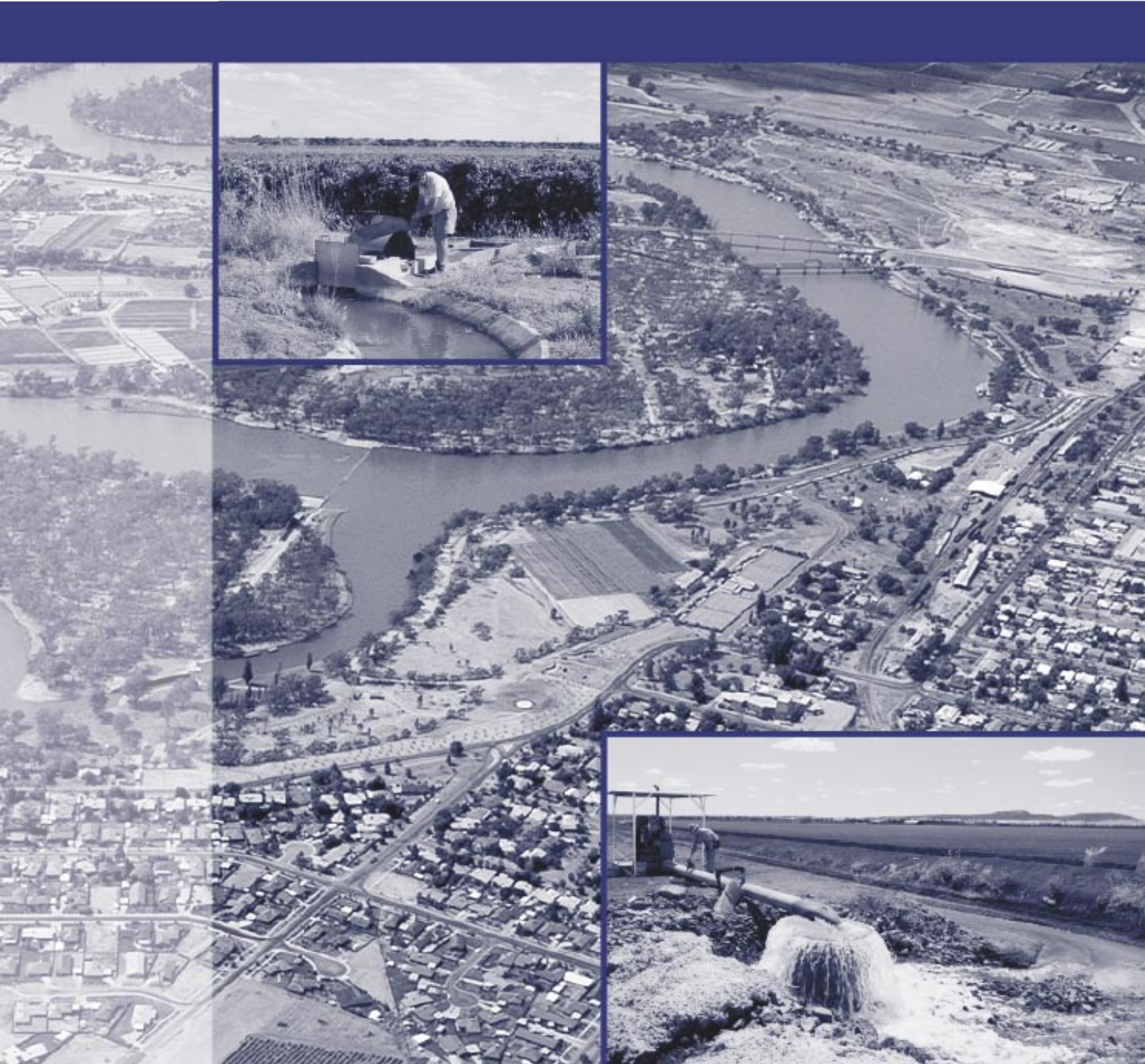




Department of
Infrastructure, Planning and Natural Resources

Submission to IPART to set Bulk Water Resource Management Charges from 1 July 2005



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Resource Management Charges
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NSW Department of Infrastructure, Planning and Natural Resources

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Overview

The Independent Pricing and Regulatory Tribunal (IPART) determines the maximum prices that may be charged for bulk water services in NSW with respect to the costs incurred in providing those services.

Bulk water services include both the water resource management (WRM) and regulatory activities that are undertaken by the Department of Infrastructure Planning and Natural Resources (DIPNR), on behalf of the Water Administration Ministerial Corporation, as well as the water delivery services provided by State Water Corporation (SWC).

SWC and DIPNR are now discreet and separate entities, and as a consequence, make separate submissions to IPART to recover their respective costs attributable to water users. The *IPART (Water Services) Order 2004* establishes the terms of reference for IPART's inquiry process for determining the maximum charges for these services.

Under the National Water Initiative (NWI) and its predecessor (the 1994 CoAG Strategic Water Reforms), NSW is required to move to full cost recovery for provision of bulk water services. Based on the costing information established in IPART's last (2001) bulk water pricing determination, full cost recovery has been achieved for the majority of regulated rivers, but not for any unregulated rivers or groundwater systems.

The 2001 determination covered the three years 2001/02 to 2003/04. For the year 2004/05, a bulk water pricing submission to IPART was not made due to major institutional and other changes in water management that have taken place in NSW. However, in order to maintain prices in real terms, legislative amendments will be made to increase 2003/04 bulk water charges by 2% from 1 July 2004.

IPART recently released an Issues Paper, 'Bulk Water Prices from 2005/06' inviting DIPNR and SWC to respond in their pricing submissions.

Given the 'bedding down' of recent changes in water management in NSW, DIPNR believes it is appropriate for IPART to determine an interim WRM pricing regime to apply from 1 July 2005. These changes have meant that it is has not been practical to undertake an updated costing of WRM services for price setting purposes. However, DIPNR considers that the WRM costs in the 2001 determination, adjusted for the affects of inflation, are appropriate for IPART to establish WRM charges on an interim basis from 1 July 2005.

DIPNR intends to submit a medium term pricing proposal in the second half of 2005. This proposal will provide detailed information on DIPNR's WRM costs as a basis for IPART to determine WRM charges for the period commencing 1 July 2006.

This submission:

- provides details of DIPNR's WRM costs in order for IPART to determine WRM charges from 1 July 2005;
- proposes removal of wholesale discounts for irrigation corporations and districts (ICDs);
- proposes removal of security premiums on regulated river access charges;
- provides information on transaction fees on DIPNR's water management consents; and
- responds to relevant matters raised in IPART's 2001 determination and its Issues Paper.

The submission also foreshadows a number of issues of significance for water management that will be dealt with in future pricing proposals.

The submission is structured around three core parts and associated appendices:

Part A: The WRM pricing framework;

Part B: WRM user costs and proposals for tariff restructuring from 1 July 2005; and

Part C: The identification of issues of significance with respect to the future provision of WRM services that will be addressed in the medium term submission.

Part A: The Water Resource Management Pricing Framework

1. Introduction

This section of the submission outlines DIPNR's WRM services, the costs it incurs in providing those services and cost sharing arrangements.

2. WRM Pricing Policy Context

In 1994, the Council of Australian Governments (CoAG) agreed to a Strategic Framework on Water Reform, and in 1995 performance under that agreement was linked to the National Competition Policy. The 1994 Framework covered five broad areas: cost recovery and pricing; institutional reform; allocation and trading of water entitlements; environment and water quality; and public consultation. During that time, the Murray Darling Basin Ministerial Council (MDBMC) agreed to a cap on water extraction in the Basin. Over the past ten years, NSW has progressively implemented the CoAG framework and MDBMC Cap.

The first phase of the NSW water reform process culminated in the passage of the WMA. The WMA established the building blocks for water management in NSW, such as the separation of water access entitlements, water management works approvals and water use approvals, and the establishment of transparent systems for setting rules for allocating water to the environment and to extractive uses.

The second phase of the NSW water reforms saw the passage of the *Water Management Amendment Act 2004* (WMAA). This phase, largely comprising data gathering and planning activities for Water Sharing Plan (WSP) development (consistent with DIPNR's WRM cost structure outlined in the 2001 determination), is scheduled for completion in June 2006. The WMAA enabled WSPs for 31 water sources and relevant licensing provisions of the WMA to be commenced from 1 July 2004.

In 2004, the NSW Government agreed, through CoAG, to a NWI. The NWI both refreshes and extends the 1994 CoAG Framework, and is the final stage of the water reforms. This phase will also coincide with implementation of a range of new activities consistent with the WMAA. The new agreement will affect future WRM activities. In particular, it will explicitly impact pricing of bulk water services with respect to resource planning and management costs that are relevant to this, and future, pricing proposals. Part B of the submission deals with the NWI in more detail.

Further information on the NSW Water Reforms is available at:

<http://www.dipnr.nsw.gov.au/water/index.shtml>.

3. WRM Services undertaken by DIPNR

In IPART's Issues Paper, WRM was described as '*... activities (that) arise out of the need to manage a resource that is being consumed by a wide range of user groups ... (with) the overriding aim of ensuring the long term sustainability of the resource which will allow continued water extraction while maintaining the health of the natural ecosystem.*'

For the 2001 determination, IPART commissioned ACIL Consulting to conduct a review of WRM activities. Based on this work, IPART identified WRM activities as:

- ◆ the collection and management of data that aims to provide a better understanding of the levels of extractions from a water source and the implications of that extraction for the water source;
- ◆ the development of policies to manage water resources;
- ◆ the development of plans and strategies to allocate water between users, between users and the environment, and to address water management problems; and
- ◆ implementation and monitoring of compliance with these plans.

For DIPNR, these activities range from specific programs to rectify problems arising from water extraction to broader issues relating to the overall health of a water source and/or the security of water licences. DIPNR's WRM services are summarised below. The services comprise discreet products or service outputs that relate to water source specific and/or State-wide activities. A more detailed description of each of the products (and their associated sub-products), that is established in the product costing module in DIPNR's financial system, is provided in Appendix I.

Water Databases: the development and maintenance of surface water and other water databases, including ongoing data collection on water quality, quantity and usage, and the integration of existing and emerging information systems and central databases (including the Groundwater Information System and HYDSYS for hydrometric information).

Water Information Products: the compilation, distillation, publication and distribution of information from water databases on a regular and occasional basis.

Water Allocation Strategies and Policies: the development and refinement of policies and plans for the sharing and management of surface water and groundwater resources, including WSPs.

Water Licensing: the ongoing management of surface water and groundwater licences consistent with DIPNR's statutory responsibilities in regulating the extraction of water (as distinct from the administration of licensing transactions).

Groundwater Management Strategies: the assessment of groundwater resources and activities for maintaining, restoring and/or improving these resources.

Flood Operations: the development and refinement of policies and plans for developments on floodplains and to limit or mitigate the social, economic and environmental impacts of floods.

River Quality/Flow Reforms: the implementation of river flow and water quality objectives, water health strategies, and policies relating to weirs.

Blue-green Algae and Wetland Strategies: the development, implementation and review of the State Algal Management Strategy and wetland strategies and policies.

Bacterial, Chemical and Other Regional Plans: the development of all other water quality strategies.

Water Industry Strategies: the development, implementation and review of strategies to support water industry participants in the introduction of changes in WRM, and the preparation of responses to other Government policy reforms.

3.1 The nexus between Water Service Provision and WRM Activities

The majority of WRM activities undertaken by DIPNR arise directly from the provision and use of water services. In the absence of water extraction/use, and its management and regulation through licensing and compliance activities, DIPNR's WRM activities and costs would be minimal.

Bulk water cannot be made available, taken from a water source or used without a water licence and relevant approvals from DIPNR. Activities to manage and protect these consents are clearly and indubitably linked with the provision and use of water services.

The most significant threatening process for most water sources in NSW is the regulation of flows and extraction of water. Most of DIPNR's WRM activities are undertaken to manage, minimise or reverse the direct and indirect impacts arising from these two processes.

Bulk water related WRM activities concerned with provision of water services predominantly fall under DIPNR's Rivers and Groundwater Program. Most catchment management, floodplain and coastal activities are excluded as they have a broader WRM role and cannot be identified with the impacts of water extraction. All the attributable bulk water WRM activities are identified and reported at very detailed levels, primarily because the process of costing of these activities is done at sub-product level.

3.2 Service Level Agreements

In the 2001 determination, IPART raised the issue of ringfencing between DLWC and State Water, as follows:

'IPART 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.'

With the full institutional separation of SWC from DIPNR, bulk water related service level agreements (SLAs) have been established for the major services provided by the two agencies. Details of SLAs between DIPNR and SWC are provided in Appendix 6.

In addition, contestable tendering arrangements will be put in place where DIPNR is satisfied that cost efficiencies and standards of service can be maintained. These arrangements should result in further improvements in the transparency of WRM service provision.

4. WRM Costs

Pricing of bulk water service provision is based on the recovery of WRM costs attributable to bulk water users.

4.1 WRM Operating Costs

In the 2001 determination, IPART raised the issue of changes in the former DLWC's operating costs, as follows:

'Given the probability of significant developments within the industry IPART 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.'

This submission provides indicative estimates of WRM operating costs from 2003/04 to 2005/06. The purpose of these estimates is to provide a measure of the trend in aggregate WRM costs from 2001/02 (as per the 2001 determination) over the period of the price path. The estimates underpin the broad framework of water management in NSW during the next two years.

A detailed review of costing information, involving verification and reallocation of costs at sub-product level for the purpose of applying cost shares to establish water user costs, has not been undertaken for this submission. In large part, this is because the recent changes in water management render a comprehensive costing approach impractical. The medium term submission will, however, provide detailed WRM cost information for this period and subsequent years, laying the foundation for a two-four year price path to be set by IPART commencing 1 July 2006.

Table 1 summarises WRM operating costs from 2001/02, as published in the 2001 determination, to 2005/06. 2003/04 to 2005/06 WRM costs are indicative estimates only.

Table 1: WRM Operating Costs 2001/02 to 2005/06 (Nominal \$)

Water Source	WRM Operating Costs			
	2001/02	2003/04	2004/05	2005/06
	\$'000	\$'000	\$'000	\$'000
Regulated Rivers	19,340	19,786	18,204	18,910
Unregulated Rivers	17,014	16,788	17,130	17,588
Groundwater	8,085	7,037	8,259	8,570
Total	44,439	43,612	43,593	45,068

Note

1. WRM operating costs include depreciation charges on groundwater monitoring bores but no other capital related costs.
2. For 2001/02 (as per the 2001 determination), the majority of regulated river hydrometric costs were treated as water delivery rather than WRM costs. From 2004/05, income from the Hydrometric Service Agreement with SWC (for the water delivery function) has been offset against regulated river WRM operating costs (refer Appendix 6).

As indicated in Table 1, there have been relatively small changes in WRM costs since the last determination. While DIPNR operates in an environment of fiscal constraint, it continues to be necessary to give priority to water management activities in support of the ongoing reform agenda. In this regard, it should be noted that only costs relating to recurrent WRM activities, rather than one off water planning and reform costs, have been included in the costing estimates.

The increase in unregulated river WRM costs in part reflects the additional costs of the metering and billing SLA with SWC to take effect from 2004/05 onwards. It also reflects increased WRM costs associated with implementation of the planning provisions of the WMA.

While overall projected WRM costs do not vary significantly over the review period, given the transitional movement through the phases of the water reform process, it is expected there will be concomitant changes in the composition, and hence the user share of costs to be recovered in water charges, from 2006/07 onwards. It is appropriate, therefore, that these changes be addressed in the medium term submission.

Additional costing information is provided in Appendix 4.

4.2 Licensing Administration Costs

The ongoing costs of administering DIPNR's water management consents, covering water licences under the *Water Act 1912* and access licences (and approvals) under the WMA, are largely of a regulatory nature. Licensing administration is, however, integral to effective WRM outcomes. By way of example, periodic audits of meter readings and their accuracy are carried out to ensure compliance with licence conditions. This is essential for effective control of water allocations and usage under the relevant WSP.

Licensing administration costs, including administration of the licensing and approvals regime, licensing surveillance, compliance and enforcement with licensing conditions and WSPs, are spread over all licensed water users in the same way WRM costs are attributed to water users. From a cost attribution perspective, it is appropriate, therefore, that they be included with WRM costs in developing WRM charges, particularly given that the costs concerned are small in comparison to WRM costs. This approach will also obviate the need for a separate tariff structure for licensing administration.

Licensing administration costs have therefore been incorporated with WRM costs in the indicative costing estimates presented in the submission.

Transactions by individual licence holders on water management consents, such as applications for or change of conditions and dealings on the consents, are solely of a regulatory nature and do not impact the WRM function. For cost attribution purposes, the cost of undertaking specific transactions is recovered directly through transaction fees from licensed water users. These fees are set on a uniform State-wide, rather than valley basis. It would be inappropriate to attribute WRM licensing administration and other ongoing costs to these transactions.

4.3 WRM Capital Expenditure

Capital expenditure (capex) on WRM is small in comparison to WRM operating expenditure. To date, the major item of physical capex has been renewal of groundwater monitoring bores for which the annual cost is assigned by way of a depreciation charge. River gauging stations are the other major item of equipment used for WRM. Gauging stations are not capitalised, and accordingly, the ongoing expense is included as part of operating costs.

Minor items of WRM capex include office equipment and motor vehicles. Expenditure on motor vehicles is accounted for by way of a depreciation charge, while expenditure on office equipment is accounted for in a corporate support (overhead) charge. The overhead charge is added to direct salaries to determine the full absorption cost of all external services - including WRM services - provided by DIPNR.

One off capex is incurred for WRM capital projects, including those in the nature of non physical works. The cost of these projects should be amortised over the expected lifespan of the new system, process or product. Details of this expenditure are shown separately to other WRM costs in Table 2, Appendix 4.

Capex is also incurred in maintaining unregulated river infrastructure, such as weirs and regulators. In addition, compliance capex (largely for environmental works such as fish passages) is incurred on these structures.

Annualised WRM costs for minor items of capex and capex on unregulated river structures were included as water delivery rather than WRM costs in the 2001 determination, and have not been included in the WRM cost estimates in this submission. These items of capex, in addition to capital projects capex, will be reviewed for recovery through WRM charges in the medium term submission.

4.4 Return on Capital

To date, DIPNR has not incorporated a return on capital for its WRM capital items, in part because of the small value of the WRM assets concerned and in part because a return normally applies to long lived infrastructure assets. Provision for a return on capital will, however, be made in the medium term submission should it be decided to include capex on unregulated river structures in the WRM cost base.

5. Cost Sharing Arrangements

The costs arising from WRM services are allocated between water users and the NSW Government (representing the general community) to determine WRM charges.

Two cost sharing principles have been applied in the past. The impactor pays principle, allocates the cost of an activity to individuals or groups in proportion to the contribution that each makes to creating the costs or

the need to incur the costs. In contrast, the beneficiary pays principle allocates the cost of an activity to those benefiting from the activity.

IPART has moved from allocating costs between water users and Government using a mix of the impactor pays and beneficiary pays cost sharing principles in the 1998 determination to a predominantly impactor pays approach in the 2001 determination. This was generally consistent with ACIL's recommendation that a dedicated impactor pays approach be implemented.

IPART has also adopted ACIL's conceptual approach that all legacy costs - current costs attributable to past activities - are to be borne by Government. All non legacy costs are then allocated between Government and water users on an impactor pays basis. IPART has utilised a 'line in the sand' (July 1997) as a means of differentiating legacy and non legacy activities, consistent with the approach adopted for valuing SWC infrastructure assets. This means that the costs incurred for WRM activities of a legacy nature are currently borne by the Government on behalf of the community.

The current cost sharing arrangements will be reviewed for the medium term submission. This will be important given the impact the current water management reforms are having on both WRM and the approach to cost sharing itself.

Part B: Water Resource Management User Costs & Tariff Restructuring Proposals

1. Introduction

This section sets out the basis for establishing WRM costs and proposals for tariff structures to provide IPART with information for setting WRM charges for cost recovery purposes from 1 July 2005. It also provides details of transaction fees on water management consents that have applied from 1 July 2004.

2. Establishing the Level of WRM Costs from 1 July 2005

As indicated in Section 4.1, Part A, DIPNR has not undertaken a comprehensive costing of WRM services for purposes of setting WRM charges from 1 July 2005. In this submission, indicative estimates of total WRM costs have been provided to show broad costs trends, but these costs are not appropriate for development of detailed user cost shares and associated tariffs. It is considered, however, that the WRM user costs published in the 2001 determination are adequate for setting WRM charges from 1 July 2005.

Total bulk water costs and WRM costs allocated to users have been extracted from the Cost Tables in Appendix 10 of the determination, as noted below.

Regulated river WRM costs

Regulated river WRM costs comprise the WRM costs in Table A10.2 of the Cost Tables. The remaining bulk water costs are attributable to SWC.

Unregulated river WRM costs

Unregulated river WRM costs comprise the opex costs in Table A10.1 and the WRM costs in Table A10.2 of the Cost Tables. All bulk water costs on unregulated rivers are incurred by DIPNR, the exception being capex charges on unregulated river structures shown in Table A10.4 which have been excluded from WRM costs.

Groundwater WRM costs

Groundwater WRM costs comprise the opex costs in Tables A10.1, the WRM costs in Table A10.2 and the capex costs in Table A10.4 of the Cost Tables. The costs in Table A10.4 include capex charges for depreciation on groundwater monitoring bores.

Details of total bulk water user costs, WRM user costs and the share of WRM to total bulk water user costs for each valley and water source are shown in Table 1, Appendix 3. The (percentage) share of WRM to total bulk water costs can be applied to the current consolidated (WRM and water delivery) bulk water charge to derive a notional WRM water charge for each valley and water source. The WRM share also forms the basis of determining DIPNR's WRM revenue receipts from the consolidated charge under current billing arrangements with SWC.

For cost recovery purposes, WRM costs are normally adjusted for the affects of inflation, as measured through changes in the Consumer Price Index (CPI) published by the Australian Bureau of Statistics (specifically the All Groups index for the weighted average of eight capital cities).

3. Fixed (Entitlement) Charges

IPART's price determinations have specified, where possible, an entitlement charge reflecting the volume of access specified on a water licence, and a usage charge relating to the metered volume of water taken from a water source in any one year where metering has been in place.

In WSP areas - that is, in areas now subject to the planning provisions of the WMA - volumetrically defined entitlements are being replaced by 'unit shares' in the volume of water made available for extraction on access licences.

In non WSP areas - that is, in areas still subject to the provisions of the *Water Act 1912* - volume of entitlement charges will remain until WSPs are established. (All WSPs are expected to be in place by 2009, as per NWI requirements.)

DIPNR proposes that these two charges be designated as 'access charges', being the charge per unit share in WSP areas or per megalitre of entitlement in non WSP areas. This is consistent with the terminology used in the CoAG Strategic Water Framework and the NWI, as well as in other jurisdictions and water service agencies. In addition, it better describes the nature of the charge and obviates the need for separate descriptions of fixed charges in WSP and non WSP areas.

For most water sources and for most categories of access licence, the number of shares on issue will reflect the prevailing total volumetric entitlement, and a 1:1 conversion of the megalitre entitlement to unit share will be applicable.

In those systems where the ratio of entitlement volumes to unit shares is being adjusted (as may be the case in many inland groundwater sources), it is proposed that the access charge be proportionally adjusted for any change in volume. The net effect will be revenue neutral for DIPNR and will not change individual customer water bills.

4. Security Premiums

In the 2001 determination, IPART raised the issue of the ratio of high to general security premiums on fixed (entitlement) charges, as follows:

'IPART is aware that the costs of storage to cater for high security customers are significantly greater than for low security customers. IPART 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 DIPNR receives but not DIPNR's costs. Arguably, this may result in some general security users paying a relatively higher price than warranted. IPART encourages DIPNR to review these ratios for consideration at the time of the next Determination.'

It is proposed that the WRM tariff structure to apply from 1 July 2005 exclude security premiums. Provision of different levels of security is a function of SWC infrastructure asset provision, and consequently, the premiums reflect SWC costs. The premiums bear no relationship to the WRM cost structure and therefore are not integral to the pricing of WRM services.

A single WRM access charge would effectively average high and low security premiums, providing the same level of WRM revenue (level of cost recovery) as if the premiums were in place. This will result in a more cost reflective, simpler and transparent WRM tariff.

Removal of the security premiums would not result in an overall increase in WRM revenue for DIPNR. However, it would result in marginally increased access charges for general security water users, but correspondingly lower charges for high security water users. This will improve pricing transparency and equity by eliminating intra-valley cross subsidies between these groups. In most instances, the effect of this change is small due to the relatively small volume of water attributable to high security access when compared with general security access.

5. Wholesale Discounts

ICDs currently receive discounts on their access (entitlement/unit share) charges. The discounts apply in the Murray, Murrumbidgee and Lachlan regulated river valleys. Table 2 shows the current wholesale discounts.

Table 2: Wholesale Discounts for Irrigation Corporations & Districts

Licence Holder	Discount on Entitlement Charge
Murray Irrigation	40%
Western Murray Irrigation	27%
West Corugan	35%
Moirra Irrigation Scheme	30%
Eagle Creek Irrigation Scheme	25%
Murrumbidgee Irrigation	29%
Coleambally Irrigation	32%
Jemalong Irrigation	27%

In the 2001 determination, IPART raised the issue of wholesale customer discounts, as follows:

'IPART 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. IPART foreshadows that it will review wholesale discounts at the time of the next Determination and requests that DIPNR investigate and review these discounts in the intervening period.'

The purpose of the discount is to compensate ICDs for water management information provided to DIPNR and/or SWC to perform their respective functions, and for the operational costs they incur on behalf of SWC for billing, metering, monitoring, etc, which were previously undertaken by DIPNR. Currently, the discount

reduces the access charges for ICDs by approximately \$5.5M pa on an aggregate (WRM and water delivery) bulk water basis.

DIPNR has reviewed the imposition of wholesale discounts for ICDs, and proposes that they cease from 1 July 2005. ICDs do not supply DIPNR with information that supports the WRM function, nor do ICD operational activities provide any WRM benefit to DIPNR. Should ICDs provide assistance for the WRM function in the future, it is proposed that fee for service arrangements be negotiated between DIPNR and the ICDs concerned for this purpose.

Removal of the discounts would not result in an overall increase in WRM revenue for DIPNR. The valleys concerned are already at full cost recovery. All charges are set in such a way that revenue does not exceed full cost recovery. Removal of the discounts would therefore result in increased charges for ICDs, but correspondingly lower charges for non ICD customers. This will effectively improve pricing transparency and equity by elimination of intra-valley cross subsidies, as non ICD customers, including other wholesale customers not receiving a discount, no longer continue to subsidise ICD customers.

6.1 Two part tariff on unregulated rivers

In the 2001 determination, IPART raised the issue of progress towards a two part tariff for unregulated rivers, as follows:

'IPART 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 time of its next determination.'

Most unregulated river licences have now been converted from an area to volume of entitlement basis. Unregulated river billing will be done on an area basis in 2003/04. With the scheduled completion of the volumetric conversion process, billing will be done on a volume of entitlement basis in 2004/05 and 2005/06. When the metering and monitoring program is completed and water usage can be reliably measured to DIPNR standards, it is intended that a two part tariff structure be introduced.

6. Transaction Fees on Water Management Consents

Bulk water service provision in NSW is regulated through DIPNR's water management consents regime. IPART regulates fees for transactions on water management consents concerned with bulk water extraction and storage and this role is expected to continue for transactions on consents issued under the WMA.

In areas where WSPs have not been put in place, the existing *Water Act 1912* consents - water licences, permits and approvals and their associated transaction fees - will continue to apply until WSPs are established. The 2001 determination noted that these fees were not to exceed the levels prevailing at that time until a new determination is made. The costs attributable to transactions on these consents are not included with WRM costs, being accounted for as separate sub-products within DIPNR's costing system. Accordingly, these transaction costs will not be reflected in WRM charges.

In areas where WSPs have been put in place, the new WMA consents - access licences and approvals - were introduced on 1 July 2004. It was therefore necessary to establish a fees structure for transactions on these consents. This has included fees payable to Land and Property Information (LPI) for transactions on the new Access Licence Register.

DIPNR introduced an interim fees structure on 1 July 2004 for transactions on WMA consents. An interim structure was necessary given the changes in water management taking place - particularly at national level with development of the NWI - during the first half of 2004, rendering introduction of a full cost recovery fees structure impractical. It would also have been impractical to introduce full cost recovery fees without some history of use for transactions on the new consents.

In the circumstances, it was decided to carry forward the existing *Water Act 1912* transaction fees to the transactions on equivalent consents or purposes under the WMA. Consequently, a submission to IPART on the interim fees was not made because they do not exceed existing fees previously determined by IPART. IPART has indicated that the fees structure is reasonable in the circumstances.

Where possible, fees have been set for transactions on the new consents at the same level as fees charged for equivalent *Water Act 1912* transactions. Where existing consents cannot be directly aligned with the new consents, it has been necessary to set the fees by reference to transactions on the nearest equivalent consent attracting the same or lower levels of fees than existing levels. Where there are no equivalent *Water Act 1912* transactions, it has not been possible to set any fees in the interim period, as this would be in breach of the existing IPART determination.

For transactions on the majority of WMA consents, equivalent *Water Act 1912* fees apply, subject to the details below.

- (a) Issues of new access licences, dealings and other transactions on access licences
Fees charged will not exceed the levels prescribed by the *Water Act 1912* for transactions on equivalent consents or purposes. Accordingly, where multiple dealings are combined in a single application, the highest of the fees for the dealings concerned will be charged, on the same basis fees are charged for similar transactions under the *Water Act 1912*.
- (b) Issues of new works and use approvals and change of conditions on/extension of term of works and use approvals
Fees charged will not exceed the levels prescribed by the *Water Act 1912* for issue of/change of conditions on/extension of term of equivalent consents or purposes. Generally, works approvals fees will be charged by reference to *Water Act 1912* pump capacity tables, and use approvals fees charged by reference to *Water Act 1912* area tables (based on area proposed for irrigation development).

Where combined approvals, or works/use approvals of more than one type are issued, the highest of the fees for the approvals concerned will be charged, on the same basis fees are charged for similar transactions under the *Water Act 1912*.
- (c) All transactions
Fees will be payable in full on application to DIPNR to execute the transactions concerned.
- (d) Transactions on Access Licence Register
Fees for registration, searches and copying of the Access Licence Register, will be payable to LPI, and be the same as fees for equivalent Real Property Act transactions on the Land Titles Register. These fees are not subject to IPART price regulation.

The interim fees structure represents some reduction in cost recovery levels compared to the existing structure. The full costs of transactions on WMA consents will be established during the WMA transitional period. Subject to an assessment of the availability of adequate costing data (given the limited transaction history to date), details of transaction costs will be submitted to IPART in conjunction with the medium term WRM submission, for determination of fees to apply from 1 July 2006.

Appendix 5 provides details of the WMA consents concerned with bulk water provision and the associated transaction fees.

Part C: Future Directions in Water Resource Management Pricing

1. Introduction

This section of the submission outlines some of the future directions for WRM in NSW, with particular reference to the implications for pricing of WRM services resulting from changes in operational activities and institutional arrangements for water management in NSW, and from the introduction of the NWI.

2. Institutional Changes in WRM

Over the past year, the Government has made significant changes to institutional arrangements for natural resource management, including WRM, across the State. Many of these arrangements are in the process of bedding down and can be expected to be substantially operational by the second half of 2005.

DIPNR is currently restructuring its service delivery functions and devolving various responsibilities to Catchment Management Authorities (CMAs), the Natural Resources Commission (NRC), the Natural Resources Advisory Council (NRAC) and the NSW Water Innovation Council (WIC). Whilst this process should yield efficiency gains over the medium term, these entities have yet to be fully established and currently have only limited operational capacity. In addition, the NWI requires changes in the way water entitlements are managed and how other WRM activities are undertaken. As these changes are implemented, the impact on DIPNR's WRM activities and costs will become clearer.

Once in place, the new water management entities can be expected to account for the costs of any WRM activities they assume. Government may consider arrangements to recover these costs, along with DIPNR's WRM costs, in future pricing proposals. It would be desirable to review the participation of all NSW Government agencies in providing WRM services. For instance, the NSW Department of Environment and the NSW Department of Primary Industries both provide WRM, but do not recover those costs via bulk water charges. In the interim, DIPNR will continue to undertake many of its ongoing WRM activities and seek recovery of the cost concerned.

Schematic representations of the new structure of WRM in NSW and in DIPNR are shown in Appendix 7.

3. WRM Entities

Natural Resources Commission

The NRC will play a major role in developing State-wide standards and targets for natural resources, including bulk water, and in the review of WSPs. This process will ascertain whether the WSPs should be amended or extended for a further ten years. The NRC will be funded independently from DIPNR.

Further information on the NRC can be found at http://www.dipnr.nsw.gov.au/nvrig/nrc_nrac.html.

The Natural Resource Advisory Council

NRAC will provide a high level forum for stakeholder participation in natural resource management and assume various water management roles historically undertaken by the Health Rivers Commission, State Weir Review Committee, State Wetlands Advisory Committee and the Water Advisory Council. It is expected the NRAC will be funded through future DIPNR budget appropriations.

Further information on the NRAC can be found at http://www.dipnr.nsw.gov.au/nvrig/nrc_nrac.html.

Water Innovation Council

The WIC will provide advice to the Minister on future directions for WRM, as well as targeted advice to CMAs on various WRM issues. It is expected the WIC will be funded through future DIPNR budget appropriations.

Further information on the WIC can be found at <http://www.dipnr.nsw.gov.au/water/index.shtml>.

Catchment Management Authorities

Thirteen CMAs with accountable boards were recently established across NSW. The objectives of the CMAs include the proper management of natural resources in the social, economic and environmental interests of the State, and to involve communities in each catchment in decision-making and to make best use of catchment knowledge and expertise. CMAs will develop and implement natural resource management strategies that are based on sound scientific and local knowledge and which empower landholders and local communities to improve natural resource management of the catchment. The CMAs will be the primary vehicle for delivery of incentive programs funded by State and Commonwealth Governments to land managers to achieve restoration and improvements of the State's natural resources.

With respect to their WRM role, CMAs will amongst other things prepare catchment action plans (CAPs) and investment strategies, and monitor progress in the achievement of standards and targets in their CAPs and other issues affecting catchment health, including the operation of WSPs. They are also expected to play a role in developing future WSPs. CMA water management functions are summarised as follows:

- monitoring the impacts of WSPs
- assisting the development of WSPs, including macro WSPs
- management of adaptive environmental water

DIPNR will assist the CMAs in carrying out these functions by providing data and analysis, technical advice, monitoring and reporting, analysis of options, and legal and planning expertise.

In the short term, funding for CMAs will be obtained from the reformed National Action Plan for Salinity Water Quality and Natural Heritage Trust grant process, from NSW Government allocations for native vegetation reforms and by way of grants through DIPNR's budget appropriation.

Further information on the CMAs is available at <http://www.dipnr.nsw.gov.au/nvrig/cma.html>.

4. Impact of the NWI on WRM

Section 2 in Part A described in general terms the three phases of water reforms in NSW. The third phase will consolidate the outcomes of the first and second phases and see the implementation of remaining NSW commitments under the NWI. The NSW Government will seek advice from the WIC on these and future WRM initiatives.

DIPNR has continued to implement the water management reforms arising from the CoAG agreement on water in 1994. In June 2004, the NSW Government signed the CoAG NWI and the Living Murray Agreement, 'Addressing Water Over-allocation and Achieving Environmental Objectives in the Murray-Darling Basin' (LMA). These agreements will guide water management into the future.

NSW has a range of commitments under the NWI and the related LMA. The latter will be funded through a \$500M fund established by Federal and State Governments, including a \$115M commitment by the NSW Government.

Some of the commitments under these agreements have been or are being achieved through the implementation of the WMA and the WMAA. Other commitments will introduce new or extend existing WRM activities for DIPNR and other NSW Government agencies, while some will require new investments and additional recurrent costs in WRM. In many instances, these commitments will accelerate existing programs, and thus result in continued high levels of transitional WRM expenditures.

It is too early to reliably predict the net impact of these commitments on the DIPNR WRM cost base or how these costs might be distributed over time or between the entities concerned. However, the major commitments and their relative resource implications are discussed below.

The NWI requires jurisdictions to develop full implementation plans by June 2005. It is therefore envisaged that the medium term submission will identify the financial resource implications of the NWI to the extent that they impinge on DIPNR's bulk water related WRM activities.

WRM requirements in some areas will increase in coming years in response to the NWI. By way of example, one of the main outcomes of the NWI will be a substantial increase in the security provided to access licence holders. This arises from, amongst other things, the change to perpetual access licences, increases in the exclusivity of rights to water access and the associated monitoring/compliance costs, and the extension of compensation provisions.

In many instances, the increase in security will be accompanied by an increase in recoverable WRM costs in providing that security. Furthermore, the increased security and enhanced private status of ownership further removes any residual justification for subsidies by Government.

4.1 Specific NWI Commitments

Details of NWI commitments impacting on the pricing of WRM services are provided below.

Best practice water pricing

With respect to water pricing for resource planning and management, the NWI commits NSW to:

- ♦ *ensuring sufficient revenue streams are achieved to allow efficient delivery of the required services [section 64 (ii)];*

- ◆ *give effect to the principles of user pays and achieve pricing transparency ... cost recovery for water planning and management [section 64 (iv)];*
- ◆ *... bring into effect consistent approaches to pricing and attributing costs of water planning and management by 2006 [section 67], involving:*
 - i) the identification of all costs associated with water planning and management, including the costs of underpinning water markets such as the provision of registers, accounting and measurement frameworks and performance monitoring and benchmarking;*
 - ii) the identification of the proportion of costs that can be attributed to water access entitlement holders consistent with the principles below:*
 - a) charges exclude activities undertaken for the Government (such as policy development, and Ministerial or Parliamentary services); and*
 - b) charges are linked as closely as possible to the costs of activities or products.*
- ◆ *... to report publicly on cost recovery for water planning and management as part of annual reporting requirements [section 68], including:*
 - i) the total cost of water planning and management; and*
 - ii) the proportion of the total cost of water planning and management attributed to water access entitlement holders and the basis upon which this proportion is determined.*

These requirements further reinforce pre existing CoAG water reform commitments on recovery of bulk water costs through user charges. The NWI [section 77] also commits NSW to use an independent body in setting or reviewing charges for water storage and delivery by Government water service providers, such as SWC. The role of IPART fulfils this requirement.

Other NWI Commitments

Other commitments related to pricing of WRM services are detailed below.

Water access entitlements and planning framework commitments:

- ◆ accelerated completion of WSPs for over allocated water sources;
- ◆ development of WSPs for all other water sources;
- ◆ legislative and administrative changes to facilitate the new framework;
- ◆ definition and implementation of the new water access entitlements;
- ◆ identification of water for environmental and other public benefit outcomes;
- ◆ implementation of a risk assignment (compensation) framework for reductions in water access;
- ◆ addressing indigenous water issues in WSPs; and
- ◆ assessment of the significance of and addressing water interception by land use change.

The accelerated timeframes for some planning activities, including the development of macro WSPs covering several water sources, and rolling out the new access entitlement framework mean that DIPNR's water planning and licensing resource requirements will need to be maintained at relatively high levels for an extended period. In addition, the introduction of new ongoing management requirements (particularly for water interception) is expected to give rise to quite substantial additional WRM monitoring and administrative costs.

Water markets and trading commitments:

- ◆ establishment of the register for water access licences and trading;
- ◆ introduction of compatible regulatory systems to facilitate trade;
- ◆ undertaking studies into alternative or refined trading systems; and
- ◆ removal of institutional and other barriers to trade.

NSW already provides a framework for water trading, and over time these commitments should reduce transaction costs associated with trading. There are, however, additional short term costs associated with supporting the commitments.

Integrated management of environmental water commitments:

- ◆ establishment of institutional arrangements to achieve environmental water management objectives; and
- ◆ where necessary, recovery of water for the environment on a cost effective basis.

Elements of these commitments will be achieved through the LMA. Nevertheless, they will result in an increase in the complexity of systems for managing and monitoring environmental water that will over time result in additional WRM costs.

Water resource accounting commitments:

- ◆ benchmarking accounting systems;
- ◆ consolidation of water accounts including interactions between surface and groundwater;
- ◆ environmental water accounting;
- ◆ implementation of information systems for water accounting;
- ◆ metering and measuring; and
- ◆ national guidelines on water accounting.

The extension of some accounting system activities (such as benchmarking), new accounting systems (such as environmental water accounting) and acceleration of some programs (such as metering) will increase WRM costs. As many of these programs provide an increase in the security of water access licences, DIPNR believes they should be directly attributable to water users.

Community partnerships and adjustment commitments:

- ◆ timely consultation with relevant stakeholders;
- ◆ provision of accurate and timely information to stakeholders; and
- ◆ addressing significant adjustment issues.

Consultation will principally take place through the processes employed by the NRC and the CMAs. While the relative costs may fall over time, ongoing consultation processes will result in recurrent WRM costs associated with this activity. Addressing adjustment issues is not anticipated to affect recurrent WRM costs.

Knowledge and capacity building commitments:

- ◆ identification of key science priorities to support implementation; and
- ◆ implementation of necessary measures to ensure research is well coordinated and publicised.

These activities will be reflected in ongoing core WRM costs for DIPNR.

The net outcome of the NWI will be a more transparent, consistent and ultimately efficient WRM regime, with improved security for water access licence holders and improved environmental outcomes. As indicated, in some instances these developments are expected to result in additional costs in WRM, particularly during their establishment over the next few years.

5. Medium Term Submission on WRM Charges

As previously indicated, this submission seeks an interim pricing determination on WRM charges for the period commencing 1 July 2005. A detailed medium term submission on future WRM costs for IPART to set WRM charges from 1 July 2006 will be made in the second half of 2005. This will allow time for the current water management reforms and associated institutional arrangements to become established.

5.1 Key Issues

Key issues to be addressed in the medium term submission include:

- ◆ changes in the alignment of WRM responsibilities and activities between DIPNR, CMAs, the NRC and other NSW Government agencies;
- ◆ expansion of the WRM cost base to include a more comprehensive coverage of DIPNR's WRM activities and WRM infrastructure capex, in addition to meeting the broader requirements of the NWI;
- ◆ revised approach to cost sharing targeted to better reflect the impactor pays principle, the contemporary profile of WRM activities and to accommodate a simpler and more transparent cost sharing methodology;
- ◆ changes in the level of cost shares, particularly where it is clearly demonstrated that water users should bear a higher proportion of costs arising from the impacts of water extraction;
- ◆ review of the valley based approach to pricing of WRM services, noting that a large share of WRM costs are for State-wide activities that are not specific to individual valleys;
- ◆ review of WRM tariff structures, with particular focus on a more cost reflective breakdown of the fixed and variable components of WRM costs from which tariffs are set; and
- ◆ identification of full costs for transactions on WMA consents on which transaction fees are based, subject to availability of adequate costing data.

5.2 Specific IPART Issues

Specific issues raised by IPART in the 2001 determination, in addition to those addressed in this submission, will also be addressed in the medium term submission. IPART's issues (in italics) and DIPNR's response are provided below.

The balance between entitlement and usage charges

'There is wide variation between the ratios of entitlement charges to usage charges across regulated river valleys. The reasons for this may not necessarily be due to cost reflectivity. IPART 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.'

The current ratios of entitlement to usage charges, with wide variations across regulated rivers, largely reflect an historical arrangement introduced to progress a consumption based tariff structure and to send appropriate demand management signals. Currently, entitlement charges are set to produce approximately 60% of WRM revenue.

In developing an appropriate balance between the fixed and usage components of the two part tariff, a number of issues need to be taken into account, such as:

- the mix of fixed and variable costs in providing WRM services following the separation of SWC (and the excision of its water delivery costs);
- the implications for financial viability and revenue stability/security for DIPNR (noting that WRM costs are often highest during periods of dry climatic conditions, when water sources are most stressed and extractions are correspondingly low);
- the significance, if any, of WRM charges in affecting consumptive behaviour patterns; and
- the fact that bulk water charges do not provide an effective demand management signal. As water access is predominantly a function of climate and the provisions of the relevant WSP, efficiency gains by individual water users are retained by them (and/or other investors), but do not benefit the environment or other instream water uses and will generally be applied to expanded farming activities.

For the medium term submission, it is intended to propose that WRM tariffs be restructured with a view to making them substantially more cost reflective, while ensuring revenue levels and revenue stability are maintained. In this way, imbalances caused by the current tariff variations across valleys will be reduced or eliminated.

Given separate tariff structures for WRM and water delivery charges will be put in place from 1.7.05, it may be more cost reflective for WRM costs to be recovered entirely through the fixed component of the bulk water charge, particularly since the vast majority of WRM costs do not vary significantly with usage at the valley level. That is, the WRM charge would consist of a fixed single tariff structure. This approach will also be reviewed for the medium term submission to assist IPART in structuring the tariff.

Separate valley accounts

'IPART is aware that there are cost implications for SWC setting up separate valley accounts. However, IPART considers that further work needs to be conducted to ensure the integrity of the cost database and to facilitate independent auditing.'

Prior to the separation of SWC from DIPNR, unaudited valley financial reports, incorporating WRM and water delivery costs for each water source, were prepared annually. DIPNR will review the need for developing special purpose WRM valley financial reports as part of the medium term submission. However, as noted in Section 4.1 above, the NWI 'best practice water pricing' commitments specify reporting requirements for resource management and planning. In reporting on WRM activities, it will be necessary for DIPNR to adhere to these mandatory commitments.

Arguably, WRM financial reports along the lines of the above mentioned unaudited valley reports, may be informative to water users and enable them to have some input into WRM attributable to their water use activities, and hence the pattern of WRM expenditure in their valleys. However, the usefulness of the reports will to some extent be dependent on the future WRM tariff structure. For instance, if it is proposed to establish a uniform State-wide charge rather than valley based charges and/or establish a single fixed charge rather than a two part tariff structure, valley WRM reports may not be of great amenity to water users for purposes of managing water consumption and controlling their bills. It is also acknowledged that the

critical issue for bulk water customers has to date been capex, including asset infrastructure renewal in the regulated river valleys, for water delivery.

In summary, financial reporting on WRM activities will need to meet the requirements of the NWI in the first instance. It is envisaged that these reports will satisfy broad stakeholder requirements. Should it be decided to provide more detailed periodical WRM financial information for water users and other stakeholders, it is envisaged at this juncture that unaudited valley or State-wide reports be prepared within the framework of the NWI reports.

MDBC cost allocation

'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, IPART requires DIPNR to develop a robust and transparent method of allocating MDBC costs for the next Determination.'

An appropriate basis for allocating MDBC WRM costs across valleys will be included in the medium term submission.

Appendix 1

Water Resource Management Products and Pricing Valleys

Bulk Water Products

Subproduct Code	Subproduct Designation	Description
PA1 Surface Water Database The development and maintenance of surface water databases, incorporating ongoing, statewide data collection on the quality, quantity and use of the state's surface water. The database is held for both river operations and natural resource management purposes. The product also includes the management of data already in the database.		
PA100	Surface Water Quantity Data Collection & Archiving	<ul style="list-style-type: none"> • The collection of State-wide data on surface water quantity, such as river height and surface water usage. This involves: <ul style="list-style-type: none"> > collection of data through the river gauging network (to required corporate quality assessment standards) > regional archiving of the information (to required corporate quality assessment standards) > maintenance of the field equipment / installations and managing the monitoring network, but not developing computer systems to manage the data, nor checking the historical archive (see data management)
PA110	Surface Water Quantity Data Management	<ul style="list-style-type: none"> • Setting policy and corporate standards for the surface water assessment program, including customer plans, quality assurance standards for collection and management • management of data, eg centralised checking / archiving of information onto data base (including licensing data) • management / maintenance / development of hardware
PA120	Surface Water Quality Data Collection & Archiving	<ul style="list-style-type: none"> • Collection of data through the key site water quality assessment program and quality sampling of storages (to required corporate quality assessment standards) • Regional archiving of the information (to required corporate quality assurance standards) • Management of the water quality monitoring assets, such as the gauging stations but not developing computer systems to manage the data, nor checking the historical archive (see data management)
PA130	Surface Water Quality Data Management	<ul style="list-style-type: none"> • Setting policy and corporate standards for surface water quality assessment, including customer plans, information pricing plans, quality assurance standards for collection and management • Management of data, eg centralised checking / archiving of information onto data base (including licensing data) • Management/maintenance/development of hardware
PA200	Groundwater Quantity Data Collection	<ul style="list-style-type: none"> • The collection of data on the quantity of the state's groundwater resources, such as data on bore locations, construction, geological strata, water levels, extractions, artesian bore flows and pressures (to required corporate quality assurance standards). This involves: <ul style="list-style-type: none"> > Collection of data (to required corporate quality assessment standards) > Regional archiving of the information (to required corporate quality assurance standards) > Maintenance of the field equipment / installations and managing the monitoring network, but not developing computer systems to manage the data, nor checking the historical archive (see data management)
PA210	Groundwater Quantity Data Management	<ul style="list-style-type: none"> • Setting policy and corporate standards for groundwater quantity assessment, including customer plans, quality assurance standards for collection and management • Management of data, eg centralised checking/archiving of information onto data base (including licensing data) • Management / maintenance / development of hardware
PA220	Groundwater Quality Data Collection	<ul style="list-style-type: none"> • Collection of data on the quality of the state's groundwater resources, for example water sampling from bores to measure quality (to required corporate quality assurance standards) • Regional archiving of information (to required corporate quality assurance standards) • Management and maintenance of equipment and field installations
PA230	Groundwater Quality Data Management	<ul style="list-style-type: none"> • Setting policy and corporate standards for groundwater quality assessment, including customer plans, quality assurance standards for collection and management • Management of data, eg centralised checking / archiving of information onto data base (including licensing data) • Management/maintenance/development of hardware

Subproduct Code	Subproduct Designation	Description
PA3 Other Water Databases This product refers to the development and maintenance of other centralised (ie statewide) database systems. It includes: integration of existing systems - the GIS and HYDSYS and other centralised data bases that are being built up to give a state-wide picture of water health.		
PA300	GIS Data Management	<ul style="list-style-type: none"> • Development and maintenance of water GIS • Management/maintenance/development of hardware
PA310	HYDSYS Data Management	<ul style="list-style-type: none"> • Development and implementation of HYDSYS, including training of staff in its use • Management/maintenance/development of hardware for HYDSYS
PA320	Water Health Data Collection	<ul style="list-style-type: none"> • Collection/regional archiving of information on other state-wide data bases such as river corridor and wetland data bases
PA330	Water Health Data Management	<ul style="list-style-type: none"> • Setting policy and corporate standards for water health assessment, including customer plans, quality assurance standards for collection and management • Management of data, eg centralised checking/archiving of information onto data base • Management/maintenance/development of hardware
PA4 Water information Products The compilation, distillation and publication of information from the water databases. Some Products are produced on a regular basis (annually), while others are produced on a needs basis.		
PA400	Water Info Advice/ Reports/ Products	<ul style="list-style-type: none"> • Raw data from data base (including data on CD ROMs) • Regular corporate reports, (such as the State of the Rivers report), which draw information from the central water data bases • Customised reports upon request by users or clients (such as the MDBC). This includes interpretation of the data as part of the routine report but not the addition of value-added advice on how to share, deliver or manage water ecosystems NOTE: This sub-product does not include information about how to share or deliver water or manage ecosystems. This type of information is covered under other sub programs.
PB1 Surface Water Allocation Strategies Developing and refining clear strategies, policies and statewide/regional plans for the sharing of surface water, between extractive users and ecosystem requirements to achieve the overall mix of social, economic and environmental outcomes most acceptable to the community.		
PB100	Surface Water Interstate Policy	<ul style="list-style-type: none"> • Development and review of interstate policies that define how surface water is to be shared between the States. These policies outline the water sharing principles to assist detailed decision making at the regional level.
PB110	Surface Water State Policy/ Standards	<ul style="list-style-type: none"> • Development and review of principles and rules on how NSW water is to be shared. These policies define the water sharing principles to assist detailed decision making at the regional level. This ensures consistent application to the department's water sharing policies across the State.
PB120	Surface Water Unregulated Allocation Plans	<ul style="list-style-type: none"> • Allocation plans that translate interstate and state policies into a set of sharing rules for unregulated streams at the regional and local level. These plans involve: <ul style="list-style-type: none"> ➢ The development and review of (water sharing) principles giving direction on how surface water from unregulated streams is to be shared on a state-wide basis ➢ Advice to landholders and other customers regarding surface water sharing issues for unregulated streams
PB130	Surface Water Regulated Allocation Plans	<ul style="list-style-type: none"> • Allocation plans that translate interstate and state policies into a set of sharing rules for water from regulated rivers at the regional and local level. These plans involve: <ul style="list-style-type: none"> ➢ The development and review of (water sharing) principles giving direction on how surface water from regulated rivers is to be shared on a statewide basis. ➢ Advice to landholders and other customers regarding surface water sharing issues for regulated rivers
PB2 Surface Water Licences Surface water licensing is the application of the Department's statutory responsibilities in order to regulate extraction of water from the State's rivers. This involves the evaluation of new licence applications, renewal of existing licenses, and administration of water transfers. These are operational sub-products. Under this product the WRM subproduct is licence surveillance to ensure that licence holders comply with the conditions of their licence, and that no one individual is obtaining benefits at the expense of other licensees.		
PB230	Surface Water Licence Surveillance	<ul style="list-style-type: none"> • Surveillance to check compliance with licence conditions (eg. pump size and location)/restrictions/notices/suspensions. This can include aerial photography and satellite imagery, property or pump site visits, river Inspection or meter checks. Sometimes, surveillance is undertaken by analysing water use data (ie. checking whether extraction is within entitlement limits) • Prosecution of non-compliance with licence conditions

Subproduct Code	Subproduct Designation	Description
PB3 Groundwater Allocation Strategies		
These strategies are developed for sharing the State's groundwater resources to achieve the most viable overall mix of social, economic and environmental outcomes that are most acceptable to the community.		
PB300	Groundwater Policy / Standards	<ul style="list-style-type: none"> The development and review of interstate and state policies that define how groundwater is to be shared between the States and throughout NSW. These policies define the principles for sharing groundwater to assist detailed decision making at the regional level
PB310	Groundwater Specific Allocation Plans	<ul style="list-style-type: none"> Groundwater allocation plans translate interstate and state policies and standards into a set of 'sharing' rules for groundwater. These plans involve: <ul style="list-style-type: none"> > The development and review of principles giving direction on how groundwater is to be shared (including conjunctive use). > Advice to licence holders and other customers regarding groundwater sharing issues
PB4 Groundwater Licences		
Groundwater licensing is the application of the Department's statutory responsibilities in order to regulate extraction of groundwater. This involves the evaluation of new licence applications, renewal of existing licenses, and administration of temporary water transfers. These are operational sub-products. Under this product the WRM subproduct is licence surveillance to make sure that licence holders comply with the conditions of their licence and subsequent initiation of sanctions where breaches of licence conditions occur.		
PB430	Groundwater Licence Surveillance	<ul style="list-style-type: none"> Surveillance to check compliance with licence conditions (eg pump size and location)/restrictions/notices/suspensions. This includes activities such as bore site investigations and meter inspections (for the primary purpose of surveillance), and analysis of water use data. Prosecution of non-compliance with licence conditions.
PC2 Rural Water Operations		
Includes operating structures to control and regulate water and controlling diversions of water entitlement to users.		
PC230	Unregulated River Metering and Billing	<ul style="list-style-type: none"> Charging licence holders for the use of water based upon annual allocations, metering and unregulated water usage quality system Metering includes calibration, compliance, water use surveillance and data checks. Billing involves activity of preparing, processing, invoicing and receiving income
PC250	Groundwater Metering and Billing	<ul style="list-style-type: none"> Charging licence holders for the use of water based upon annual allocations, groundwater metering and groundwater usage quality system Metering includes calibration, compliance, water use surveillance and data checks. Billing involves activity of preparing, processing, invoicing and receiving income
PC3 Flood Operations		
The development of plans and the operation of water storages to safeguard the long term integrity of the structures and to mitigate the social, economic and environmental impacts of floods. This involves: advice contributing to the development of guidelines for developments on floodplains and flood impact minimisation plans; operation of storages to meet pre-determined objectives, such as environmental flow objectives; and operation of storages during floods to minimise flood peaks and hence limit damage to the areas downstream.		
PC340	Salinity Mitigation	(No description available)
PD1 River Quality/Flow Reforms		
Implementation of NSW Government's August 1997 Water Reforms relating to river flow and water quality objectives to assess, restore and improve the water environment in partnership with the community. This includes the development of water health strategies, Weirs Policy, water quality and environmental flow plans and the installation of fishways on weirs.		
PD100	River Quality / Flow Reforms Policy	<ul style="list-style-type: none"> Development of policy that aims to bring about improvement to the quality of the state's surface water resources.
PD110	River health and water quality plans	<ul style="list-style-type: none"> Actions used to address river health issues (such as dissolved oxygen depletion and temperature fluctuations resulting from storage releases) Actions associated with conserving protecting and improving the biological diversity of water environments Research and investigation into status of water ecosystems Implementation of management strategies resulting from research, works and other actions to address river health and water quality issues
PD120	Environmental flow plans	<ul style="list-style-type: none"> Research into environmental flows and ecological response to flow management regimes Implementation of management strategies resulting from research, works and other actions to address environmental flow issues

Subproduct Code	Subproduct Designation	Description
PD130	River Quality/Flow Reforms Advice	<ul style="list-style-type: none"> • Providing advice to others to assist and influence their management of surface water quality to achieve outcomes sought under management plans and policies. Advice includes: • Response to inquiries from government agencies, private companies or customers, or it might be unsolicited advice, assistance and information to target groups aimed at influencing attitudes and behaviours. • Attendance at meetings, delivery of papers to conferences or the preparation of non-specific reports and information on river quality issues. • Community campaigns that can range from State-wide programs to regional displays at local field shows
PD140	Fishways	<ul style="list-style-type: none"> • Installation of fishways on weirs to allow continual migration of adult and juvenile fish through the weirs and restore the natural migratory processes
PD2 Blue-Green Algae Strategies Development, implementation and review of departmental input into the State's Algal Management Strategy. This includes activities relating to water and nutrient movement management.		
PD200	Blue Green Algae Policy	<ul style="list-style-type: none"> • Development and review of the State Strategy to minimise the occurrence and impact of blue-green algae, through the provision of the necessary knowledge base, and integration with national programs. • Development of nutrient control policies for implementation through appropriate plans and works • Research to provide the necessary knowledge for development of a management strategy for algae control. • Chair, participation in, and the provision of, administrative support to the State Algal Co-ordinating Committee
PD210	Blue Green Algae Nutrient control plans	<ul style="list-style-type: none"> • Development and implementation of plans and works to control nutrients which contribute to blue-green algae blooms. • Development and planning of valley nutrient management plans. • Planning, design, construction, performance assessment and monitoring of nutrient control works. It includes the development of the guidelines manual
PD220	Blue Green Algae Contingency plans	<ul style="list-style-type: none"> • Developing and operating contingency plans to reduce the impact of blue-green algae blooms when they occur. • Work associated with running the Regional Algal Co-ordinating Committees (RACCs). • Works and measures, such as algal watch kit, bore subsidies (eg the stock and domestic bore subsidy scheme), Riverwatch, involving specific projects which contribute to the in-ground operation of contingency plans, and the ability to deal with the impacts of algal blooms
PD230	Blue Green Algae Education and awareness	<ul style="list-style-type: none"> • Advising others as to assist and influence their management of blue-green algae to achieve outcomes sought under our management plans and policies. Such advice can be in response to inquiries from government agencies, private companies or customers, or it might be unsolicited advice, assistance and information to target groups aimed at influencing attitudes and behaviours. Such advice can include: <ul style="list-style-type: none"> > Development and implementation of activities that increase community awareness and consequent actions to minimise blue-green algae blooms > Planning, implementation and evaluation of the low phosphorus campaign. > Work other than the low phosphorus campaign, to increase community awareness and promote action about issues related to blue-green algae blooms
PD3 River Salinity Strategies The development and implementation of policy, monitoring and audit of the MDBC Salinity and Drainage Strategy, and the development of regional plans and schemes to deal with the impacts of river salinity and arrest saline. inputs into rivers.		
PD300	River Salinity Policy	<ul style="list-style-type: none"> • Development of policy that aims to bring about improvement to river salinity
PD310	River Salinity Regional plans	<ul style="list-style-type: none"> • Development of management plans and strategies to arrest saline inputs to surface water (includes work on the MDBC salinity and drainage strategy) • Works and measures which contribute to the in-ground operation of regional plans, and the ability to deal with the impacts of river salinity
PD320	River salt interception schemes	<ul style="list-style-type: none"> • Design, construction and maintenance of salt interception schemes to prevent accessions of saline water into rivers

Subproduct Code	Subproduct Designation	Description
PD4 Bacterial, Chemical and Other Regional plans For all other water quality strategies (includes bacteria, pesticides and aquatic weeds).		
PD410	Bacterial, Chemical and Other Regional plans	<ul style="list-style-type: none"> • Development of management plans and strategies to address water quality issues such as turbidity, pesticides and other chemical and biological contaminants. • Works and measures which contribute to the in-ground operation of regional plans, and the ability to deal with the impacts of chemical, bacterial and other contamination.
PD5 Groundwater Management Strategies Assessment of the condition of groundwater resources, development and implementation of plans for maintaining, restoring and improving groundwater resources in conjunction with water users and the community.		
PD500	Groundwater policy	<ul style="list-style-type: none"> • Development of policy that aims to bring about improvement to the status or productive capacity of groundwater resources
PD510	Groundwater Regional plans	<ul style="list-style-type: none"> • Plans for improvement to the groundwater aquifer and sub-surface environment • Development of groundwater vulnerability maps and implementation of the review of groundwater quality Monitoring outcomes (except that level of monitoring which is covered as part of resource information) • Works and measures which contribute to the in-ground operation of regional plans, and the ability to deal with the groundwater environment
PD520	Groundwater Advice	<ul style="list-style-type: none"> • Advising others so as to assist and influence their management of groundwater issues to achieve outcomes sought under our management plans and policies. • Such advice can be in response to inquiries from government agencies, private companies or customers, or it might be unsolicited advice, assistance and information to target groups aimed at influencing attitudes and behaviours. • This may include attendance at meetings, delivery of papers to conferences or the preparation of non-specific reports and information on groundwater issues. Can also include community campaigns that can range from Statewide programs to regional displays at local field shows.
PD6 Wetland Strategies The development of policies to assist and influence wetland management, development of regional wetland strategies and implementation and review of strategies.		
PD600	Wetland Policy	<ul style="list-style-type: none"> • Developing a policy for the protection of the state's wetlands. This defines areas such as the appropriate and inappropriate uses and conditions of use of the wetlands, flooding regimes and water quality standards.
PD610	Wetland Regional plans	<ul style="list-style-type: none"> • Involves research, investigations, strategies, works and other action that conserve, protect and improve the environmental integrity or productivity (within environmental and sustainability parameters) of the State's wetlands. This includes: <ul style="list-style-type: none"> ➢ Wetlands management plans defining the requirements of wetlands (riparian, floodplain and upland) and works, wetlands technical manuals and general research and investigations into wetland health and status. Includes acid-sulphate soils related activities where these are specifically a wetland problem.
PD620	Wetland Advice	<ul style="list-style-type: none"> • Involves advising others so as to assist and influence their management of wetlands to achieve outcomes sought under our management plans and policies. • Such advice can be in response to inquiries from government agencies, private companies or customers, or it might be unsolicited advice, assistance and information to target groups aimed at influencing attitudes and behaviours. • This may include attendance at meetings, delivery of papers to conferences or the preparation of non-specific reports and information on wetland issues. Can also include community campaigns that can range from Statewide programs to regional displays at local field shows.
PD7 Water Industry Strategies Development and implementation of policies, plans and strategies associated with the introduction of reforms to water industry, in line with government policies. It also includes the planning and preparing by the department of Infrastructure, Planning and Natural Resources of responses to government policy reforms.		
PD700	Water Industry Policy	<ul style="list-style-type: none"> • Providing secretariat support and policy support to the Ministerial Advisory Council on water matters. Also involves the planning, organisational and financial arrangements in relation to Water Advisory Council Meetings.

Subproduct Code	Subproduct Designation	Description
PD720	Other water industry reforms	<ul style="list-style-type: none"> • DIPNR's responses to government reforms, and proposed reforms, to the water industry. This primarily covers Council of Australian Governments (COAG) and other government initiated structural reforms. Department-initiated reforms are also dealt with here. For example, commercialisation policies establishing clear management and reporting arrangements, the corporatisation of Areas and Districts and the Water Industry Review. This involves: <ul style="list-style-type: none"> ➢ All work associated with providing advice and information to water industry reviews and the clear separation of policy and standard setting functions from operational funding, and also the broad, non-specific planning of implementation strategies, policy and changes that arise from reviews. Note: If the work, for example planning, is of a specific nature which relates to an activity in another sub-program such as water licensing, that work should be included under the product concerned. ➢ All work associated with the broad planning for implementation of the Council of Australian Governments (COAG) and Hilmer recommendations that deal with national competition policy that deal with river and groundwater issues. Note: If planning is related to an identifiable program activity the work should be included there. • Work associated with developing DIPNR's position in relation to pricing of department products and services and for submissions and other inputs to IPART policy reform on water pricing.

Bulk Water Pricing Valleys

Valley	Description	DIPNR Region
Regulated Rivers		
Border	Border Rivers including the Severn, the Macintyre and Dumaresq rivers down to Mungindi	Barwon
Gwydir	Gwydir River and Gwydir Wetlands, Mehi river, Gil Gil Creek and Moomin Creek to the junction with the Barwon River	Barwon
Namoi	Namoi River to Peel River and Pian Creek to Barwon River	Barwon
Peel	Peel River to junction with Namoi River	Barwon
Lachlan	Lachlan and Belubula River to the Murrumbidgee River junction	Central West
Macquarie	Macquarie River, the Cudgegong and Bogen rivers to junction with Darling River	Central West
Murray	Murray River including the Darling River below Menindee	Murray
Murrumbidgee	Murrumbidgee River to junction with Murray River, including Yanco, Colombo and Billabong Creeks and Tumut River	Murrumbidgee
North Coast	Regulated flows for Iron Pot and Eden Creeks	North Coast
Hunter	Hunter River, including Patterson River and Glennies Creek	Hunter
South Coast	Brogo River Catchment	Sydney/South Coast
Unregulated Rivers		
Border	Unregulated rivers in the Border Rivers Catchment	Barwon
Gwydir	Unregulated rivers in the Gwydir River Catchment	Barwon
Namoi	Unregulated rivers in the Namoi River Catchment	Barwon
Peel	Unregulated rivers in the Peel River Catchment	Barwon
Lachlan	Unregulated rivers in the Lachlan River Catchment	Central West
Macquarie	Unregulated rivers in the Macquarie, Castlereagh and Bogan River Catchments	Central West
Far West	Barwon-Darling from Mungindi to Menindee including Bogan River below Murrumbidgee Road, and those rivers west of Barwon-Darling River which originate in Queensland and minor unregulated rivers in the Western Division not in other valleys	Far West
Murray	Unregulated rivers in the Murray River Catchment, including Billabong Creek	Murray
Murrumbidgee	Unregulated rivers in the Murrumbidgee River Catchment	Murrumbidgee
North Coast	Unregulated rivers east of the Great Dividing Range from Queensland to the Hastings River Catchment	North Coast
Hunter	Unregulated rivers in the Hunter Region, including the Manning, Karuah and Williams Rivers	Hunter
South Coast	Shoalhaven, Woronora, Warragamba and Hawkesbury/Nepean River Catchments, River Lake Illawarra, Sydney City including Georges River and Port Jackson, Clyde, Moruya, Tuross, Towamba and Bega River Catchments, NSW portions of Genoa and Snowy River Catchments	Sydney/South Coast

Valleys	Description	DLWC Region
Groundwater		
Border	Largely riverine aquifers in the Border Rivers Catchments including the Border Rivers Alluvium, the Inverell Basalt and the Great Artesian Basin	Barwon
Gwydir	Largely riverine aquifers in the Gwydir River Catchment including the Lower Gwydir Alluvium and the Great Artesian Basin	Barwon
Namoi	Largely riverine aquifers in the Namoi River Catchment including the Upper and Lower Namoi Alluvium, the Great Artesian Basin and the Gunnedah Basin	Barwon
Peel	Largely riverine aquifers in the Peel River Catchment including the Peel Valley Alluvium and Fractured Rock	Barwon
Lachlan	Largely riverine aquifers in the Lachlan River Catchment including the Upper and Lower Lachlan Alluvium, Belubula Valley Alluvium, the Great Artesian Basin, Young Granite, Orange Basalt and the Central West Fractured Rocks	Central West
Macquarie	Largely riverine aquifers in the Macquarie, Castlereagh and Bogan River Catchments including the Upper and Lower Macquarie Alluvium, the Cudgegon Valley Alluvium, the Collaburrangundry Talbragar Valley, the Great Artesian Basin, Mudgee and Molong Limestone	Central West
Far West	The Great Artesian Basin Aquifer and minor aquifers in the Western Division	Central West
Murray	Aquifers in the Murray River Catchment	Murray
Murrumbidgee	Aquifers in the Murrumbidgee River Catchment including the Lower Murrumbidgee Alluvium, Mid Murrumbidgee Alluvium and the Billabong Creek Alluvium	Murrumbidgee
North Coast	Aquifers east of the Great Dividing Range from Queensland to the Hastings River Catchment including the Richmond River Alluvium, Richmond Coastal Sandbeds, Coffs Harbour Coastal Sands and Alluvium, Alstonville Basalt, Dorrigo Basalt, Clarence Moreton Basin, Hastings Coastal Sands, Hastings River Alluvium, Macleay River Alluvium, Bellinger Coastal Sandbeds and Viney Creek Alluvium	North Coast
Hunter	Aquifers in the Hunter Region, including the Manning and Karuah River Catchments including Tomago-Tomaree Sandbeds, Stuarts Points and Tributaries Alluvium, the Pages River Alluvium, Golburn River Alluvium, Mangrove Mountain Sandstone and Wollombi Brook Alluvium	Hunter
South Coast	Aquifers east of the Great Dividing Range from the NSW central coast to Victoria including Botany Sandbeds, Bega River Alluvium, Sydney Basin, Coxs River Sandstone and Fractured Rock, Blue Mountains Richmond Sandstone, Araluen Alluvium and Maroota Tertiary Sands	Sydney/South Coast

Appendix 2

Water Usage Information

Regulated Rivers

Table 1 shows for regulated rivers actual water usage from 2001/02 to 2003/04 and water usage under different water availability scenarios and forecast usage patterns for 2004/05 and 2005/06.

Table 1: Regulated River Water Usage 2001/02 to 2005/06

Valley	2001/02	2002/03	2003/04	2004/05		2005/06		
	Actual Usage (GL)	Actual Usage (GL)	Actual Usage (GL)	Minimum probable under drought (GL)	Less than average rainfall (GL)	Less than average rainfall (GL)	Historical average (1997/98 - 2003/04) (GL)	Long term extraction limit (GL)
Border	191	137	100	160	200	200	172	200
Gwydir	450	228	159	180	230	230	357	392
Namoi (incl Peel)	281	215	82	140	200	200	225	238
Lachlan	442	238	35	50	150	150	300	305
Macquarie	564	376	167	60	180	180	386	392
Murray	2,237	927	1,240	500	900	900	1,699	1,948
Murrumbidgee	2,274	1,765	1,600	1,100	1,500	1,500	2,198	1,925
North Coast	1.1	2.9	1.4	1.4	1.4	1.4	1.6	1.6
Hunter	105	169	133	80	80	80	121	217
South Coast	5	9	8	5	5	5	7	7

Unregulated Rivers

Table 2 shows for unregulated rivers current irrigation area, and licence numbers and water usage information for town water supply agencies, industrial and recreational users in 2000/01. In addition, it shows the valley conversion factor used to convert irrigation area to volumetric entitlement for purposes of charging on a volume of entitlement basis.

Table 2: Unregulated River Water Usage & Other Information

Valley	Irrigation Area (Ha)	Valley Average conversion factor (Factor)	Town, Industry, Recreation Licences (No.)	Water Usage for Town, Industry, Recreation 2000/01 (ML)
Border	7,794	3.20	30	750
Gwydir	10,816	3.20	10	250
Namoi (incl Peel)	21,750	3.20	25	600
Lachlan	6,179	4.40	29	22,000
Macquarie	29,335	3.00	68	51,000
Far West	36,988	6.50	19	3,700
Murray	12,277	2.50	27	2,500
Murrumbidgee	24,699	2.50	41	16,000
North Coast	33,053	3.30	114	90,000
Hunter	26,322	4.40	76	60,000
South Coast	31,195	4.50	253	120,000
Total	200,048		627	365,200

Groundwater

Table 3 shows actual water usage for groundwater management areas from 1999/00 to 2003/04

Table 3: Groundwater Management Areas Water Usage

Description	Groundwater Management Areas Water Usage				
	1999/00	2000/01	2001/02	2002/03	2003/04
	(ML)	(ML)	(ML)	(ML)	(ML)
Namoi					
Lower Namoi Groundwater	48,243	49,463	73,593	160,808	101,308
Upper Namoi(U/S Narrabri)	92,295	97,742	120,916	174,892	92,311
Peel Valley	6,475	7,624	9,965	11,269	7,959
Gunnedah Basin	107	147	125	0	35
Total Namoi	147,120	154,976	204,599	346,969	201,613
Murrumbidgee					
Lower Murrumbidgee (D/S Narrandera)	248,417	233,211	326,270	382,250	290,593
Mid Murrumbidgee (U/S Narrandera)	1,459	2,957	19,426	33,675	7,650
Total Murrumbidgee	249,876	236,168	345,696	415,925	298,243
Gwydir					
Lower Gwydir (D/S Gravesend)	6,343	15,108	28,151	71,526	37,436
Total Gwydir	6,343	15,108	28,151	71,526	37,436
Macquarie					
Lower Macquarie (D/S Narromine)	28,014	21,302	30,966	54,520	43,118
Upper Macquarie (U/S Narromine)	5,322	2,590	6,843	14,755	11,521
Cudgegong Valley	1,830	2,593	1,227	5,324	1,595
Oxley Basin	1,436	2,605	2,617	4,925	0
Total Macquarie	36,602	29,089	41,654	79,525	56,235
Lachlan					
Upper Lachlan (U/S Lake Cargelligo)	9,891	13,897	17,141	43,553	43,012
Lower Lachlan (D/S Lake Cargelligo)	34,741	50,068	78,036	122,800	128,682
Belubula Valley	495	551	1,267	1,075	756
Young Granite	276	233	393	2,410	269
Total Lachlan	45,403	64,749	96,837	169,838	172,720
Murray					
Billabong Creek (U/S Mahonga)	427	544	565	915	965
Upper Murray (U/S Corowa)	2,551	2,591	5,126	10,266	7,870
Lower Murray (D/S Corowa)	23,153	54,599	73,490	135,354	23,757
Total Murray	26,131	57,735	79,181	146,535	32,592
Border Rivers					
Border Rivers					
Total Border Rivers	30	3,210	4,521	7,196	7,126
Total All Areas	511,504	561,034	800,639	1,237,514	805,964

Appendix 3

Bulk Water User Costs

Table 1 shows total (WRM plus water delivery) bulk water user costs, WRM user costs and the share of WRM to total bulk water user costs in 2001/02.

Table 1: Bulk Water and WRM User Costs 2001/02 (2001/02 \$)

Valley	Regulated Rivers Bulk Water User Costs			Unregulated Rivers Bulk Water User Costs			Groundwater Bulk Water User Costs			All Water Sources User Costs		
	Total Costs (\$'000)	WRM Costs (\$'000)	WRM Share of Total Costs	Total Costs (\$'000)	WRM Costs (\$'000)	WRM Share of Total Costs	Total Costs (\$'000)	WRM Costs (\$'000)	WRM Share of Total Costs	Total Costs (\$'000)	WRM Costs (\$'000)	WRM Share of Total Costs
Border	1,889	676	36%	200	199	100%	130	130	100%	2,218	1005	45%
Gwydir	3,326	818	25%	127	127	100%	323	323	100%	3,776	1,268	34%
Namoi	3,443	846	25%	460	460	100%	1,453	1,453	100%	5,356	2,759	52%
Peel	806	139	17%	65	65	100%	336	336	100%	1,208	540	45%
Lachlan	4,639	934	20%	390	389	100%	740	740	100%	5,769	2,063	36%
Macquarie	3,954	785	20%	589	582	99%	811	811	100%	5,354	2178	41%
Far West	-	-	-	1,288	1,207	94%	1,177	1,177	100%	2,465	2,384	97%
Murray	11,384	2,722	24%	254	253	100%	809	809	100%	12,446	3,784	30%
Murrumbidgee	9,030	2,108	23%	438	428	98%	1,531	1,531	100%	10,999	4,067	37%
North Coast	466	77	17%	2,544	2,525	99%	507	507	100%	3,517	3,109	88%
Hunter	4,162	1,388	33%	1,124	1,122	100%	568	568	100%	5,853	3,078	53%
South Coast	422	69	16%	2,778	2,765	100%	850	850	100%	4,049	3,684	91%
All Valleys	43,520	10,562	24%	10,255	10,121	99%	9,235	9,235	100%	63,010	29,918	47%

Note

- Total bulk water costs and WRM costs allocated to users have been extracted from the Cost Tables in Appendix 10 of IPART's 2001 determination.
- Unregulated river WRM user costs exclude capex charges on unregulated river structures.
- Groundwater WRM user costs include capex charges for depreciation on groundwater monitoring bores.

Appendix 4

WRM Costs

WRM Operating Costs

Table 1 shows indicative estimates of WRM operating costs in 2003/04, 2004/05 and 2005/06.

Table 1: Indicative WRM Operating Costs 2003/04 to 2005/06 (Nominal \$)

Valley	Estimated WRM Operating Costs 2003/04				Estimated WRM Operating Costs 2004/05				Estimated WRM Operating Costs 2005/06			
	Regulated Rivers	Unregulated Rivers	Groundwater	Total	Regulated Rivers	Unregulated Rivers	Groundwater	Total	Regulated Rivers	Unregulated Rivers	Groundwater	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Border	1,308	134	177	1,619	1,227	137	178	1,542	1,264	143	184	1,590
Gwydir	1,516	195	691	2,402	1,365	198	811	2,374	1,406	206	818	2,429
Namoi	1,554	274	1,287	3,115	1,295	279	1,554	3,129	1,339	286	1,569	3,195
Peel	535	138	180	853	466	131	272	869	494	138	279	910
Lachlan	1,690	591	880	3,161	1,521	420	997	2,938	1,673	441	1,021	3,136
Macquarie	1,421	626	796	2,843	1,246	595	829	2,670	1,262	633	862	2,756
Far West	0	1,601	442	2,043	0	1,765	490	2,255	0	1,763	493	2,256
Murray	6,091	263	420	6,774	6,014	257	421	6,692	6,128	262	430	6,820
Murrumbidgee	3,254	736	556	4,545	2,896	644	681	4,221	2,967	650	695	4,312
North Coast	260	3,809	638	4,707	238	3,980	666	4,884	248	4,088	683	5,019
Hunter	1,898	1,306	478	3,683	1,703	1,344	513	3,560	1,874	1,361	527	3,762
South Coast	261	7,114	491	7,866	234	7,378	847	8,459	256	7,617	1,010	8,883
Total	19,786	16,788	7,037	43,612	18,204	17,130	8,259	43,593	18,910	17,588	8,570	45,068

WRM Capital Projects Expenditure

Table 2 shows details of capex on WRM capital projects from 2004/05 to 2007/08 for which funding is being made available.

Table 2: Capex on WRM Capital Projects 2004/05 to 2007/08

	WRM Capital Project	2004/05	2005/06	2006/07	2007/08
		\$'000	\$'000	\$'000	\$'000
1.	Metering & data collection systems on unregulated rivers & groundwater	730	730	730	730
2.	Integrated monitoring of environmental flows (IMEF) on regulated & unregulated rivers	950	1,040	910	905
3.	Groundwater monitoring network for CMAs & WSPs	879	2,000	2,500	2,500
4.	Corporate water and ecological databases	500	500	-	-
Total		3,059	4,270	4,140	4,135

1. Metering & data collection systems

Enhanced monitoring (metering) of water extraction from unregulated rivers and groundwater is required to implement DIPNR's water extraction monitoring policy and WSPs. IPART also expects DIPNR to implement volumetric billing on unregulated rivers. Capex includes:

- facilitating meter installation and calibration
- enhanced communication and data collection/archiving systems
- audit and compliance work

2. IMEF

The IMEF program monitors the ecological benefits of environmental flow rules implemented under the water reforms in the major regulated rivers and the Barwon-Darling River. Although conceived before the WMA, the IMEF has been factored into the State Water Management Outcomes Plan (SWMOP) and WSPs to assess the ecological effectiveness of changed water regimes. Currently, the IMEF is the key performance indicator for the regulated river WSPs to monitor the ecological benefits of the environmental water provisions of the WSPs.

The funding will ensure the IMEF program can adequately address compliance with monitoring requirements of existing regulated river WSPs, five future regulated river WSPs and unregulated river WSPs. Future year's capital costs are based on average capital costs from all participating regions in the current IMEF program, but have been scaled down to the smaller geographical area to be covered by future WSPs.

3. Groundwater monitoring network for WSPs and extension of surveillance and salinity network

An enhanced groundwater monitoring bore network is required to provide appropriate surveillance for WSPs and to advise CMAs on investment strategies. Funding will incorporate capex for the network, which includes the construction of new State-owned bores and the purchase of metering instruments. The highest priorities are the Murray/Murrumbidgee aquifers (\$0.879M).

4. Integrated corporate water and ecological databases

DIPNR currently manages separate database systems for surface water, groundwater and water quality information. It is therefore in the interests of DIPNR and other stakeholders to manage this data in an integrated way, using similar products and database managers where possible. DIPNR also has State responsibility for management of data collected from aquatic environmental monitoring. This project will integrate DIPNR's database systems management and allow improved reporting and internet data availability. DIPNR currently collects biological data from aquatic environments for a wide range of projects, such as IMEF, but there is a need for a corporate database to store the information generated from these projects. This will enable data to be accessed and disseminated to users or made available to the community via the internet. Development capex for the corporate database includes:

- database development
- internet development
- implementation

Appendix 5

WMA Consents

WMA Consents for which Transaction Fees are payable from 1 July 2004

Consent	Category	Purpose	Term
Access licence			
Access licence (right to share of available water in specified water source)	Regulated river general security	For taking of water from regulated rivers (most common authority)	Perpetuity
	Regulated river high security	For taking of water from regulated rivers - water available in all but severe droughts	Perpetuity
	Unregulated river (including research and aboriginal cultural)	For taking of water from unregulated rivers	Perpetuity
	Supplementary	For taking of opportunistic water - lowest priority - first to be cut back	Term set by water sharing plan
	Runoff harvesting	For taking of water from large farm dams	Perpetuity
	Floodplain harvesting	For taking of water flowing across floodplain	Perpetuity
	Aquifer	For taking of water from groundwater	Perpetuity
	Domestic and stock	For taking of water from any water source for stock and domestic purposes only (equal highest priority)	Continues until purpose ceases
	Local water utility	For taking of water from any water source for town water supply purposes only (equal highest priority)	Continues until purpose ceases
Approval			
Water management works approval	Water supply works	To construct or use pumps, bores, dams, etc	Up to 10 years with rollover
	Combined works	To construct or use combined water supply, flood work and drainage work	Up to 10 years with rollover
Water use approval	Water use	For use of water for specified purpose at specified location	Up to 10 years with rollover
Combined water supply works and water use approval	Combined water supply works and water use	Applies where combined approvals required	Up to 10 years with rollover

Transaction Fees on WMA Consents
From 1 July 2004

Transaction		DIPNR Fees	
		Surface Water	Groundwater
Access Licences			
s61	Issue access licence	\$60	\$48
s67(2)	Amend conditions	\$60	\$48
s68	Revoke discretionary conditions	\$60	\$48
Access Licence Dealings			
s71 M	Transfer ownership of access licence	\$nil	\$nil
s71N	Term transfer of access licence	\$nil	\$nil
s71 O	Convert category	\$60	\$48
s71 P	Consolidation	\$60	\$48
s71 P	Subdivision	\$nil	\$nil
s71 Q	Assign share component	\$250	\$250
s71 R	Amend share component	\$250	\$250
s71 S	Amend extraction component	\$250	\$250
s71 T	Assign water allocation	\$25 + \$1/ML up to max \$75	\$200
s71 U	Interstate transfer in/out	\$250	na
s71 V	Assign water allocation interstate	\$25 + \$1/ML up to max \$75	na
s71 W	Change nominated water supply works	\$250	\$250
s83	Register interests	\$nil	\$nil
Water Supply Works Approval			
Issue approval for diversion for domestic purposes		\$60	\$nil
Issue approval for diversion for non domestic purposes		\$113 upwards (pump table)	\$nil
Issue approval for storage for domestic purposes		\$95	na
Issue approval for storage for non domestic purposes		\$117	na
Issue approval for structure (eg barrage)		\$117	na
Issue approval for artesian bore		na	\$48
Issue approval for non artesian bore		na	\$151
Change conditions (alter, extend or add to approval)		As for issue of approval	As for issue of approval
Extend approval term		As for issue of approval	As for issue of approval
Water Use Approval			
Issue approval for irrigation		\$113 upwards (area table)	\$113 upwards (area table)
Issue approval for town water supply		\$95	\$95
Change conditions (alter, extend or add to approval)		As for issue of approval	As for issue of approval
Extend approval term		As for issue of approval	As for issue of approval
Combined Water Supply Works and Use Approval			
Issue combined approval		Greater of works and use approval issue fee	Greater of works and use approval issue fee
Extend combined approval term		Greater of works and use approval issue fee	Greater of works and use approval issue fee

Further details concerning application of the above fees are as follows:

1. Surface Water access licences include Regulated River, Unregulated River, Floodplain Harvesting, Run off Harvesting, Local Water Utility and Domestic & Stock Access Licences. Groundwater access licences include Aquifer Access Licences.
2. Regulated River Access Licences - include General Security, High Security and Supplementary Access Licences.
3. Domestic & Stock Access Licences - WMA s71Q, s71R, s71S, s71T, s71U, s71V & s71W transactions not allowed.
4. Local Water Utility Access Licences - WMA s71O, s71Q, s71R, s71S & s71U transactions not allowed.
5. Supplementary Access Licences - WMA s71O transactions not allowed.
6. WMA s71R share component amended by specifying different water management area or water source.
7. Where multiple dealings on access licences are combined on a single application, the highest dealing fee is payable.

Details of fees (cont):

8. Where multiple types of approvals are made on one approval, the highest approval fee is payable.
9. Pump table for works approval - based on pump capacity table in *Water Act 1912*.
10. Fee for extension of term of works approval for surface water diversion for non domestic purposes is \$113.
11. Exempt purpose work approvals are charged same fees as *Water Act 1912* permits (for irrigation up to 2 ha and for a limited range of works/purposes): up to 3 months \$6; 3-6 months \$14; 6-9 months \$21; 9 months-2 yrs \$29.
12. Fees are not charged for Aboriginal Cultural Access Licences.
13. Fees are not charged for non artesian bore extraction water supply works approvals for stock & domestic rights.
14. Fees are payable in full on application to DIPNR to execute the transaction.
15. Separate fees for registration, searches and copying of Access Licence Register are payable to Land & Property Information.
16. Area table for use approval - based on area proposed to be irrigated, corresponding to authorised area in *Water Act 1912* area table.
17. Fee for extension of term of use approval for irrigation is \$113.
18. na - not applicable.

Appendix 6

Service Level Agreements for Bulk Water Service Provision

Introduction

At this juncture, DIPNR, SWC and the CMAs are the key agencies for which SLAs concerned with provision of bulk water services are suitable.

DIPNR will establish SLAs with CMAs where it is decided that CMAs are to undertake WRM activities on behalf of DIPNR.

Key bulk water SLAs between DIPNR and SWC involve:

- services provided by DIPNR, as part of its WRM function, to SWC for which income is received by DIPNR; and
- services received by DIPNR from SWC for provision of WRM services for which expenditure is incurred by DIPNR.

Details of these SLAs with SWC are provided below.

Income Received from WRM Services - Hydrometric Service Agreement

DIPNR operates and maintains some 800 river gauging stations, including 300 on regulated and 500 on unregulated rivers throughout NSW. Gauging stations provide operational streamflow (hydrometric) data for the WRM and water delivery SWC functions.

A SLA has been established for hydrometric services supplied by DIPNR to SWC for its regulated river operations. Under the SLA, DIPNR undertakes to supply surface water quantity data to SWC within agreed reliability standards. DIPNR will review continuation of this arrangement from 2006, after which it is intended the cost of the services will be recovered directly from water users through WRM charges.

The contracted fee for service under the SLA is based on full cost recovery, being the expenditure necessary to operate and maintain the gauging stations, subject to meeting the agreed standards of service specified in the SLA. For 2004/05, the total contract fee is estimated to be \$4.3M.

Income received under the SLA is offset against the specific WRM subproduct expenditure in establishing the cost base for recovery by way of WRM charges. The subproduct concerned is PA100 'Surface Water Quantity Data Collection & Archiving' (refer Appendix 1). The WRM cost estimates for 2003/04, 2004/05 and 2005/06 in this submission have been reduced by estimates of income received under the SLA.

Gauging stations are not currently capitalised primarily due to the difficulties in monitoring the number of and movements in the various items of component equipment throughout the State. A management plan has been developed to optimise the allocation and utilisation of gauging stations. The plan will also provide the necessary data to monitor and control the distribution of equipment and allow for inclusion in DIPNR's assets register. This will be reviewed and reported on in the medium term submission.

Expenditure for Provision of WRM Services - Metering & Billing Agreement

SWC provides metering and customer billing services on all bulk water sources, including unregulated rivers and groundwater systems managed by DIPNR.

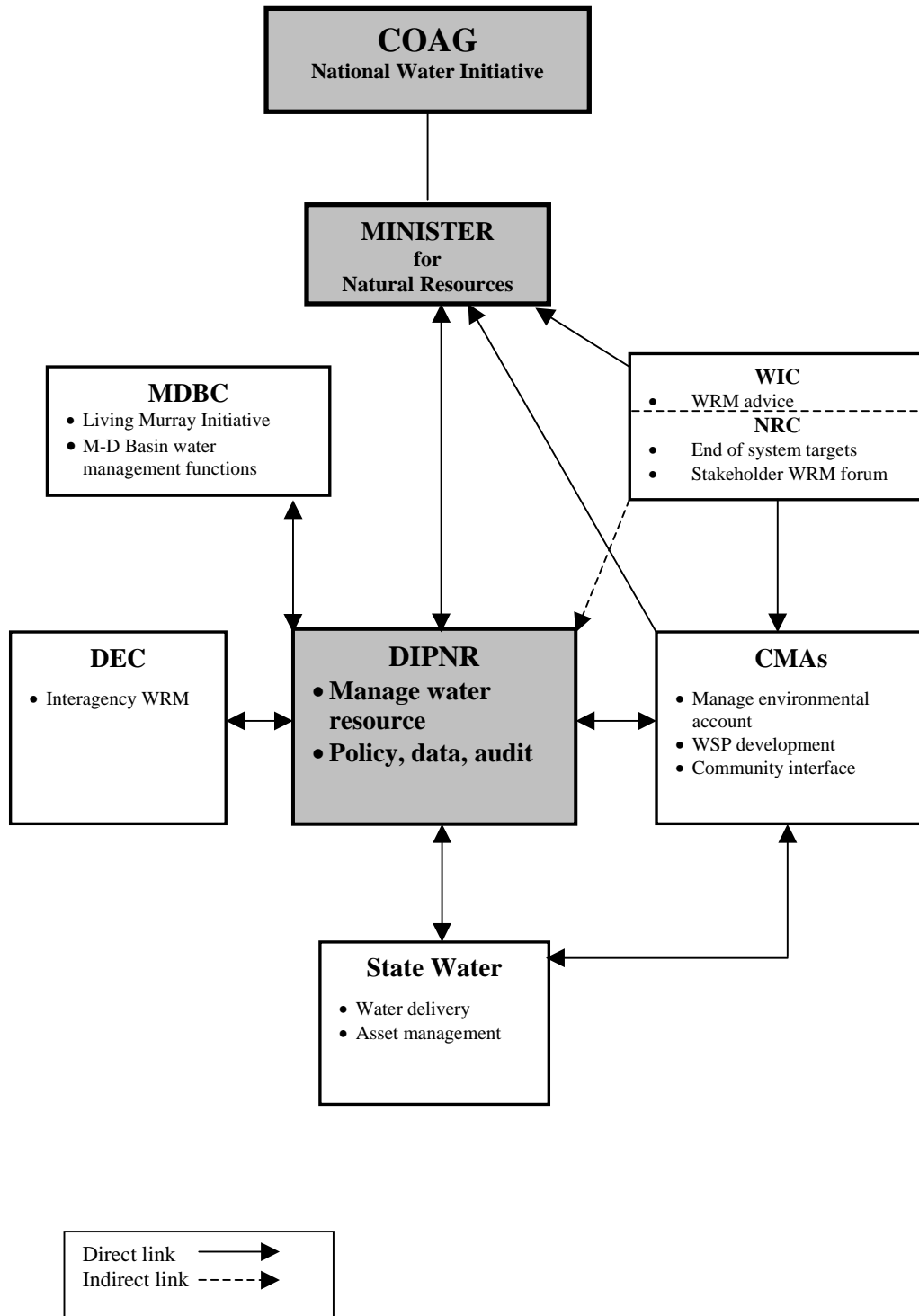
A SLA is being established for metering and billing services supplied by SWC to DIPNR. Under the SLA, SWC undertakes to meter and bill customers on unregulated rivers and groundwater to agreed standards. The fee for the service is being negotiated between DIPNR and SWC.

For 2004/05, the total contract fee is estimated to be \$1,430,000, comprising \$530,000 for unregulated rivers and \$900,000 for groundwater. The costs are of a normal business nature, and therefore are fully recoverable from water users on an impactor pays basis under current cost sharing arrangements. The WRM cost estimates for 2004/05 and 2005/06 in this submission include the estimated cost of the SLA.

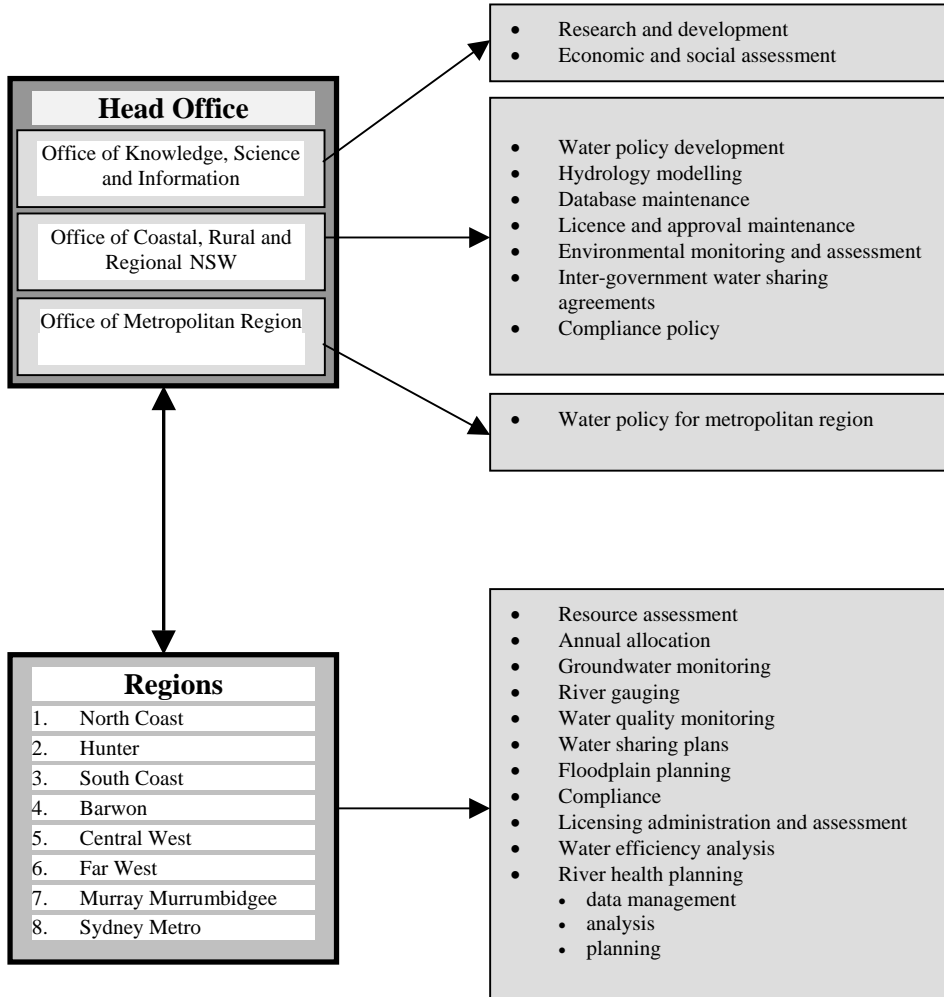
In future pricing submissions, expenditure under the SLA will be charged to the specific WRM sub-products to establish the cost base for recovery by way of WRM charges. The sub-products concerned are PC230 'Unregulated Water Metering & Billing' and PC250 'Groundwater Metering & Billing' (refer Appendix 1).

Appendix 7

Water Resource Management in NSW



Water Resource Management in DIPNR



Appendix 8

Contact Information

Any queries relating to this submission should be directed to the DIPNR officer in your region listed below.

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