the efficient use of water, and the price increases resulting from this determination in a number of valleys will serve to further reinforce these signals. In addition, the expansion of the two-part tariff structure to unregulated water and ground water customers should further encourage the efficient use of water, as this structure includes a substantial component based on the volume of water the customer uses.

The Tribunal conducted a preliminary examination of the current balance between the fixed entitlement charge and the variable usage charge in DLWC's two-part tariffs. It found that the costs DLWC incurs to provide the services related to these charges consist substantially of fixed costs. If the balance was adjusted to better reflect the cost base the usage component of water charges would probably be substantially lower. The Tribunal believes such rebalancing would be inappropriate, and prefers to maintain a strong consumption-based price signal to encourage demand management.

Brief overview of the Water Management Act 2000

The Water Management Act 2000 will replace several older Acts including the Water Act 1912, the Rivers and Foreshores Improvement Act, the Irrigation Corporations Act and others. Provisions of the new Act are likely to have significant impacts on bulk water users and also on the management of environmental issues related to the extraction of bulk water.

The Water Management Act 2000 was created to better manage the water resources of NSW. It will take some five years to fully implement as regulations covering the detail of water management are progressively introduced. The Act aims to:

- protect and enhance water sources by establishing Water Management Plans, by issuing water use approvals, and by establishing water source protection zones
- strengthen the water rights of landholders by legislating for basic water rights, and by establishing a new system of water licensing with tradeable water access licences.

The Tribunal believes provisions of the new legislation relating to measures such as mandatory environmental flows in rivers and the establishment of Water Management Plans will provide the Government with significant new tools for water resource management.

The Act establishes Water Management Committees, with broad stakeholder representation, which will have the task of developing Water Management Plans. These are proposed as a means of reconciling multiple objectives and ensuring consideration of economic, social and environmental objectives.³⁹ The Committees, through the development of Water Management Plans, are intended to have significant input to water resource management decision making.

From the Tribunal's viewpoint, one of the most important objectives of the new water legislation is an improved framework for water entitlement trading. The Tribunal believes that a pragmatic system for trading will assist in facilitating the development of an efficient water market

³⁹ See second reading speech introducing the Water Management Bill 2000, delivered by the Minister for Agriculture and Minister for Land and Water Conservation, The Hon R Amery MP, Legislative Assembly 22 June 2000.

APPENDIX 1 GLOSSARY/ABBREVIATIONS

AAA	Agriculture-Advancing Australia
ACCC	Australian Competition and Consumer Commission
ACIL	ACIL Consulting
Artificial Water Asset	Structures or equipment built as part of water system such as dams, weirs, fish ladders, irrigation channels.
ANTS	A New Tax System (Goods and Services Tax) Act, 1999
Capex	Capital Expenditure (refer Section 4.3.1)
COAG	Council of Australian Government
CPI	Consumer Price Index
CSC	Customer Service Committees
DBBRC	Dumaresq Barwon Border River Commission
DLWC	Department of Land and Water Conservation
GST	Goods and Services Tax
Ha	Hectare
HWC	Hunter Water Corporation
IPART	Independent Pricing and Regulatory Tribunal
KPA	Key Performance Area
KRA	Key Results Area
Legacy Costs	Current and future costs attributable to past activities (refer p 31).
Line-in-the-sand.	Tribunal determination in 1998 to write down all pre 1 July 1997 assets to zero value, for pricing purposes. As a result, only assets built after 1 July 1997 are eligible for inclusion in the asset base.
MDBC	Murray-Darling Basin Commission
MEERA	Modern Engineering Equivalent Replacement Asset - An asset value calculated on the basis that the asset is constructed at the time of valuation in accordance with the modern engineering practice and the most economically viable technologies, which provides similar utility functions to the existing asset in service.
Natural Capital Assets	Ecological goods and resources associated with, living things their modes of life and habitats. Rivers aquifers, fish and water birds are natural capital assets.
NCC	National Competition Council
NSW	New South Wales
OH&S	Occupational Health and Safety

Opex	Operating Expense
PwC	PricewaterhouseCoopers (Consultants)
R&D	Research and Development
Regulated River	Those rivers or sections of rivers in which the water flow is controlled by a regulating structure, such as a dam or weir, owned by State Water (DLWC).
ROA	Return on Assets (refer Appendix 7)
SCA	Sydney Catchment Authority
Statement of Financial Performance	A statement of financial performance specifies a State Government Agency's and Treasury's commitments, establishes financial and performance targets for the agency, and sets out the agreed principles upon which the funding and delivery of services in the agency's area of responsibility will be based.
TAMP	Total Asset Management Plan
Tribunal	Independent Pricing and Regulatory Tribunal
Unregulated River	Those rivers, or stretches of rivers, which are not controlled by a dam or weir that is owned by State Water (DLWC).
WACC	Weighted Average Cost of Capital (refer A7.1.3)
WRM	Water Resource Management (refer Section 4.2)
WRSAP	Water Reform Structural Adjustment Program

APPENDIX 2 IPART ACT REQUIREMENTS

A2.1 Section 15 compliance

Section	Reference
s15(1)(a) the cost of providing the services concerned	The Tribunal has reviewed the cost of providing bulk water and the appropriate allocation of these costs. Its consideration of these issues is discussed in Chapters 4 and 5 .
s15(1)(b) the protection of consumers from the abuses of monopoly power in terms of prices, pricing policies and standard of services	Chapters 4 and 5 discuss how the Tribunal has analysed costs and adopted those that it believes are appropriate. Chapter 6 discusses the impact of price increases on customers and how the Tribunal has determined a transition period for increases in prices.
s15(1)(c) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales	Chapter 4 discusses the rate of return chosen by the Tribunal and the reasoning behind that decision. This rate of return will be earned on an adjusted asset base of investments made since July 1997. See also Appendix 6.
s15(1)(d) the effect on general price inflation over the medium term	Chapters 6 and 7 discuss Tribunal's proposed price increases. Whilst substantial in percentage terms in some valleys, the Tribunal does not expect that the increase in prices will have a significant effect on general price inflation.
s15(1)(e) the need for greater efficiency in the supply of service so as to reduce the cost for the benefit of consumers and tax payers	Chapter 4 discusses the outcomes of the independent consultancy commissioned by the Tribunal to analyse the efficiency of DLWC's costs.
s15(1)(f) the need to maintain ecologically sustainable development (within the meaning of section 6 of the Protection of the Environment Administration Act 1991) by appropriate pricing policies that take account of all the feasible options available to protect the environment	Chapter 10 discusses implications of the new prices for the environment.
S15(1)(g) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets	DLWC is not required to pay dividends or raise capital. The appropriate levels of capital expenditure were reviewed by a consultancy commissioned by the Tribunal. Its findings and provision for asset renewal through an annuity are discussed in Chapter 4 .
s15(1)(h) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body	Not applicable.
s15(1)(l) the need to promote competition in the supply of the services concerned	Chapter 3 discusses the progress towards separating State Water as an independent body. The Tribunal notes comments made by the PricewaterhouseCoopers consultancy that scope exists for market testing some activities undertaken by DLWC.

Section	Reference
s15(1)(j) consideration of demand management (including levels of demand) and least cost planning	Chapter 10 outlines the Tribunal's consideration of pricing strategies to promote demand management.
s15(1)(k) the social impact of the determinations and recommendations	Chapter 6 discusses limits the Tribunal has placed on price movements and Chapter 9 discusses implications for customers and assistance available for them.
s15(1)(l) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).	The Tribunal has endeavoured to ensure that prices are appropriate to the level of service provided. Chapter 3 discusses the progress made by State Water since the last determination.

A2.2 Section 16 Compliance

Section 16 of the IPART Act requires an assessment of the likely annual cost to the NSW Government's consolidated fund if bulk water prices are not increased to the maximum level and DLWC was compensated for the revenue foregone. Given DLWC's estimate of long term water usage, DLWC would forego a total of \$12.6m (real) over the determination period if the new maximum bulk water prices proposed to apply from 1 October 2001 were not applied.

APPENDIX 3 ISSUES FOR THE NEXT DETERMINATION

As a result of the Tribunal's inquiries, consultants reports and submissions received from stakeholders in the lead up to this draft determination the Tribunal has identified a number of issues that need attention by DLWC prior to the next determination. These issues are:

- **Progressive movement towards a two-part tariff for all bulk water.**
The Tribunal notes that the staged process for the introduction of a two-part tariff on unregulated rivers has started and would expect to see this progressed significantly by the next determination.
- **The balance between entitlement and usage charges in structuring two-part tariffs.**
There is wide variation between the ratios of entitlement charges to usage charges across different valleys. The reasons for this may not necessarily be due to cost reflectivity. The Tribunal encourages DLWC to further investigate the composition of the tariffs with reference to its implications for DLWC revenues, impact on customers, and the potential signalling effects of the charges.
- **High security and low security entitlement charges.**
The Tribunal is aware that the costs of storage to cater for high security customers are significantly greater than for low security customers. The Tribunal is also aware that in some valleys it is cheaper for users to convert from low security to high security entitlements for the same expected volume of water. This decreases the revenue that DLWC receive but not DLWC's costs. Arguably may result in some general security users paying a relatively higher price than warranted. The Tribunal encourages DLWC to review these ratios for consideration at the time of the next determination.
- **Wholesale customer discounts.**
The Tribunal is aware that, whilst DLWC believes these discounts are not justified on cost grounds, bulk water customers do provide information that assists DLWC to perform its functions. The Tribunal foreshadows that it will review wholesale discounts at the time of the next determination and requests that DLWC investigate and review these discounts in the intervening period.
- **Separate Valley Accounts.**
The Tribunal is aware that there are cost implications for State Water setting up separate valley accounts. However, the Tribunal considers that further work needs to be conducted to ensure the integrity of the cost database and to facilitate independent auditing.
- **Ring Fencing.**
The Tribunal expects that DLWC will quickly formalise and finalise the process of charging for services between itself and State Water. This will enable State Water to issue tenders for and, where appropriate, engage external providers for services currently provided by DLWC.
- **Customer Service Committees.**
To help guarantee the objectives of the CSC's in ensuring that stakeholders have meaningful input into to how bulk water services are delivered in their valley the Tribunal expects that State Water will better manage its consultation with and information provision to CSC's in the period up to the next determination.

- **Operating Costs.**

Given the probability of significant developments within the industry the Tribunal is likely to review in detail the operating costs of DLWC at the next determination. It notes that the costs used for this determination should not be regarded as the benchmark efficient costs.

- **Capital Expenditure.**

The Tribunal has accepted PwC's revised capital expenditure calculations. PwC's revised capital program made allowance for additional compliance expenditure. At the next investigation the Tribunal will review DLWC's capital expenditure over the price path to ensure that capital expenditure has been undertaken on the projects that it was earmarked for.

- **Murray Darling Basin Commission Costs.**

To ensure that MDBC costs are appropriately assigned on an impactor pays basis for the next determination and thus ensure that Murray valley users do not pay more than their fair share of these costs, the Tribunal proposes requiring DLWC to develop a robust and transparent method of allocating MDBC costs for the next determination.

APPENDIX 4 LIST OF SUBMISSIONS

Organisation

Bathurst City Council
 Border Rivers Food and Fibre
 Coastal Valleys Customer Service Committee
 Coffs Harbour City Council
 Coffs Harbour City Council
 Cooma-Monaro Shire Council
 Cowra Shire Council
 Cudgegong Valley Water Committee
 Dept of Land & Water Conservation
 Environment Protection Authority
 Friends of the Earth Sydney
 Gwydir Valley Irrigators Association
 Gwydir Valley Irrigators Association
 Hunter Valley Water Users Association
 Hunter Water Corporation
 Lachlan Valley Customer Service Committee
 Lachlan Valley Water
 Local Government & Shires Associations
 Lower Clarence County Council
 Macquarie Generation
 Macquarie River Food & Fibre
 MIA Council of Horticultural Associations Inc
 Moira Board of Management
 Mungindi - Menindee Advisory Council Inc.
 Murray Customer Service Committee
 Murray Irrigation Limited
 Murray Valley Ground Water Users Association
 Murrumbidgee Customer Service Committee
 Nambucca Valley Water Users & Management Group
 Namoi Regulated River Management Committee
 Namoi Valley Water Users Association
 Narromine Irrigation Board of Management
 NSW Fisheries
 NSW Irrigators' Council
 NSW Irrigators' Council
 NSW Irrigators' Council

Representative

Mr Phillip Perram
 Mr Bruce McCollum
 Mr Bob Doyle
 Mr W Davison
 Mr Mark Ferguson
 Mr Neil Watt
 Mr Carl Berry
 Mr Trevor Crosby
 Dr Robert Smith
 Ms Lisa Corbyn
 Mr Dietrich Willing
 Mr John Seery
 Mr John Seery
 Mr Arthur Burns
 Mr David Evans
 Mr Dennis Moxey
 Ms Mary Ewing
 Mr Murray Kidnie
 Mr Ian Preston
 Mr John Neely
 Ms Michelle Ward
 Ms Belinda Wilkes
 Mr Michael Barlow
 Mr Peter Cottle
 Mr Colin Thomson
 Mr Bill Hetherington
 Mr Leigh Chappell
 Mr Rel Heckendorf
 Mr Barry Kerr
 Mr Jim McDonald
 Mr Jeremy Killen
 Mr E O Whittle
 Mr Steve Dunn
 Mr Brad Williams
 Mr Brad Williams
 Mr Brad Williams

Pechelba Trust
Peel Valley Water Users Association
Peel Valley Water Users Association
Rous Water
Shoalhaven City Council
Southern Riverina Irrigation Districts' Council
Stratharlie Pastoral Company Pty Ltd
Sydney Catchment Authority
Tamworth City Council
Tweed Shire Council
Warren Shire Council
Water Directorate
West Corurgan Private Irrigation District
Western Murray Irrigation Ltd
World Wide Fund for Nature Australia

Mr Ian Cush
Mr Laurie Pengelly
Mr Adrian Snowden
Mr Wayne Franklin
Mr John Gould
Ms Deborah Kerr
Mr Thomas Woolaston
Mr Jeff Wright
Mr Bruce Logan
Mr Mike Rayner
Mr Ashley Wielinga
Mr Gary Mitchell
Mr Peter Wallis
Mr Anthony Couroupis
Mr Warwick Moss

Individual

Mr Robert Caldwell
Mr Stephen Crossling
Mr Barry Gilbert
Mr Philip Griffith
Mr J E Hodges
Mr AB & GF Jarrett
Mr & Mrs IW & G McKnight
Mr Ildu Monticone
Mr Laurie Pengelly
Mrs G Thrift
Mr D A Woods

APPENDIX 5 PRESENTERS AT THE PUBLIC HEARING

Organisation	Presenters
Department of Land and Water Conservation	Mr Chris Guest, Mr Robert Marsh, Mr Abel Immaraj
NSW Irrigators Council	Mr Brad Williams, Mr Ted Morgan, Mr Dick Thompson, Ms Michelle Ward
Combined Environmental Groups	Mr Warwick Moss, Dr Stuart Blanch
Coastal Valleys Customer Service Committee	Mr Bob Doyle, Mr Arthur Burns
Hunter Water Corporation	Mr Kevin Young, Mr Andrew Amos
Sydney Catchment Authority	Mr Richard Warner

APPENDIX 6 COMPLIANCE WITH INFORMATION REQUIREMENTS FROM LAST DETERMINATION

At the time of the last determination the Tribunal indicated the information it required from DLWC to enable a medium term price path to be determined. This appendix lists those requirements and the Tribunal's assessment of DLWC's compliance with supplying the information.

Item	Tribunal's assessment of DLWC's compliance	Comment
General information		
1. Description of the scope of activities for State Water and each DLWC water related program.	Partial	State Water activities described.
2. Description of how ring fencing of costs and activities works within the DLWC.	Partial	Description provided but separately auditable accounts are not available and cannot be produced given current accounting systems.
3. Current organisational chart.	Full	Submission Appendix 1
4. Description of how services are charged between related business units, ie transfer prices to and from State Water, where relevant.	Partial	Provided. PwC has quantified the nature of these services but greater formalisation is required.
5. DLWC's Corporate Plan and any documentation explaining its resource management role.	Partial	State Water does not have these plans in the sense commonly used. A high level Vision Mission type plan and KRA's have been provided. No documents explaining its resource management role.
6. Description of asset valuation methodology used for financial reporting and regulatory purposes, where different.	Full	Submission Table 2 MEERA valuation.
7. Description of cost allocation methodology.	Full	Submission section 4.
8. Review of progress in implementing the NSW Government's water reform agenda and its implications for operating and capital costs of water related activities.	Partial	Only a brief description in Submission section 1. ACIL has reported on this.
9. Review of implications of NCC review of NSW compliance with COAG water reforms.	Substantial	Only a brief description in Submission section 1. ACIL has reported on this.

Independent Pricing and Regulatory Tribunal

Item	Tribunal's assessment of DLWC's compliance	Comment
Separation of State Water		
10. Copies of State Water's Operating Licence, Water Access Authority and Statement of Corporate Intent.	Partial	Draft Operating Authority Draft Access authority provided.
11. Clear accounting of the resource management activities recovered in the bill sent by the resource manager to State Water.	Substantial	Valley Accounts for 1999/2000 show details. However, this can only be done manually at year-end.
12. Clear separation in the operating licence of State Water's functions from the resource management functions.	Partial	Draft Operating Authority is referred to in submission.
13. Description of service agreements between DLWC and State Water.	Partial	Copies have been provided but about \$2m seems not to be unaccounted for by service agreements. PWC has reported on this.
14. Review of degree to which any service agreements are contestable.	No	Review not carried out. State Water says no contestability is possible on the grounds none of these services can be obtained commercially.
Customer service		
15. Description of recent improvements in customer service.	Full	Submission Appendix 2.
16. Copy of a Customer Service Charter negotiated with a customer service committee.	Partial	Still being developed. Copy of pro-forma provided.
17. Review of the billing system and any steps taken to improve it.	Full	Submission Appendix 2.
18. Copy of State Water's complaints protocol (and any similar documentation for DLWC).	Full	Submitted separately.
19. Copy of current customer satisfaction surveys.	Substantial	Full details of the last survey in April 1999 provided, next survey is in October 2001.
20. Description of processes for consultation with user groups and other stakeholders on regional/valley accounting, and negotiation of service levels, where appropriate.	Substantial	Description of the processes are provided but concerns remain about how they are implemented.

Item	Tribunal's assessment of DLWC's compliance	Comment
Financial information		
21. Financial statements for State Water including: <ul style="list-style-type: none"> • profit and loss account – audited previous year, current and 5 year forecast • balance sheet – audited previous year, current and 5 year forecast • cash flow – audited previous year, current and 5 year forecast • capital expenditure forecasts – 30 years • debt and interest profiles – plus 10-year forecasts. 	Substantial	Valley Profit and loss accounts provided in Appendix 2. Balance sheet – 3 year projections only provided separately. Separate detailed TAMP, summary in submission Appendix 4. DLWC / State Water has no debt.
Capital costs		
22. Copy of current Total Asset Management Plan.	Full	
23. Description of how future capital works are affected by dam risk assessments and current or potential environmental flow rules.	Substantial	Described in section 4 of Submission and TAMP.
24. Description of asset value for the current review, tracing additions to initial capital base since the last review.	Substantial	Described in section 4 of Submission. Spreadsheets provided separately.
25. The requested rate of return and calculations that support this request.	Partial	Basis of claim stated but calculations not provided.
26. Depreciation expense by major asset class for those capital items excluded from the asset annuity, indicating the method of depreciation, average asset life, and a comparison of depreciation expense for tax or tax equivalent purposes.	Substantial	Underlying details for tax purposes not provided.
27. Evidence that MDBC asset annuity is based on engineering assessments of asset conditions and financial calculations from asset plans.	Partial	Some MDBC details have been provided. However, both PWC and ACIL have reviewed in detail.
Operating costs		
28. Audited special purpose valley financial statements for years 1999/00 and 2000/01.	Partial	Unaudited statements are provided in Submission Appendix 2.
29. Staff numbers by valley/region by year.	Full	Provided separately.
30. Wages and salaries by valley/region by year.	Full	Provided separately.

Independent Pricing and Regulatory Tribunal

Item	Tribunal's assessment of DLWC's compliance	Comment
31. Total overhead costs prepared on an accruals basis.	Full	Provided separately.
32. Assigned corporate overheads, indicating the total amount of the corporate overhead, the amount assigned to each valley/region, and the basis and calculation of that allocation.	Substantial	Embedded in the underlying models provided separately. Some problems with consistency of application.
33. Separate identification of costs charged by the Murray Darling Basin Commission (MDBC) and any associated MDBC water business, and description of associated works.	Substantial	Much information has been made available to IPART and the consultants separately. Both PwC and ACIL have reviewed in detail.
34. Description and measurement of efficiency improvements since the last review, and targets for the proposed price path period.	Partial	Details tracking levels of service have been provided but the nature of the efficiency savings is not documented. In areas where the Tribunal's previously determined cost savings of 20% were not achieved, the proposed costs have been adjusted down to reflect this.
35. Results of any internal benchmarking between regions/valleys and externally with other utilities.	No	Will only be available in June 2002. PwC performed 'desktop' internal benchmarking in its review.
Performance measures and operating statistics		
36. Description of performance management system and efficiency measures.	Partial	Some areas show compliance (eg the TAMP for Asset Management KPA) while other areas show less compliance (eg no customer charter for the Customer Service KPA).
37. Number of customer complaints by year (where available), by water source and major category (eg service quality, problems, prices too high, tariff structures).	Partial	Some statistics provided separately. DLWC enquiry system is being revised.
38. Map of river network showing dams, weirs, and any other regulatory structure.	Full	Provided separately.
39. Profile of water use on regulated rivers for the past five years and projections for the coming year, showing water use in each regulated river broken into allocation water, off-allocation water and high flow usage.	Partial	Some details provided. ACIL's further consultancy is reviewing this.

Item	Tribunal's assessment of DLWC's compliance	Comment
40. Description of the method used to determine water allocations on regulated rivers and any relevant changes to this method in the preceding five years or over the proposed price path.	No	
41. Description of water use on unregulated rivers and projections over proposed price path by region/valley, and description of methods used to permit or restrict water usage.	Partial	Some information in models. Future information should be better after metering program is completed.
42. Profile of water use from ground water sources by valley/region over the preceding five years (differentiating management and non-management areas) and projections over the proposed price path, and description of the system for determining allocations.	Partial	Some historical information in models. Projections over the proposed price path not clearly identifiable.
Proposed prices and tariff reform		
43. Requested revenue as developed from these inputs.	Full	Provided in submission and separately.
44. Proposed prices, describing the current prices, and proposed changes over the requested price path.	Full	Provided in submission and separately.
45. Revenue analysis, indicating the amounts of revenue derived from each valley/region by year, by water source.	Substantial	Revenue figures provided for 2003/04 in submission, other years provided separately.
46. Description of the method used to derive proposed prices and major drivers in the application of that method.	Full	Provided separately.
47. Pricing models, updated for changes to licence system and water usage data.	Substantial	Provided separately.
48. Description of actions taken to rationalise existing tariffs and licensing system to overcome charging anomalies (eg Macquarie Generation, industrial water use, town water supply, recreational, high flow).	Substantial	Information in Section 5 of submission.
49. Description and review of the method used to determine premiums for high security water use.	Partial	Some information in section 5 of submission.
50. Review of the existing proportions of fixed and usage charges.	Partial	Some information in section 5 of submission.

Item	Tribunal's assessment of DLWC's compliance	Comment
51. Review of the cost-reflectivity of high security premiums.	No	
52. Review of the existing discounts on wholesale access fees and the commercial viability of charging arrangements with these wholesale customers, including any legislative obstacles to charging for system losses.	Partial	Some information in section 5 of submission. No changes are proposed to the current system.
53. Comparison of existing and proposed prices with bulk water prices in Queensland, Victoria and any other relevant jurisdictions.	Full	Provided separately.
Impact analysis		
54. Description of the impact of proposed prices on typical bills for water users by water source.	Partial	Section 6 of submission and separate information provides percentage changes in total but no details.
55. Assessment of the financial impact of proposed prices on typical water users by region/valley.	Partial	Department of Agriculture report on the Peel and Lachlan valleys and gross margin analysis provided.
56. Assessment of the socio-economic impact of proposed prices by region/valley.	Partial	Department of Agriculture report on the Peel and Lachlan valleys and gross margin analysis provided.
Licence fees and other miscellaneous charges		
57. A schedule of licence fees and identification of any changes over the past three years.	Full	Provided separately.
58. Review of licensing administration processes and efficiency levels.	No	Not provided for this review. No changes proposed.
59. Description of any changes proposed to licensing administration and fees and the time frame for this.	Full	No changes proposed.
60. A schedule listing other miscellaneous charges levied by the DLWC or State Water.	Full	No changes proposed to list in the 1997 IPART determination (Appendix 3).
61. Revenues raised from each of those miscellaneous charges, by year.	Substantial	Provided separately in DLWC models
62. Description of any actions to develop fee-for-service charging for access to DLWC's information database.	No	Not addressed in the submission.
63. Separate identification of resource management actions and costs attributed to metropolitan water authorities and any other 'large' customers.	Partial	Some information gained from separate meeting with SCA and DLWC.

APPENDIX 7 RETURN ON ASSET

The return on assets (ROA) is a capital component that represents the return to the owner for investing in that asset.

The calculation of the ROA comprises:

1. a rate of return, and
2. a capital asset base.

A7.1 Capital asset base

In the 1998 determination, the Tribunal drew a line-in-the-sand by writing down all pre 1 July 1997 assets to zero value, for pricing purposes.⁴⁰ As a result, only assets built after 1 July 1997 are eligible for inclusion in the asset base.

The majority of the assets are on the regulated rivers. DLWC calculates its asset base by taking the actual historical capex for 1997-2000 and then adding the forecast renewal and refurbishment capex, year by year, for the years 2001-2003.

Only renewal and refurbish capex is allowed in the asset base. This is because at 1 July 1997, the assets were attributed a zero value. From there, the asset base is built up through the years as the assets are refurbished/replaced. Hence, only renewal and refurbishment capex for these assets are allowed into the asset base. Compliance and Enhancement capex are not included into the asset base.

The asset base will continue to grow as renewal works are completed. Offsetting this effect is a nominal depreciation amount. The assets are all assumed to have a useful life of 200 years, hence a depreciation rate of 0.5 per cent is applied to the capital asset base.

A7.1.1 DLWC's Proposal

Table A7.1 Capital asset base proposed by DLWC (real 2001/02 \$'000)

	2001/02	2002/03	2003/04
Regulated	48.4	55.4	57.6
Unregulated	1.3	1.3	1.3
Groundwater	0.0	0.0	0.0
Total	49.7	56.7	58.9

⁴⁰ Note that the line-in-the-sand is for pricing only. In DLWC's accounts the assets would be recorded financially at some value, but these historical values are not taken into account by the Tribunal when determining bulk water prices.

A7.1.2 Revised Capital Asset Base

The asset items making up the historical asset base was reviewed and adjustments were made. This occurred after a high level review of the capital expenditure in the asset base highlighted some issues.

Table A7.2 Adjustments to historical capex

Adjustments	Amount adjusted (nominal \$m)
Exclude pre 1 July 1997 assets	\$9.5
Exclude assets that are classified as Non-IPART	\$0.4
Hume Dam adjustments	\$4.5
Compliance capex classified as renewals/refurbishment	\$3.3
Total excluded from asset base	\$17.7
Re-allocation of unregulated capex to regulated	\$0.6

The nature of the above adjustments are summarised below.

Exclude pre 1 July 1997 assets

There was \$9.5m relating to capital expenditure on the Burrinjuck Dam and Pindari Dam. These costs were incurred after 1 July 1997, however, they related to a larger project that was completed before the 1 July 1997 line-in-the-sand. Thus, the Tribunal decided that these costs should be excluded from the asset base.

Exclude assets that are classified as Non-IPART

A small amount of costs that are classed as belonging to Non-IPART assets were removed.

Hume Dam adjustments

The Hume Dam services customers in NSW, VIC and SA. Although NSW and VIC jointly own the dam, it is operated and maintained by MDBC. The original capital cost proposed by DLWC is \$5.3m. Out of this \$5.3m, \$2.5m was actually funded by a capital contribution from Pacific Power. Taking out the capital contribution, the remaining Hume Dam capital cost is \$2.8m. This residual amount should be allocated to the three states, consistent with the treatment of MDBC capital costs. The Tribunal has therefore used the MDBC capital expenditure allocations to determine the quantum of Hume Dam costs that should be allowed in the asset base.

Under the MDBC arrangements, capital expenditure is paid for by NSW (30 per cent), VIC (27 per cent), SA (18 per cent) and the Commonwealth Government (25 per cent). Thus, only 30 per cent of the \$2.8m in Hume Dame costs, \$0.8m, has been allowed into the capital asset base.

Compliance capex classified as renewals/refurbishment

The asset base should only consist of renewals and refurbishment capex. However there were various projects which actually relate to compliance capex, which was included into the asset base. Hence these have been taken out.

A7.1.3 Rate of return

Ideally, a Weighted Average Cost of Capital (WACC), for calculation of capital charges, should be based on an analysis of capital structures and risk profiles utilising, for example, the capital asset pricing model. However, State Water is an internal department of DLWC and does not raise debt to fund its recurrent and capital operations. Rather it is dependent on budget allocations, consequently State Water has no debt in its accounts. In this situation, development of a unique rate of return for State Water has limited relevance.

In proposing a 7.0 per cent rate of return, DLWC considered the WACC proposed by other utilities, including Sydney Water Corporation and Hunter Water Corporation, and in the IPART 2000 metropolitan water determinations. It comments that this is the current benchmark rate for water businesses.⁴¹

Given the current interest rate market conditions and adopting the parameters in the 2000 water determinations the WACC feasible range is 4.7 - 7.5 per cent.

In the 2000 medium term price path determinations for the metropolitan water companies, a 7.0 per cent rate of return was considered reasonable by the Tribunal for a commercial water business. However, the Tribunal made a distinction between the commercial nature of the water businesses operated by Hunter and Sydney Water Corporation and that of Gosford and Wyong Council. Different rates of return were allowed for the various metropolitan water companies.

Similar to Gosford and Wyong Council, State Water is not operating as an independent commercial business. It is not subject to normal commercial disciplines including the payment of dividends or income tax. In addition, this is the first year that a rate of return is to be applied to State Water assets. To minimise customer impacts, it is appropriate to phase in any allowance for a rate of return. Therefore a rate lower than 7 per cent could be justified for State Water.

Given the estimated WACC range of 4.7 – 7.5 per cent, the Tribunal has decided that for this pricing period a rate of return of 5.0 per cent (real pre-tax) would be appropriate for State Water.

⁴¹ The Tribunal note that benchmarks will change over time as market conditions change. Thus the benchmark(s) should be reviewed in light of the condition prevailing at the time of review.

Table A7.3 WACC parameters

	High	Medium	Low
risk free nominal rate ¹	5.81%	5.81%	5.81%
risk free real rate ¹	3.31%	3.31%	3.31%
Implied inflation	2.4%	2.4%	2.4%
debt margin	1.00%	0.90%	0.80%
cost of debt pre tax nominal	6.8%	6.7%	6.6%
cost of debt pre tax real	4.3%	4.2%	4.1%
cost of debt post tax real	3.0%	2.9%	2.9%
market risk premium	6.0%	5.5%	5.0%
corporate tax rate	30%	30%	30%
Gamma	30%	40%	50%
effective tax rate	30%	30%	30%
Debt	60%	60%	60%
Equity	40%	40%	40%
Value	100%	100%	100%
debt beta	0.06	0.06	0.06
asset beta	0.45	0.38	0.30
equity beta - DNSP (Monkhouse)	1.02	0.85	0.65
cost of equity post tax nominal	11.9%	10.5%	9.1%
cost of equity post tax real	9.5%	8.0%	6.6%
cost of equity pre tax real	12.0%	9.7%	7.7%
WACC post tax nominal	7.1%	6.4%	5.8%
WACC pre tax nominal	10.1%	9.1%	8.2%
WACC post tax real	4.6%	3.9%	3.3%
WACC pre tax real - uninflated pre tax nominal	7.5%	6.6%	5.7%
WACC pre tax real - un tax post tax real	6.5%	5.6%	4.7%
WACC pre tax real - DAVIS version	6.5%	5.6%	4.7%
WACC pre tax real - uses real rates	7.4%	6.4%	5.6%
average of 4 approaches	7.0%	6.0%	5.1%

Notes

1. 20 day average as at 29 August 2001. This was the date the Tribunal discussed the issue of rate of return and provided an indicative decision. This will be updated for final decision.
2. The above parameters aim to reflect industry averages.

APPENDIX 8 ACIL COST SHARES

The resulting overall cost shares, at a product level, as derived by ACIL in their Review of Water Resource Management Costs are shown below.⁴²

Table A8.1 Implied user shares, aggregating up from the sub-product level - different allocation rules (%)

Code	ProductName	Current	2001/02 to 2003/4					
		IPART 1998/99	Proposed DLWC (a)	Legacy Share	Impacter 0% Legacy	Impacter 25% Legacy	Beneficiary 0% Legacy	Beneficiary 50% Legacy
PA1	Surface Water Database	50%	50%	7%	65%	67%	37%	41%
PA2	Groundwater Database	70%	70%	0%	100%	100%	100%	100%
PA3	Other Water Databases	0%	0%	0%	0%	0%	0%	0%
PA4	Water Information Product	0%	0%	25%	50%	56%	19%	31%
PB1	Surface Water Allocation Strategies	50%	50%	0%	100%	100%	0%	0%
PB2	Surface Water Licences	100%	100%	0%	100%	100%	90%	90%
PB3	Groundwater Allocation Strategies	70%	70%	0%	100%	100%	70%	70%
PB4	Groundwater Licences	100%	100%	0%	100%	100%	90%	90%
PC1	Rural Water Supply Strategies	90%	90%	0%	100%	100%	80%	80%
PC2	Rural Water Operations	90%	90%	0%	100%	100%	90%	90%
PC3	Flood Operations	50%	50%	91%	6%	29%	0%	46%
PC4	Rural Water Infrastructure	90%	90%	16%	80%	84%	76%	84%
PD1	River Quality / Flow Reforms	0%	50%	18%	39%	43%	0%	9%
PD2	Blue Green Algae Strategies	50%	50%	1%	89%	89%	0%	1%
PD3	River Salinity Strategies	50%	50%	50%	10%	22%	0%	25%
PD4	Bacterial, Chemical and Other Strategies	0%	0%	0%	100%	100%	0%	0%
PD5	Groundwater Strategies	70%	70%	0%	100%	100%	100%	100%
PD6	Wetland Strategies	0%	0%	50%	50%	62%	0%	25%
PD7	Water Industry Strategies	0%	0%	0%	0%	0%	50%	50%
PE1	Rivers and Groundwater Income	0%	100%	0%	100%	100%	100%	100%
	Total	N/A	68%	22%	64%	70%	49%	60%
Notes:								

(a) The total in this column is an amount calculated by allocating DLWC proposed shares to the revised costs, it is not a DLWC proposed share.

Note:

A detailed allocation of user-shares at the sub-product level is presented in Appendix 5 of the ACIL report 'Review of Water Resource Management Expenditure in the NSW Department of Land and Water Conservation and State Water Business 31 July 2001'. This report is available at the Tribunals website: www.ipart.nsw.gov.au.

⁴² ACIL, *Review of water resource management expenditure in the NSW Department of Land and Water Conservation*, July 2001, p 54.

Table A8.2 Implied user shares, aggregating up from the sub-product level - different allocation rules (\$)

Code	ProductName	Current	2001/02 to 2003/4					
		IPART 1998/99	Proposed DLWC (a)	Legacy Share	Impacter 0% Legacy	Impacter 25% Legacy	Beneficiary 0% Legacy	Beneficiary 50% Legacy
PA1	Surface Water Database	50%	\$4,649,204	\$676,106	\$6,038,699	\$6,207,726	\$3,476,119	\$3,814,173
PA2	Groundwater Database	70%	\$1,793,674	\$0	\$2,562,391	\$2,562,391	\$2,562,391	\$2,562,391
PA3	Other Water Databases	0%	\$0	\$0	\$0	\$0	\$0	\$0
PA4	Water Information Product	0%	\$0	\$280,396	\$560,792	\$630,891	\$210,297	\$350,495
PB1	Surface Water Allocation Strategies	50%	\$1,850,683	\$0	\$3,701,366	\$3,701,366	\$0	\$0
PB2	Surface Water Licences	100%	\$2,677,704	\$0	\$2,677,704	\$2,677,704	\$2,409,933	\$2,409,933
PB3	Groundwater Allocation Strategies	70%	\$310,347	\$0	\$443,352	\$443,352	\$310,347	\$310,347
PB4	Groundwater Licences	100%	\$324,656	\$0	\$324,656	\$324,656	\$292,191	\$292,191
PC1	Rural Water Supply Strategies	90%	\$1,107,436	\$0	\$1,230,484	\$1,230,484	\$984,387	\$984,387
PC2	Rural Water Operations	90%	\$9,294,173	\$0	\$10,326,859	\$10,326,859	\$9,294,173	\$9,294,173
PC3	Flood Operations	50%	\$7,277,310	\$13,296,044	\$909,538	\$4,233,549	\$0	\$6,648,022
PC4	Rural Water Infrastructure	90%	\$30,497,998	\$5,421,933	\$26,947,370	\$28,302,853	\$25,678,462	\$28,389,429
PD1	River Quality / Flow Reforms	0%	\$5,618,135	\$2,035,955	\$4,360,421	\$4,869,410	\$0	\$1,017,977
PD2	Blue Green Algae Strategies	50%	\$331,295	\$7,305	\$588,012	\$589,839	\$0	\$3,652
PD3	River Salinity Strategies	50%	\$850,710	\$850,710	\$170,142	\$382,819	\$0	\$425,355
PD4	Bacterial, Chemical and Other Strategies	0%	\$0	\$0	\$87,355	\$87,355	\$0	\$0
PD5	Groundwater Strategies	70%	\$2,939,576	\$0	\$4,199,394	\$4,199,394	\$4,199,394	\$4,199,394
PD6	Wetland Strategies	0%	\$0	\$363,690	\$363,690	\$454,613	\$0	\$181,845
PD7	Water Industry Strategies	0%	\$0	\$0	\$0	\$0	\$664,816	\$664,816
PE1	Rivers and Groundwater Income	0%	\$231,607	\$0	\$231,607	\$231,607	\$231,607	\$231,607
	Total	N/A	\$69,754,507	\$22,932,139	\$65,723,833	\$71,456,868	\$50,314,117	\$61,780,187
	Total as Percentage		68%	22%	64%	70%	49%	60%

Notes:

(a) This is an amount calculated by allocating DLWC proposed shares to the revised costs, it is not a DLWC proposed amount.

APPENDIX 9 'REPRESENTATIVE' FARMS IN NSW AGRICULTURE'S PEEL AND LACHLAN VALLEY STUDIES

Table A9.1 The financial impacts of the proposed increase in the price of bulk water on 'representative' farms in the Peel Valley

	Node 21	Node 22	Node 20	Node 23
Physical characteristics				
Irrigated Area (Ha)	24	35	37	50
Farm Size (Ha)	78	111	151	502
Irrigated area as % total area	31%	32%	25%	10%
Water allocation(ML)	126	314	253	471
Water use (ML)	65	86	103	184
ML/Ha irrigated land	2.7	2.5	2.8	3.7
Primary activities	Irrigated lucerne, dryland wheat and livestock			
Financial impacts				
Total water costs as % total farm costs, 1999/00	2.0%	3.5%	2.6%	2.2%
Total water costs as % total farm costs, 2003/04	5.9%	9.8%	7.4%	6.5%
Net farm income 1999/00 ¹	13,505	13,289	29,943	28,635
Net farm income 2003/04	11,742	9,713	26,702	22,692
% change in net farm income	-13%	-27%	-11%	-21%
Business return 1999/00 ²	2,378	1,680	17,762	11,395
Business return 2003/04	615	-1,896	14,521	5,434
% change in business return	-74%	-213%	-18%	-52%
Return on equity 1999/00 ³	0.7%	0.4%	4.6%	1.7%
Return on equity 2003/04	0.2%	-0.5%	3.8%	0.8%

Source:

Economic Assessment of Water Charges in the Peel Valley. Report to the Department of Land and Water Conservation. Jason Crean, Fiona Scott and Anthea Carter, NSW Agriculture (July 2000).

Note:

This table reports the results of NSW Agriculture's study, where the prices achieve (initial estimates of) full cost recovery in 2003/04.

1. Net farm income = income less variable and overhead costs.
2. Business return = net farm income less farmer's labour (valued at base level of \$10,000), interest and rent on leases.
3. Return on equity = ratio of business return to equity.

Table A9.2 The financial impacts of the proposed increase in the price of bulk water on 'representative' farms in the Lachlan Valley

	Zone 1	Zone 2	Zone 3 Large farm	Zone 3 Small farm	Zone 5	Zone 4
Physical characteristics						
Irrigated Area (Ha)	110	160	200	200	350	550
Farm Size (Ha)	304	800	5,000	1,000	2,000	7,500
Irrigated area as % total area	36%	20%	4%	20%	18%	8%
Water allocation(ML)	600	1,000	972	972	1,400	4,000
Water use (ML)	454	509	525	731	1,353	4,838 ³
ML/Ha irrigated land	4.1	3.2	2.6	3.7	3.9	8.8
Farming activities						
Irrigated activities	lucerne, wheat, canola	lucerne, wheat, canola, pasture	wheat, oats, pasture	lucerne, wheat, oats, pasture	wheat, canola, maize, pasture	wheat, cotton, maize, pasture
Dryland activities	above and pasture, sheep	above and sheep, cattle	above and canola, sheep, cattle	wheat, canola, sheep, cattle	above and oats, sheep, cattle	wheat, pasture, sheep, cattle
Financial impacts						
Total water costs as % total farm costs, 1999/00	1.8%	1.5%	1.0%	2.3%	1.7%	2.9%
Total water costs as % total farm costs, 2003/04	3.0%	2.4%	1.6%	3.8%	2.8%	4.7%
Net farm income 1999/00 ¹	39,247	63,276	90,489	51,761	28,750	240,844
Net farm income 2003/04	36,893	60,003	87,227	47,959	23,188	220,408
% change in net farm income	-6%	-5%	-4%	-7%	-19%	-8%
Business return 1999/00 ²	-3,303	8,576	7,989	13,661	-3,000	167,494
Business return 2003/04	-5,657	5,303	4,727	9,859	-8,562	147,058
% change in business return	-71%	-38%	-41%	-28%	-185%	-12%

Source:

Economic Assessment of Water Charges in the Lachlan Valley. Report to the Department of Land and Water Conservation.
Rohan Jayasuriya, Jason Crean and Rendle Hannah, NSW Agriculture (February 2001).

Note:

This table reports the results of NSW Agriculture's study, where the prices achieve (initial estimates of) full cost recovery in 2003/04.

1. Net farm income = income less variable and overhead costs.
2. Business return = net farm income less farmer's labour (valued at base level of \$10,000), interest and rent on leases.
3. Return on equity = ratio of business return to equity.

APPENDIX 10 COST TABLES

Table A10.1 Opex

	Regulated		Unregulated		Groundwater		Total	
	Total	User share	Total	User share	Total	User share	Total	User share
Border	1,131	1,040	74	73	16	16	1,221	1,130
Gwydir	2,085	1,755	47	47	80	80	2,211	1,881
Namoi	2,210	1,976	74	74	141	141	2,425	2,191
Peel	593	536	54	54	57	57	704	647
Lachlan	3,411	3,115	83	83	76	76	3,569	3,274
Macquarie	2,718	2,352	251	250	13	13	2,982	2,616
Far West	-	-	188	184	6	6	193	190
Murray	6,108	5,122	63	63	112	112	6,283	5,296
Murrumbidgee	5,949	4,956	141	141	44	44	6,134	5,141
North Coast	321	250	656	654	24	24	1,001	929
Hunter	2,546	2,242	434	431	12	12	2,992	2,686
South Coast	322	271	580	576	19	19	921	866
Total	27,394	23,616	2,643	2,630	600	600	30,637	26,846

Table A10.2 WRM

	Regulated		Unregulated		Groundwater		Total	
	Total	User share	Total	User share	Total	User share	Total	User share
Border	1,098	693	205	128	105	103	1,408	924
Gwydir	1,360	838	135	82	198	195	1,693	1,115
Namoi	1,436	867	706	395	988	982	3,131	2,244
Peel	220	143	19	12	285	283	524	438
Lachlan	1,900	957	560	313	514	510	2,974	1,780
Macquarie	1,581	805	632	342	708	703	2,921	1,849
Far West	-	-	1,630	1,042	1,039	1,034	2,668	2,077
Murray	5,331	2,789	293	195	616	612	6,239	3,595
Murrumbidgee	4,398	2,159	598	295	1,291	1,288	6,288	3,743
North Coast	142	79	3,502	1,915	488	470	4,132	2,464
Hunter	2,245	1,422	1,011	710	563	555	3,818	2,686
South Coast	105	71	5,375	2,236	821	814	6,301	3,121
Total	19,816	10,822	14,666	7,664	7,616	7,550	42,098	26,036

Table A10.3 Total Capex for the year 2003/04 (2001/02 \$'000)

2001/02 \$'000	State Water Renewals Annuity	State Water Compliance Annuity	MDBC Assets Compliance	MDBC Assets Renewal	DBBRC Assets Annuity	DLWC & State Water Depreciatio n Charges	State Water Return on Capital	Total Asset Costs
Regulated River Valley								
Border	130	14	-	-	85	-	50	278
Gwydir	706	2,590	-	-	-	4	286	3,586
Namoi	377	3,034	-	-	-	6	190	3,607
Peel	95	640	-	-	-	0	47	782
Lachlan	454	1,171	-	-	-	14	192	1,831
Macquarie	864	1,271	-	-	-	1	356	2,492
Far West	-	-	-	-	-	-	-	-
Murray	361	433	2,050	3,169	-	38	501	6,552
Murrumbidgee	1,185	1,402	707	701	-	21	199	4,215
North Coast	139	93	-	-	-	0	39	271
Hunter	483	592	-	-	-	0	216	1,291
South Coast	91	12	-	-	-	0	38	141
Total	4,884	11,251	2,757	3,870	85	84	2,114	25,046
Unregulated River Valley								
Border	1	0	-	-	-	-	0	2
Gwydir	-	-	-	-	-	-	-	-
Namoi	-	-	-	-	-	-	-	-
Peel	-	-	-	-	-	-	-	-
Lachlan	1	-	-	-	-	-	0	1
Macquarie	9	0	-	-	-	-	3	12
Far West	91	2	-	-	-	-	37	130
Murray	1	-	-	-	-	-	0	1
Murrumbidgee	11	5	-	-	-	-	6	22
North Coast	25	1	-	-	-	-	11	37
Hunter	2	-	-	-	-	-	1	3
South Coast	15	3	-	-	-	-	5	23
Total	156	12	-	-	-	-	63	230
Groundwater Area								
Border	-	-	-	-	-	15	-	15
Gwydir	-	-	-	-	-	71	-	71
Namoi	-	-	-	-	-	405	-	405
Peel	-	-	-	-	-	2	-	2
Lachlan	-	-	-	-	-	193	-	193
Macquarie	-	-	-	-	-	140	-	140
Far West	-	-	-	-	-	177	-	177
Murray	-	-	-	-	-	128	-	128
Murrumbidgee	-	-	-	-	-	286	-	286
North Coast	-	-	-	-	-	29	-	29
Hunter	-	-	-	-	-	12	-	12
South Coast	-	-	-	-	-	40	-	40
Total	-	-	-	-	-	1,498	-	1,498

Table A10.4 Total Capex allocated to users for the year 2003/04 (2001/02 \$'000)

Valley/Area	State Water Renewals Annuity	State Water Compliance Annuity	MDBC Assets Compliance	MDBC Assets Renewal	DBBRC Assets Annuity	DLWC & State Water Depreciation Charges	State Water Return on Capital	Total Asset Costs
Regulated River Valley								
Border	112	3	-	-	74	-	43	233
Gwydir	552	163	-	-	-	3	224	941
Namoi	320	160	-	-	-	5	161	646
Peel	81	34	-	-	-	0	40	155
Lachlan	388	140	-	-	-	12	164	705
Macquarie	672	86	-	-	-	1	277	1,036
Far West	-	-	-	-	-	-	-	-
Murray	276	14	64	2,424	-	29	383	3,191
Murrumbidgee	927	56	28	549	-	16	156	1,732
North Coast	101	18	-	-	-	0	28	147
Hunter	404	105	-	-	-	0	180	689
South Coast	70	0	-	-	-	0	29	99
Total	3,904	779	93	2,973	74	67	1,687	9,576
Unregulated River Valley								
Border	1	0	-	-	-	-	0	1
Gwydir	-	-	-	-	-	-	-	-
Namoi	-	-	-	-	-	-	-	-
Peel	-	-	-	-	-	-	-	-
Lachlan	1	-	-	-	-	-	0	1
Macquarie	7	0	-	-	-	-	2	9
Far West	72	-	-	-	-	-	29	101
Murray	1	-	-	-	-	-	0	1
Murrumbidgee	9	0	-	-	-	-	5	14
North Coast	18	0	-	-	-	-	8	26
Hunter	2	-	-	-	-	-	1	2
South Coast	12	0	-	-	-	-	4	15
Total	121	1	-	-	-	-	49	171
Groundwater Area								
Border	-	-	-	-	-	13	-	13
Gwydir	-	-	-	-	-	55	-	55
Namoi	-	-	-	-	-	344	-	344
Peel	-	-	-	-	-	2	-	2
Lachlan	-	-	-	-	-	165	-	165
Macquarie	-	-	-	-	-	109	-	109
Far West	-	-	-	-	-	140	-	140
Murray	-	-	-	-	-	98	-	98
Murrumbidgee	-	-	-	-	-	224	-	224
North Coast	-	-	-	-	-	21	-	21
Hunter	-	-	-	-	-	10	-	10
South Coast	-	-	-	-	-	30	-	30
Total	-	-	-	-	-	1,211	-	1,211

**Table A10.5 Total Cost of Bulk Water Business after deducting ANTs savings
(2001/02 \$'000)**

	Regulated		Unregulated		Groundwater		Total	
	DLWC submission	Revised Costs	DLWC submission	Revised Costs	DLWC submission	Revised Costs	DLWC submission	Revised Costs
Border	2,989	2,443	244	276	129	135	3,362	2,853
Gwydir	7,091	6,852	173	178	303	343	7,568	7,372
Namoi	7,441	7,070	774	766	1,429	1,509	9,644	9,344
Peel	1,942	1,555	29	72	301	338	2,272	1,965
Lachlan	8,237	6,959	580	632	770	769	9,586	8,360
Macquarie	8,115	6,618	746	879	844	846	9,706	8,343
Far West	123	-	2,028	1,911	1,379	1,200	3,531	3,111
Murray	19,542	17,533	342	350	847	841	20,730	18,724
Murrumbidgee	13,113	14,193	657	748	1,597	1,593	15,367	16,533
North Coast	775	715	4,235	4,117	533	532	5,542	5,365
Hunter	5,606	5,927	1,455	1,421	574	577	7,635	7,924
South Coast	657	554	6,086	5,867	859	864	7,602	7,285
Total	75,632	70,419	17,348	17,216	9,565	9,545	102,544	97,180

**Table A10.6 Total Cost allocated to users after deducting ANTs savings
(2001/02 \$'000)**

	Regulated		Unregulated		Groundwater		Total	
	DLWC submission	Revised Costs	DLWC submission	Revised Costs	DLWC submission	Revised Costs	DLWC submission	Revised Costs
Border	2,221	1,916	168	200	123	130	2,513	2,245
Gwydir	3,538	3,444	122	126	284	324	3,944	3,895
Namoi	3,856	3,401	468	460	1,354	1,442	5,678	5,302
Peel	1,023	813	22	65	299	336	1,344	1,214
Lachlan	5,484	4,655	340	389	735	738	6,558	5,783
Macquarie	5,321	4,087	462	590	807	810	6,591	5,487
Far West	97	-	1,418	1,303	1,338	1,159	2,853	2,462
Murray	14,397	10,820	242	253	819	807	15,457	11,880
Murrumbidgee	8,343	8,623	358	441	1,529	1,529	10,231	10,593
North Coast	499	464	2,661	2,547	507	507	3,667	3,518
Hunter	4,356	4,242	1,148	1,122	565	567	6,069	5,932
South Coast	503	430	2,983	2,775	844	848	4,329	4,054
Total	49,637	42,895	10,391	10,272	9,204	9,198	69,233	62,366



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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

Reference No:

Determination:

Agency: The Water Administration Ministerial Corporation (the Department of Land and Water Conservation)

Services: Any services provided by the Water Administration Ministerial Corporation, to the extent that the service involves:

- (a) making water available; or
- (b) making available the Corporation's supply facilities; or
- (c) supplying water, whether by means of the Corporation's water supply facilities or otherwise.

The Government monopoly services were declared by the Government Pricing Tribunal (Water Services) Order 1995, made on 4 October 1995 and published in the Gazette No. 122 dated 6 October 1995 at page 7115.

The maximum prices listed under this Determination are to apply from 1 October 2001 to 30 June 2004. After 30 June 2004 the maximum price set under this determination for the year 2004 shall apply until the Tribunal makes a subsequent determination.

Definitions and interpretation

Definitions

In this determination:

area-based licence means a water licence issued on an unregulated river and expressed to limit water use to a particular maximum area of land.

CPI means the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter, or if the Australian Bureau of Statistics does not or ceases to publish the index, then CPI will mean an index determined by the Tribunal that is its best estimate of the index.

DLWC means the Department of Land and Water Conservation.

entitlement means the right, conferred by means of a water licence, to take and use a specified quantity of water

general security licence means any water licence issued by DLWC as a general security licence.

ground water means water accessed from an aquifer or other below-ground water source.

ground water management area means an area which DLWC has designated as a ground water management area, and for which DLWC has a current management plan in place.

high flow licence means any water licence issued by DLWC as a high flow licence.

high security licence means any water licence issued by DLWC as a high security licence.

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

region means a region of NSW as determined by DLWC from time to time for the purpose of issuing water licences under Division 3 of the *Water Act, 1912*.

regulated river means a river in which the flow of water is actively controlled by a structure owned by the Water Administration Ministerial Corporation and administered by DLWC.

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

unregulated river means any river in NSW where the flow of water is not actively controlled by a river structure owned by the Water Administration Ministerial Corporation and administered by the DLWC.

volumetric licence means a water licence issued on an unregulated river and expressed to limit water use to a particular maximum number of megalitres of water use.

water licence means any licence issued under Division 3 of the *Water Act, 1912*.

Interpretation

If there is any inconsistency between this determination of the Tribunal, and a previous determination of the Tribunal, this determination will prevail to the extent of the inconsistency. In interpreting this determination, a construction that promotes the purpose or object underlying the IPART Act (whether or not that purpose or object is expressly stated in the IPART Act) is preferred to a construction that would not promote that purpose or object.

Regulated rivers

Table 1 shows the maximum charges for water licences on regulated rivers in each region or river valley of NSW. The maximum charges for all regulated rivers are a fixed charge (at the high security or general security level, depending on the licence) and a usage charge, corresponding to the region or river valley for which the licence is issued. These charges apply from 1 October 2001.

All charges will increase on 1 July 2002 as follows:

Price effective on 30 June 2002 \times (CPI + the percentages indicated in Table 1)

where CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter for the year ending 2002.

All charges will increase on 1 July 2003 as follows:

Price effective on 30 June 2003 \times (CPI + the percentages indicated in Table 1)

where CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter for the year ending 2003.

The licence holders listed in Table 2 receive a proportionate reduction in their fixed charge as indicated in the table. The discounts apply separately to high and low security prices.

High flow licence holders are to be charged for high flow extraction the usage charge corresponding to the region or river valley in which the licence is issued. High flow licence holders do not pay the fixed charges listed in Table 1.

Table 1 Charges for regulated rivers

Region/river valley	Maximum charges for 1 October 2001 to 30 June 2002		Usage charge (\$/ML)	Maximum increases for 1 July 2002 to 30 June 2003	Maximum increases for 1 July 2003 to 30 June 2004
	Fixed charge (\$/ML of entitlement)	Fixed charge (\$/ML of entitlement)		CPI+X% where X=	CPI+X% where X=
	High security	Low security			
Border	4.89	3.27	3.81	8.0%	8.0%
Gwydir	4.56	3.03	3.53	7.0%	7.0%
Namoi	8.13	5.42	6.49	8.0%	8.0%
Peel	8.66	5.77	6.91	15.0%	15.0%
Lachlan	5.62	3.74	4.29	8.0%	8.0%
Macquarie	4.37	3.36	4.54	-3.0%	-3.0%
Far West	0.00	0.00	0.00		
Murray total	4.43	4.02	1.08	6.0%	6.0%
Murrumbidgee	3.47	3.30	0.86	2.5%	2.5%
North Coast	7.88	6.06	4.04	15.0%	15.0%
Hunter	6.16	4.40	4.38	15.0%	15.0%
South Coast	7.88	6.06	4.04	15.0%	15.0%

**Table 2 Discounts on fixed charges for wholesale customers for the period
1 October 2001 to 30 June 2004**

Licence holder	Discount on fixed charges (%)
Murray Irrigation	40
Western Murray Irrigation	27
West Corurgan	35
Moira Irrigation Scheme	30
Eagle Creek Scheme	25
Murrumbidgee Irrigation	29
Coleambally Irrigation	32
Jemalong Irrigation	27

Unregulated rivers

Table 3 presents maximum charges for water licences (other than those held by Hunter Water Corporation and Sydney Catchment Authority) on unregulated rivers in each region or river valley of NSW. These charges apply from 1 October 2001.

Irrigators:

- The maximum charge for an area-based licence is a charge per hectare, corresponding to the region or river valley for which the licence is issued.
- The maximum charge for a volume of entitlement-based licence is a charge per ML of entitlement, corresponding to the region or river valley for which the licence is issued.
- Volumetric license holders on the two-part tariff pay a charge per ML of entitlement and a charge per ML of metered usage.
- A minimum bill of \$50 per year applies to these licences (see Table 4).

Town water supply agencies and industrial users:

The maximum charge for a volume of entitlement-based licence for users who have not been allocated entitlement volumes is a charge per megalitre of metered water usage, corresponding to the region or river valley for which the licence is issued, plus a base charge of \$100 per licence per year.

Once entitlement volumes have been allocated, the two-part tariff applies to these users and the \$100 per licence base charge falls away.

All charges in Table 3 will increase on 1 July 2002 as follows:

Price effective on 30 June 2002 \times (CPI + 20%)

where CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter for the year ending 2002.

All charges will increase on 1 July 2003 as follows:

Price effective on 30 June 2003 \times (CPI + 20%)

where CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter for the year ending 2003.

The minimum charge and the base charge indicated in Table 4 will increase by the appropriate CPI on 1 July 2002 and by the appropriate CPI on 1 July 2003, where the CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter.

High flow licence holders are to be charged for high flow extractions on the same basis as other licence holders in the region or river valley in which the licence is issued. High flow licence holders paying the usage component of the two-part tariff do not pay the other charges listed in Table 3.

Table 3 Charges for unregulated rivers

Region/river valley	Maximum charges for 1 October 2001 to 30 June 2002				Maximum increases for 1 July 2002 to 30 June 2003	Maximum increases for 1 July 2003 to 30 June 2004
	Area based charge	Volume of entitlement charge	Two-part tariff		CPI+X% where X=	CPI+X% where X=
			Entitlement (\$/ML)	Usage (\$/ML)		
	(\$/ha)	(\$/ML)	(\$/ML)	(\$/ML)		
Border	7.14	2.23	1.24	1.00	20%	20%
Gwydir	7.14	2.23	1.24	1.00	20%	20%
Namoi	7.14	2.23	1.24	1.00	20%	20%
Peel	7.14	2.23	1.24	1.00	20%	20%
Lachlan	7.90	1.79	0.70	1.09	20%	20%
Macquarie	7.90	2.63	1.54	1.09	20%	20%
Far West	7.90	1.21	0.12	1.09	20%	20%
Murray	4.50	1.80	1.24	0.56	20%	20%
Murrumbidgee	7.90	3.16	2.07	1.09	20%	20%
North Coast	7.90	2.39	1.30	1.09	20%	20%
Hunter	6.84	1.55	0.61	0.95	20%	20%
South Coast	7.90	1.75	0.66	1.09	20%	20%

Table 4 Base charges and minimum bills

	Maximum charges for 1 October 2001 to 30 June 2002 \$ per year	Maximum increases for 1 July 2002 to 30 June 2003 CPI+X%, where X=	Maximum increases for 1 July 2003 to 30 June 2004 CPI+X%, where X=
Base charge per licence for Towns and Industrial users not on the two-part tariff*	100	0%	0%
Minimum bill applicable to irrigators	50	0%	0%

*This charge falls away once the two-part tariff is adopted.

The maximum charges for the Sydney Catchment Authority are shown in Table 5. The basis for charging is per megalitre of water used.

Table 5 Maximum charges for Sydney Catchment Authority

Maximum charges for 1 October 2001 to 30 June 2002 (\$/ML of usage)	Maximum charges for 1 July 2002 to 30 June 2003 (\$/ML of usage)	Maximum charges for 1 July 2003 to 30 June 2004 (\$/ML of usage)
The greater of \$1.80 /ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2001/02 for the South Coast in Table 3.	The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2002/03 for the South Coast in Table 3.	The greater of \$1.80/ML: and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2003/04 for the South Coast in Table 3.

For example, the charge derived by adding the entitlement (\$0.66/ML) and the usage (\$1.09/ML) portions of the two-part tariff for 2002 for the South Coast in Table 3 is \$1.75/ML. The charge for the Sydney Catchment Authority for 2002 is therefore \$1.80/ML.

The maximum charges for Hunter Water Corporation are shown in Table 6. The basis for charging is per megalitre of water used.

Table 6 Maximum charges for Hunter Water Corporation

Maximum charges for 1 October 2001 to 30 June 2002 (\$/ML of usage)	Maximum charges for 1 July 2002 to 30 June 2003 (\$/ML of usage)	Maximum charges for 1 July 2003 to 30 June 2004 (\$/ML of usage)
The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2001/02 for the Hunter in Table 3.	The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2002/03 for the Hunter in Table 3.	The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2003/04 for the Hunter in Table 3.

For example, the charge derived by adding the entitlement (\$0.61/ML) and the usage (\$0.95/ML) portions of the two-part tariff for 2002 for the Hunter in Table 3 is \$1.56/ML. The charge for the Hunter Water Corporation for 2002 is therefore \$1.80/ML.

Ground water

Maximum prices for water licences for ground water (other than for Hunter Water Corporation) are shown in Tables 7 & 8.

The maximum charge for ground water licences in groundwater management areas is an entitlement charge plus a usage charge corresponding to the region or river valley for which the licence is issued, plus a base charge of \$120 per property.

The maximum charge for ground water licences, other than those in ground water management areas, is an entitlement charge corresponding to the region or river valley for which the licence is issued, plus a base charge of \$75 per property.

All charges in Table 7, and the fixed charge per property in groundwater management areas in Table 8, will increase on 1 July 2002 as follows:

Price effective on 30 June 2002 \times (CPI + 20%)

where CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter for the year ending 2002.

All charges in Table 7, and the fixed charge per property in groundwater management areas in Table 8, will increase on 1 July 2003 as follows:

Price effective on 30 June 2003 \times (CPI + 20%)

where CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter for the year ending 2003.

The base charge per property in areas other than groundwater management areas indicated in Table 8 will increase by the appropriate CPI on 1 July 2002 and by the appropriate CPI on 1 July 2003, where the CPI is the year-on-year percentage change in the consumer price index, weighted average of eight capital cities, published by the Australian Bureau of Statistics relating to the March quarter.

Table 7 Charges for ground water

Region/river valley	Maximum charges for 1 October 2001 to 30 June 2002		Maximum increases for 1 July 2002 to 30 June 2003	Maximum increases for 1 July 2003 to 30 June 2004
	Entitlement charge (\$/ML)	Usage charge (\$/ML)	CPI+X% where x=	CPI+X% where x=
Border	0.50	0.25	20%	20%
Gwydir	0.50	0.25	20%	20%
Namoi	0.50	0.25	20%	20%
Peel	0.50	0.25	20%	20%
Lachlan	0.80	0.41	20%	20%
Macquarie	0.80	0.41	20%	20%
Far West	0.88	0.44	20%	20%
Murray	0.79	0.40	20%	20%
Murrumbidgee	0.49	0.24	20%	20%
North Coast	0.88	0.44	20%	20%
Hunter	0.88	0.44	20%	20%
South Coast	0.88	0.44	20%	20%

Table 8 Base charges

	Maximum charges for 1 October 2001 to 30 June 2002	Maximum increases for 1 July 2002 to 30 June 2003	Maximum increases for 1 July 2003 to 30 June 2004
	\$ per year	CPI+X%, X=	CPI+X%, X=
Base charge per property in areas other than groundwater management areas	75	0%	0%
Base charge per property in groundwater management areas	120	20%	20%

The maximum charges for Hunter Water Corporation are shown in Table 9. The basis for charging is per megalitre of water used.

Table 9 Groundwater charges for Hunter Water Corporation

Maximum charges for 1 October 2001 to 30 June 2002 (\$/ML of usage)	Maximum charges for 1 July 2002 to 30 June 2003 (\$/ML of usage)	Maximum charges for 1 July 2003 to 30 June 2004 (\$/ML of usage)
The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2001/02 for the Hunter in Table 7.	The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2002/03 for the Hunter in Table 7.	The greater of \$1.80/ML and the charge derived by adding the entitlement and the usage portions of the two-part tariff for 2003/04 for the Hunter in Table 7.

For example, the charge derived by adding the entitlement (\$0.88/ML) and the usage (\$0.44/ML) portions of the two-part tariff for 2002 for the Hunter in Table 7 is \$1.32/ML. The charge for the Hunter Water Corporation for 2002 is therefore \$1.80/ML.

Licence fees

Maximum charges for licence applications, renewals and permanent transfers will remain at the levels charged in 1997/98, as per section 9.4.2 of the 1998/99 & 1999/00 determination.

The charge for the temporary transfer of the licence between licence holders is not to exceed a fixed charge of \$25, plus a variable charge of \$1 per megalitre of water transferred, but with a maximum total charge of \$75 per transfer.

Part 9 application fees and annual management charges

The Tribunal is considering determining the application fees and annual management charges that are levied on holders of Part 9 licences. In order to allow further consideration of this issue, the Tribunal requests DLWC to provide details of:

- The purpose for which these charges are levied.
- The cost basis used in the calculation of these charges.

The results of the Tribunal's deliberations on this issue will be incorporated in the final report and determination to be released in late November 2001.

New or additional charges

Prices or charges for bulk water services provided by the Water Administration Ministerial Corporation which are not referred to in this determination, are to remain at 1996/97 levels.

The WAMC shall not exceed or levy any new or additional fees or charges in relation to any bulk water service which is subject to a maximum price set by this determination other than in accordance with the Tribunal's approval in future determinations.

The Tribunal notes that in accordance with provision of the *Water Management Act 1912* and the *Water Management Act 2000*, DLWC may negotiate or the Minister may impose certain fees and charges on water users without reference to the Tribunal where those charges have not been fixed by the Tribunal or bear no relation to the declared water monopoly services provided by WAMC.

This determination does not cover charges to the Lowbidgee Flood Control and Irrigation District, and Gol Gol Creek.

DRAFT