

B10.3 WATER REFORM, VICTORIA

ASSESSMENT, June 1999	Page
Table of Contents	366
Table of abbreviations	368
B10.3.1 EXECUTIVE SUMMARY	371
B10.3.2 REFORM COMMITMENT: COST REFORM AND PRICING	375
<i>10.3.2.1 Cost Recovery</i>	375
<i>10.3.2.2 Consumption Based Pricing</i>	380
<i>10.3.2.3 Cross Subsidies</i>	382
<i>10.3.2.4 CSOs</i>	383
<i>10.3.2.5 Rates of Return</i>	384
<i>10.3.2.6 Rural Cost Recovery</i>	385
<i>10.3.2.7 New Rural Schemes</i>	385
<i>10.3.2.8 Devolution of Irrigation Management</i>	387
B10.3.3 REFORM COMMITMENT: INSTITUTIONAL REFORM	388
<i>10.3.3.1 Separation of Functions</i>	388
<i>10.3.3.2 Commercial Focus</i>	394
<i>10.3.3.3 Performance Monitoring and Best Practice</i>	395
B10.3.4 REFORM COMMITMENT: ALLOCATION AND TRADING	397
<i>10.3.4.1 Water Entitlements</i>	397
<i>10.3.4.2 Environmental Allocations</i>	404
<i>10.3.4.3 Water Trading</i>	411
B10.3.5 REFORM COMMITMENT: ENVIRONMENT AND WATER QUALITY	417
<i>10.3.5.1 Integrated Catchment Management</i>	417
<i>10.3.5.2 National Water Quality Management Strategy</i>	419

**B10.3.6 REFORM COMMITMENT: PUBLIC CONSULTATION,
EDUCATION** 423

ATTACHMENTS 425

Attachment 1: NMU Cost recovery

Attachment 2: Victorian regulatory profile

Attachment 3: Regulatory framework rural water services

Attachments 4-6: Programs for Implementation of COAG water resource reforms

Attachment 4: Bulk entitlement program

Attachment 5: Groundwater management plans

Attachment 6: Streamflow management plans and stressed rivers

Table of Abbreviations

ACCC	Australian Consumer and Competition Commission
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ANZECC	Australian and New Zealand Environment and Conservation Council
BE	Bulk Entitlement
BOO/BOOT	Build, Own, Operate and/or Transfer
CALP Act	Catchment and Land Protection Act 1994
CALPB	Catchment and Land Protection Board
CALPC	Catchment and Land Protection Council
CMA	Catchment Management Authority
COAG	Council of Australian Governments
CPA	Competition Policy Agreements
CSO	Community Service Obligation
DNRE	Department of Natural Resources and the Environment
EBIT	Earnings before Interest and Tax
EPA	Environment Protection Agency
GBE	Government Business Enterprise
GMA	Groundwater Management Area
GMP	Groundwater Management Plan
GSPA	Groundwater Supply Protection Area
IC	Implementation Committee
kL	Kilolitre (1000 L)
LRMC	Long Run Marginal Cost
MoU	Memorandum of Understanding
MDBC	Murray Darling Basin Commission

ML	Megalitre (1000 kL)
MWC	Melbourne Water Corporation
NCC	National Competition Council
NERA	National Economic Research Associates
NHMRC	National Health and Medical Research Council
NMU	Non-metropolitan Urban Water Authority/Supplier
NTER	National Tax Equivalent Regime
NWQMS	National Water Quality Management Strategy
ORG	Office of the Regulator General
PAV	Permissible Annual Volume
RCS	Regional Catchment Strategy
REALM	Resource Allocation Model
RMP	Regional Management Plan
RRP	River Restoration Plan
RWA	Rural Water Authority
SCARM	Standing Committee on Agriculture and Resource Management
SEPP	State Environmental Protection Policies
SGC	State Groundwater Council
SMP	Stream Management Plan
SRP	Stressed Rivers Program
STER	State Tax Equivalent Regime
TER	Tax Equivalent Regime
TUL	Take and use licence
VWIA	Victorian Water Industry Association
WACC	Weighted Average Cost of Capital
WSAA	Water Services Association of Australia

WSA Water Services Agreement

WSC Water Services Committee

B10 Water Reform

B10.3 Victoria

B10.3.1 EXECUTIVE SUMMARY

This is an assessment of Victoria's performance against the strategic framework for water reform. The assessment provides an overview of the reforms implemented and measurement of the reforms against specific commitments in the strategic framework.

The assessment considers both legislation and policy initiatives and the application of the initiatives in specific circumstances.

PROGRESS ON REFORMS

Cost reform and pricing

- Both non-metropolitan urban service providers (NMUs) and metropolitan service providers have substantially achieved full cost pricing. The Council notes that it will continue to monitor the implementation of a Tax Equivalent Regime for NMUs prior to the third tranche assessment.
- Metropolitan service providers and NMUs have implemented two part tariff regimes. The information provided as regards the method of calculation of each part of the NMU tariff is inconclusive.
- Metropolitan bulk water and wastewater is charged on a volumetric basis.
- Cross-subsidies have on the whole been removed from metropolitan and NMU pricing regimes.
- Victoria has a clearly defined and well targeted Community Service Obligation (CSO) regime.
- Metropolitan and NMU service providers have a positive real rate of return on assets as required by the strategic framework. However, the Council notes its concerns regarding the asset base used in the calculation of rates of return for metropolitan service providers.
- New investments are the subject of robust appraisals regarding economic viability and ecological sustainability.
- Although operational responsibility for the management of irrigation areas has not been devolved to irrigation customers, irrigators are involved in major aspects of decision making through Water Services Committees (WSCs). Having examined the structure of these schemes, the Council is satisfied that Victoria has met this aspect of the strategic framework.

The Council is satisfied that Victoria has generally met reform commitments in respect of cost reform and pricing.

Institutional reform

- The Council is not satisfied that the institutional arrangements for separation of water service provision from functions of standard setting, regulatory enforcement and water resource management in respect of either metropolitan service providers or NMUs is sufficient. As regards metropolitan service providers, the Council notes that the roles of the Treasurer and Treasury in setting prices of the monopoly service providers and additionally determining dividends and overseeing business planning and borrowings is problematic. The Council is of the view that the concerns regarding the current arrangements may be addressed through independent price regulation of metropolitan service providers.
- Similar considerations are relevant in respect of NMUs. The Minister for Agriculture and Resources appoints directors to respective authorities, controls prices charged by authorities, supervises business plans and the allocation of water to NMUs. Unlike metropolitan water suppliers, NMUs are not regulated by ORG in respect of their service provision. Independent price regulation and devolution of regulatory functions to another body would in large part resolve the Council's concerns.
- As regards Rural Water Authorities (RWAs), the Council is satisfied with arrangements for separation of service provision functions from standard setting, resource management and regulatory matters. The Council in particular notes the roles of WSCs as regards setting of standards including price and delivery standards.
- The Council notes Victoria's commitment to further review of institutional arrangements in the water industry. Given this commitment the Council is of the view that second tranche commitments have been met and a path to resolving concerns has been identified.
- Metropolitan service providers conduct their businesses with a commercial focus.
- Victoria has met reform commitments concerning performance monitoring and benchmarking arrangements.

Allocations and trading

- The Council commends Victoria on its implementation of a comprehensive system of water entitlements backed by separation of water property rights from land title and a clear specification of entitlements in terms of volume, reliability or transferability. The Council is satisfied that the system meets the requirements of the strategic framework.
- Victoria has in place detailed procedures and policies that will permit allocations to be developed for the environment. The Council is also satisfied that the policies have regard to relevant scientific information. The Council will monitor the continued implementation of processes to provide water to the environment prior to the third tranche assessment. The Council will carefully assess environmental outcomes including in particular the creation of water rights to satisfy the needs of the environment. Where outcomes do not satisfy environmental requirements the Council would look to evidence that mechanisms (such as trading rules and the

environment manager entering the water market) are used to improve environmental outcomes.

- The Council has agreed to the implementation program for allocations as outlined in Attachments 4, 5 and 6. In doing so, the Council notes that the implementation programs may change over time provided there is agreement between Victoria and the Council.
- Victoria has implemented a legislative and regulatory system for trading in water that permits trading in the spectrum of water rights. The Council notes that trading rules are being developed over time. In addition, Victorian authorities have supported the development of trade through providing a voluntary exchange that informs the water market. Interstate trade is developing carefully and the Council notes that the present trading project is being reviewed. The Council will continue to monitor the development of trading rules prior to the third tranche assessment.

The Council is satisfied that Victoria has met its reform commitments concerning allocations and trading.

Environment and water quality

- Victoria has in place comprehensive integrated resource management structures, policies and practices to satisfy the strategic framework.
- Victoria has made significant progress in implementing NWQMS Guidelines. The Council will continue to monitor this matter prior to the third tranche assessment.

The Council is satisfied that Victoria has met its commitments in respect of this aspect of the framework.

Public education and consultation

- Victoria has generally undertaken extensive public consultation and education regarding water reform; the Council is satisfied that this reform commitment has been met.
- The Council notes in its preliminary view that service providers are not appropriate public education suppliers on matters such as water conservation. The Council will continue to review this matter prior to the third tranche assessment.

ASSESSMENT

The Council is of the view that, on the whole, Victoria has met major reform commitments for the purposes of the second tranche. The Council has been impressed with the progress of many reform initiatives in Victoria.

The Council has now built up a considerable amount of information concerning Victorian Water Reform. Matters of concern have been noted and these and the remaining aspects of the strategic framework will closely scrutinised over the period prior to 30 June 2001.

B10.3.2 REFORM COMMITMENT: COST REFORM AND PRICING

Major Urbans and Non-Metropolitan Urbans

10.3.2.1 Drawing on the advice of the Expert Group and complying with the ARMCANZ full cost recovery guidelines, jurisdictions are to implement full cost recovery.

Water businesses must price between a floor price which allows for the continuing commercial viability of the system and a ceiling price which incorporates asset values and a rate of return but does not include monopoly profits:

- the floor price includes provision for future asset refurbishment or replacement using an annuity approach where service delivery is to be maintained; and
- the ceiling price includes provision for asset consumption and cost of capital calculated using a weighted average cost of capital (WACC).

Within the band, a water business should not recover more than operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes (TERs), the interest costs on debt, and dividends (if any) set at a level that reflects commercial realities and simulates a competitive market outcome.

The level of revenue should be based on efficient resource pricing and business costs. In determining prices, community service obligations (CSOs), contributed assets, the opening value of assets, externalities including resource management costs, and TERs should be transparent. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.

Victorian Arrangements

Metropolitan Background

Victoria's metropolitan area has a bulk water and wastewater service provider (Melbourne Water Corporation) and three retail providers CityWest Water, South East Water and Yarra Valley Water. In total, these providers supply water and wastewater services to in excess of 3.5 million people, with about 1.3 million properties serviced.¹⁷⁷

Melbourne previously had a system where property value based rates accounted for 70 percent of revenues. In effect, this meant that average prices for water (per kL) ranged from 65c for some large industrial users to \$35 for commercial offices in the CBD. This gave rise to large cross-subsidies between customers. Commercial and industrial customers had a "free water allowance" incorporated into their property-based service charges, although water used in excess of the allowance was charged at a uniform volumetric rate of 65c per kL. There was no sewage disposal charge for non-domestics. Government organisations were also exempt from water charges.

¹⁷⁷ WSAA Facts '98.

Disaggregation of the three retailers (to become South East Water, City West Water and Yarra Valley Water) from Melbourne Water (which became the supplier of bulk water to the retailers) in 1995 had exposed pricing distortions.

In October 1997, Victoria instituted marginal cost pricing with residual revenue allocated such that each customer class contributes at least incremental costs but no more than stand alone costs. The reforms apply from 1 January 1998. In summary, the reforms included:

- abolition of water and sewerage property rates;
- introduction of fixed service charges for connected properties;
- introduction of differentiated service and usage charges for each retailer;
- significant increases in the sewage disposal charge and a small increase in the water usage charge;
- introduction of sewage disposal charges to the non-domestic sector;
- abolition of “free allowance” for non-domestic customers; and
- abolition of all legislated exemptions and introduction of a new CSO scheme of rebates for not-for-profit organisations.

Full Cost Recovery – the Upper Band

The principle issue in pricing for metropolitan areas is whether the prices charged to customers fall above the upper band of pricing.

Victoria has advised that prices for water services provided by metropolitan water authorities fall within a range bounded by the floor price and a ceiling price of either the by-pass price or the price where the sum of discounted cash flows equals the replacement cost. The Melbourne metropolitan retail businesses operate at the upper end of the band that is where economic value is close to replacement cost.

The Water Services Association of Australia annual performance data 1996-1997 (WSAA Facts) and the comments from Treasury indicate that prior to reform, Melbourne has a history of high water bills by Australian standards and that this was not due to higher costs but higher profits before interest and tax, where the rate of return on assets in Melbourne was approximately double the industry average. The Council was advised that as a result of developments during the 1980s, substantial dividends (above the current benchmark of 65 per cent pre-tax profit) were required whilst the metropolitan providers had to internally pay for a substantial capital program. This led to high debt, with the four businesses holding \$2.9 billion in debt by mid 1997.

Victoria has advised that prices for the wholesale and retail water businesses are no longer above the ceiling price. Victoria stated that industry revenues were close to or even above the upper bound, but that the price reforms brought it below the upper bound. The evidence suggested as proof of this claim is a test of reasonableness by comparing water rates of return with the gas industry. Victoria estimates earnings before interest and tax (EBIT) for 1998-1999 of \$500 million. This represents a reduction of

\$490 million on the 1996-1997 result (\$200 million on the 1997-1998 result of \$700 million), the last financial year prior to the price reforms.

When applied to the industry's latest estimate of \$10 billion for the depreciated replacement cost of assets, this EBIT results in a rate of return of 5 per cent (the Australia wide urban industry average for 1996-1997 was 4.9 per cent). Victoria argued that even if the industry underestimated the extent to which the system could be optimised and this was reduced by a further 20 per cent, the forecast rate of return would rise to around 6.25 percent. Victoria therefore concluded that, on the basis of a test of reasonableness, the rates of return generated would be within the band. Furthermore, Victoria's budget papers show that dividend receipts from the metropolitan providers are planned to fall from \$250 million to \$113 million.

However, there is no independent verification of the amount used to represent stand alone costs. The proxy for stand alone costs is the optimised depreciated replacement cost of current assets. As no optimised values were calculated, the rate of optimisation experienced in the Coliban Water exercise was taken as a benchmark for optimisation purposes. This led to a reduction of 10 per cent.

WACC values of 8 per cent and 6 per cent have been used to calculate the upper bound based on recent determinations made by the Office of the Regulator General (ORG) and the Australian Competition and Consumer Commission (ACCC) on Victoria's gas access arrangements. Some preliminary work on the metropolitan providers also suggests that an appropriate WACC is around 7 to 8 per cent.

NMUs

NMUs in Victoria are comprised of fifteen Water Authorities;

Barwon, Central Gippsland, Central Highlands, Coliban, East Gippsland, Glenelg, Goulburn Valley, Grampians, Lower Murray, North East, Portland Coast, South Gippsland, South West, Western, Westernport.

According to estimates for 1998-1999 (summaries of information from the 1997-1998 NMU corporate plans were provided to the Council) NMUs serve about 1.1 million Victorians with customer populations from 10 000 (Westernport) and 210 000 (Barwon). The total asset value is \$3.8 billion and total revenue \$335 million.

Full Cost Recovery

Information provided by Victoria in relation to full cost recovery is in attachment 1.¹⁷⁸

As regards the valuation of assets, the *Request for Tender* Consultancy Brief (report due mid 1999) for asset valuation of the Victorian water industry noted that while NMUs had revalued assets using a replacement cost methodology, the Department of Finance policy had been interpreted in a variety of ways leading to inconsistencies in financial reporting.

¹⁷⁸ This additional information was provided to the Council on 17 June 1999.

Improvements from a consistent approach to asset valuation have been identified to include a degree of consistency of depreciation rates between NMUs for like or similar assets and ensuring that assets are fairly valued to reflect the net present value of income streams. This would reduce fluctuations in operating results between authorities as a result of inconsistencies in asset valuation methods and variations in depreciation rates.

The aim of the process is to develop a robust and consistent basis for valuing infrastructure assets for financial reporting and dividend determination across the Victorian water industry.

Taxation

Although the NMUs are State owned enterprises, they are not subjected to tax equivalent payments (Urban Water Review).

Victoria has noted that in 1998 the Government commissioned a consultancy to investigate the implications of introducing a State based TER for NMUs and Rural Water Authorities (RWA). The consultancy concluded that all NMUs and RWAs would be in a tax loss position for a number of years and there would be no significant medium term price impacts.

The response also noted that Victoria is awaiting the release of the National TER (NTER) operating principles before it decides whether to implement a State TER (STER) or proceed to the NTER.

Dividends

A Victorian Water Industry Association report¹⁷⁹ (the VWIA report) indicates that all NMUs paid a dividend to government, ranging from \$8 000 (Central Highlands) to \$2 194 000 (Central Gippsland). The level of dividend in 1996-1997 for NMUs was \$24/residential assessment (total of \$20.68 million). In February 1998 the Minister and Treasurer advised that NMUs should move on to a commercial dividend over a period of three years in the following manner:

- 1997-1998 The lower of \$24/residential assessment or 50 per cent of 1996-1997 adjusted profit (expected to be approximately \$16 million)
- 1998-1999 30-50 per cent of 1997-1998 profits with a benchmark of 50 per cent
- 1999-2000 A benchmark of 65 per cent of the previous years pre-tax profit, with adjustments to the benchmark subject to the Treasurer's and Minister's approval

The VWIA report made recommendations to the Treasurer and the Minister for Agriculture to assist in setting a framework for the implementation of Government Business Enterprise dividend policy (the policy). Included in the recommendations was that:

¹⁷⁹ Prepared by the Dividend Policy Implementation Task Group, 30 June 1998.

1. the application of the policy needs to take account of the diverse nature of NMUs, their historical difference with metropolitan urban water suppliers and present obligations. A transition period for the implementation of the policy until 2000-2001 was required, particularly given obligations arising from the \$410 million subsidy paid to NMUs in 1997;
2. a consistent method of asset valuation should be employed by NMUs;
3. Boards respond to dividend proposals by the Minister and Treasurer by providing information concerning relevant financial, political, social and regional development factors that should be taken into account; and
4. consultations should take place to try and determine an agreed position.

Other information

Victoria has advised that NMUs recover natural resource management costs attributable to and incurred by water businesses.

In further information provided to the Council¹⁸⁰, it was noted that NMUs earnings before interest and taxation are estimated to be \$54.7 million for 1998-1999. When this is applied to latest estimates of the value of assets (\$3.33 billion optimised depreciation cost) a rate of return of 2 per cent is achieved.

The further information also noted that NMUs have had their assets revalued by independent consultants and the Auditor-General has agreed to these valuations. Although there may be some inconsistencies in relation to the asset valuations, the audited and independent revalued figures present the best available information at this time. When used to estimate the upper bound, it was stated that the figures can be used to assess consistency with the strategic framework.

Council Comment

Metropolitans

The Council is largely satisfied that metropolitan water pricing meets the requirements for full cost recovery. That is, metropolitan pricing is within the band prescribed by the COAG full cost recovery guidelines for water pricing. Certainly, the underlying principles are consistent with the strategic framework direction.

However, the Council does have concerns regarding the failure to independently value assets, and notes that this reflects on levels of depreciation, return on capital, levels of dividends and therefore the pricing of water. The Council notes that where prices are set by an independent regulator, issues concerning the components of pricing, asset valuation and possible conflicts of interest can be addressed.

NMUs

The information provided indicates that all NMUs:

¹⁸⁰ Letter to Council dated 17 June 1999.

1. meet operating, maintenance and administration costs;
2. meet interest costs;
3. pay a dividend to government; and
4. cover the cost of externalities.

NMUs do not pay federal taxes and are not subject to tax equivalent regimes. The Council notes the advice on the process proposed by Victoria to resolve this issue. The Council considers this to be a matter of some importance and would expect finalisation prior to the third tranche assessment.

While the asset valuations of NMUs have been agreed to by the Auditor-General. Asset valuation will be further refined by the finalisation of a consistent methodology and uniform application of the methodology in valuing assets.

The Council again notes that where prices are set by an independent regulator, issues concerning the components of pricing, asset valuation and possible conflicts of interest can be addressed. The Council considers these matters further in the section *Institutional Reform*.

For the purposes of the second tranche, the Council is satisfied that NMUs have met reform commitments. The Council will continue to monitor the implementation of full cost recovery prior to the third tranche assessment focusing in particular on issues of asset valuation and the institution of a TER.

10.3.2.2 Jurisdictions must implement consumption based pricing. Two part tariffs are to be put in place by 1998 where cost effective. Metropolitan bulk water and wastewater suppliers should charge on a volumetric basis.

Jurisdictions are to apply two part tariffs to surface and groundwater comprising a fixed cost of access component and a volumetric cost component.

Metropolitan bulk water and wastewater suppliers must establish external charges to include a volumetric component or two part tariff with an emphasis on the volumetric component to recover costs (for example, long run marginal costs) and earn a positive real rate of return.

Victorian arrangements

Metropolitan

Melbourne Water delivers water to the three retailers through a two-part tariff arrangement. The second tranche report¹⁸¹ noted that a cost allocation model is used to allocate Melbourne Water's overall revenue requirement between the three retail companies which is broadly in proportion of assets used to service each retailer and the operating expenditure attributable to each retailer. A long run marginal cost calculation

¹⁸¹ March 1999, page 70.

is used to determine the volumetric component of the tariffs paid by each retailer and a fixed charge makes up the residual revenue requirement.

The three retail companies charge customers two part tariffs for water and Victoria has advised that the volumetric component is based on long run marginal cost. Melbourne has no groundwater provision. In relation to wastewater, the major urbans have introduced a sewage disposal charge for business and other non-domestic customers.

The volumetric component of water charges for the metropolitan providers has increased to about 70 per cent of the average bill providing an incentive for water conservation and associated environmental benefits.

NMUs

In respect of water provision by each of the NMUs, the information provided indicates:

- all NMUs charge a two part tariff for water consisting of a service charge (between \$54-\$280) and volume charge at either a flat rate per kL (between 30-80c per kL) or an increasing rate per kL above certain volumes (for example, Lower Murray) or in certain seasons (Westernport). None of the tariffs include a free allocation with the service charge;
- NMUs recover 28-80 per cent of their residential water charges by volumetric tariffs, and 11 of the 15 recover more than 50 per cent;¹⁸² and
- as a percentage of total water tariff revenue, NMUs recover 29.6-76.3 per cent of tariffs via usage charges. Total usage charges account for 61 per cent of total tariff revenue.¹⁸³

The Council has not been provided with the particular reasons for the various two part tariffs, and has no information as to either the costs of providing access or long run marginal costs. Victoria's stated intention is that at least 50 per cent of tariff be raised by a volumetric component.

The Council has been provided with a case-study on the application of guidelines for identifying and measuring cross-subsidies to an NMU.¹⁸⁴ The study applies methodology developed in the Queensland water industry to the service provider. The study concludes that although there is some price discrimination between customer classes, there are no customer groups paying less than the long run marginal cost of water supply.

Victoria advised that NMUs have now progressed to fixed, or in some cases volumetric, sewerage charges.¹⁸⁵ Trade wastewater tariffs vary between the NMUs, although

¹⁸² Based on a 300 kL residential consumption and using the estimates provided.

¹⁸³ Second tranche report.

¹⁸⁴ Marsden Jacobs, February 1999.

¹⁸⁵ Second tranche report.

common features include fixed and/or volumetric charges.¹⁸⁶ The information provided indicates that none of the tariffs are based on property valuations.

Council Comment

Metropolitan

The Council is satisfied that both bulk and retail metropolitan water supply is charged on a consumption basis. Acknowledging the reservations regarding the manner in which assets are priced, the Council is satisfied that the volumetric component recovers costs and provides a water conservation incentive.

The Council is also satisfied that bulk wastewater charges are consistent with the strategic framework commitments.

NMUs

Information provided to the Council confirms that all water supply services are charged using a two part tariff, comprising access and volumetric components. The extent that they reflect the cost of access and long run marginal costs respectively cannot be taken further without additional information, although the Council notes the finding of the case study for one of the service providers.

Wastewater charging varies between NMUs and includes full volumetric charging for all customers, access fee and volumetric tariffs, partial volumetric and qualitative tariffs, volumetric charging based on presumed usage and fixed tariffs only.

The Council is satisfied that NMU reform has in large part met the reform commitment.

10.3.2.3 Jurisdictions are to remove cross subsidies, with any remaining cross subsidies made transparent (published).

A cross subsidy exists where a customer pays less than the long run marginal cost and this is being paid for by other customers. An economic measure which looks at cross subsidies outside of a Baumol band, which sets prices between incremental and stand alone cost, is consistent with the COAG objective of achieving economically efficient water usage, pricing and investment outcomes. To achieve the COAG objective, potential cross-subsidies must be made transparent by ensuring the cost of providing water services to customers at less than long run marginal costs is met:

- as a subsidy, a grant or CSO; or
- from a source other than other customer classes.

Metropolitan

Prior to reform, NERA had estimated cross-subsidies between domestic and non-domestic customers of \$70 million per annum under the previous property rates based system. Under the old system, average unit water charges ranged from \$0 to \$100 per

¹⁸⁶ The Council has reviewed information from NMU service providers.

kL. By implication, some customers (notably government) paid less than incremental cost, and some customers paid more than stand-alone cost.

As a result of the October 1997 reforms, Victoria has removed the majority of cross subsidies and improved pricing equity, through the abolition of property-value based charges replaced by fixed service charges as set by two part tariffs for all customers with the volumetric component equal to long run marginal cost (LRMC). Furthermore, Victorian non-residential customers have benefited through significant reductions in non-domestic water bills with the average bill falling by \$2 000 per annum.

With the abolition of property-value based pricing, there is less variation in average prices paid by different customers, and hence it is unlikely customers are paying above stand-alone costs of supply.

NMUs

The two-part tariffs have been previously canvassed. Victoria has advised that a consultancy by Marsden Jacob examining cross-subsidies in three NMUs is overdue and that the results of the consultancy will be forwarded to the Council when received. The Council has outlined the findings of one of the studies thusfar completed.

The issues to be addressed include: revenue level, two part tariff, infrastructure (developer) charges, CSO's, subsidies and grants, balance and consistency of revenue sources and the test of cross-subsidies.

Council Comment

Metropolitans

The Council is satisfied that with the abolition of property value based charging and the setting of the volumetric component on the basis of long run marginal costs that cross-subsidies for the metropolitan sector have been substantially removed and that Victoria meets this aspect of the Framework.

NMUs

The Council is satisfied that with the abolition of property value based charging and the setting of the volumetric component cross-subsidies have been substantially reduced. Until the report is finalised, and the level of remaining cross-subsidies between customers is known, it is difficult to take this matter further. The Council will continue to monitor this matter prior to the third tranche assessment.

10.3.2.4 Where service deliverers are required to provide water services to classes of customers at less than full cost, this must be fully disclosed and, ideally, be paid to the service deliverer as a community service obligation.

All CSOs and subsidies must be clearly defined and transparent. The departure from the general principle of full cost recovery must be explained. The Council will not make its own assessment of the adequacy of the justification of any individual CSO or cross-subsidy, but will examine CSOs and cross-subsidies in totality to ensure they do not undermine the overall policy objectives of the strategic framework for the efficient and sustainable reform of the Australian water industry.

Metropolitan

In the following circumstances services are delivered at less than full cost:

- a rebate of up to \$260 on fixed water and sewerage charges for not-for-profit organisations (education, hospitals and nursing care, religion, charities, sporting activities and war veterans' organisations) and low-income earners. Rebates are explicit on the customer's bills. The water authorities are reimbursed for the rebates by the Government, and the Government, not the authorities, determine eligibility for the rebate;
- pensioner concessions of up to 50 per cent of service and usage charges;
- water Relief Grant Scheme, administered by the Department of Health, provides one-off assistance to eligible customers for temporary financial problems; and
- water for fire-fighting is provided for no charge.

The Government funds these CSOs, which are published by the respective retail companies.

NMUs

Water rebates, concessions, grants and services for fire fighting are delivered at less than full cost as identified above. NMUs report all subsidies in their annual reports.

A breakdown of the distribution of the \$410 million subsidy for the NMUs announced in 1997 (to improve water quality and upgrade waste management systems) has also been publicly released.

Council Comment

Victoria has clearly defined and well targeted CSOs for pensioner rebates, and targeted rebates for the fixed access component for not-for-profit organisations such as schools, churches, hospitals, charity bodies and sporting facilities.

In addition, the one off subsidy to NMUs was clearly defined, explicit and transparent.

10.3.2.5 Publicly owned supply organisations should aim to earn a real rate of return on the written down replacement cost of assets for urban water and wastewater.

Jurisdictions are to have achieved progress toward a positive real rate of return on assets used in the provision of all urban water supply and wastewater services.

Council Comment

Metropolitans

The financial performance of metropolitan water providers has been canvassed above. Having regard to the reservations noted above regarding price setting, in particular the costing of assets, the Council is otherwise satisfied that the Melbourne metropolitans are

all earning positive real rates of return on the written down replacement cost of assets for urban water and wastewater.

NMUs

The financial performance of NMUs has been canvassed above. The Council notes the advice that a rate of return of 2 per cent on assets. The Council is satisfied that, for the purposes of the second tranche, this reform commitment has been met.

Rural Water Supply and Irrigation Services

10.3.2.6 Where charges do not currently cover the costs of supplying water to users (excluding private withdrawals of groundwater),¹⁸⁷ jurisdictions are to progressively review charges and costs so that they comply with the principle of full cost recovery with any subsidies made transparent.

Jurisdictions should provide a brief status report, consistent with advice provided to ARMCANZ, on progress towards implementation of pricing and cost recovery principles for rural services.

The Council will assess jurisdictions as having complied with the pricing principles applicable to rural water supply where jurisdictions:

- have achieved full cost recovery; or
- have established a price path to achieve full cost recovery beyond 2001 with transitional CSOs made transparent; or
- for the schemes where full cost recovery is unlikely to be achieved in the long term, that the CSO required to support the scheme is transparent; and
- cross-subsidies have been made transparent.

Victorian arrangements

The second tranche report noted that Rural Water Authorities will recover operational, maintenance and administrative costs, finance charges and renewals annuities for all districts by 2001.

Council Comment

The Council notes the information provided. This matter will be further assessed prior to the third tranche assessment.

10.3.2.7 Jurisdictions are to conduct robust independent appraisal processes to determine economic viability and ecological sustainability prior to investment in

¹⁸⁷ Private withdrawals of groundwater include private providers and small co-operatives who extract water from bores for private use, but does not include large co-operative arrangements (including trusts) that act as wholesalers supplying water as a commercial venture and that are subject to control or directions by government or receive substantial government funding.

new rural schemes, existing schemes and dam construction. Jurisdictions are to assess the impact on the environment of river systems before harvesting water.

Policies and procedures must be in place to robustly demonstrate economic viability and ecological sustainability of new investments in rural schemes prior to development. The economic and environmental assessment of new investment must be opened to public scrutiny.

Jurisdictions must demonstrate a strong economic justification where new investment is subsidised.

Victorian arrangements

The *Water Act 1989* (the Water Act) provides that a bulk entitlement (BE)¹⁸⁸ and Take and Use Licences (TULs) application or amendment will not be approved unless it is considered that it is unlikely that the BE will have a significant adverse effect on the environment, including the riverine and riparian environment, the need to protect the environment and relevant conservation and management plans (sections 40, 42, 44, 53). The second tranche report notes that since bulk entitlement orders are affected by changes to rural schemes and dam construction, any new investment must prove its ecological sustainability before a new bulk entitlement or the necessary amendments to the existing bulk entitlement will be approved.

The *Investment Evaluation Policy and Guidelines* (1996) and *Infrastructure Investment Policy for Victoria* (1994) require that all new investments must be economically viable and earn rates of return which lie between the floor and ceiling prices required by the strategic framework.

The Council was provided with a copy of the *Deakin Irrigation Development Pre-Feasibility Study* (July 1998), a publicly available document which examined the potential for developing large areas of the Mallee dryland for irrigated horticulture. The study notes that the water for the development of the scheme was expected to become available on the transferable Water Entitlement market at a rate of between 2 000 ML per year and 20 000 ML per year for the next twenty years.

The study examines issues such as the effect of the development on groundwater tables, the method of land acquisition, projected returns on the basis of various crop and yield scenarios and various methods of supplying water to the proposed area. The study concludes that the proposal appears to be feasible and recommends further consideration of issues such as groundwater impacts, the availability of water on the water markets, an economic analysis indicating costs and benefits to the wider community and land capability surveys.

Council Comment

The Council is satisfied that the Water Act, other initiatives in the rural water industry (outlined in full later) and relevant Treasury policies and procedures ensure the appraisal of both the economic viability and ecological sustainability of new investments in rural

¹⁸⁸ The *Allocations and Trading* section of this report deals with BEs.

schemes. The Deakin study shows a clear example of the application of these principles. The study is publicly available.

The Council notes advice provided by Victoria¹⁸⁹ that there has been no direct water infrastructure development for some time.

The Council is satisfied that this aspect of the strategic framework has been achieved.

10.3.2.8 Jurisdictions are to devolve operational responsibility for the management of irrigation areas to local bodies subject to appropriate regulatory frameworks.

All impediments to devolution must be removed. Jurisdictions must demonstrate that they are encouraging and supporting devolution of responsibility, including through education and training.

Victorian arrangements

The second tranche report notes the implementation of Water Services Committees (WSC) for all RWAs to negotiate district Corporate Plans and to provide local input into the management of irrigation areas; WSCs are further discussed under *Institutional Separation*. The second tranche report notes that WSC members represent customers whose voting rights are weighted in proportion to water rights. The Water Services Agreement negotiated by the RWAs and WSCs covers pricing, service availability, performance standards for each service delivered and mutual expectations. WSCs provide a vital communication link between authorities and customers. WSCs produce newsletters, hold information sessions, perform customer service reviews, produce irrigation handbooks and provide induction programs for new customers.

Council Comment

The Council notes that rather than devolving operational responsibility for management of irrigation areas, Victoria has involved water customers in decision making processes and negotiates contracts with the customers through WSCs. The approach differs from solutions such as corporatisation, privatisation or mutualisation.

The Council is satisfied, however, that local water consumers are intimately involved in the setting of performance standards, prices and other matters of concern to irrigators. Further, the Council is satisfied that the approach involves customers in sharing the operational responsibility of irrigation areas. Although the regulatory framework may be more prescriptive than other approaches, there is encouragement and support for WSCs and their members.

The Council is satisfied that the reforms are within the spirit of the strategic framework reforms, and that Victoria has satisfactorily met this aspect of the framework.

¹⁸⁹ Meeting, 18 February 1999.

B10.3.3 REFORM COMMITMENT: INSTITUTIONAL REFORM

Institutional Role Separation

10.3.3.1 As far as possible the roles of water resource management, standard setting and regulatory enforcement and service provision should be separated institutionally by 1998.

The NCC will look for jurisdictions, at a minimum, to separate service provision from regulation, water resource management and standard setting. Jurisdictions will need to demonstrate adequate separation of roles to minimise conflicts of interest.

Victorian arrangements

Generally

Attached to the assessment is the *Policy and Regulatory Framework*¹⁹⁰ (attachment 2) explaining in diagrammatic form the present institutional framework in Victoria.

Metropolitan

In 1995, Melbourne Water was horizontally separated into a wholesaler – Melbourne Water, three retailers - City West Water, South East Water, and Yarra Valley Water, and Melbourne Parkways and Waterways.

Melbourne Water as wholesaler supplies bulk water and wastewater services to the three retail companies and controls headworks and major wastewater treatment plants.

Information provided to the Council in July 1998 identified the following Ministerial responsibilities in relation to the metropolitan water industry:

- Minister for Agriculture and Resources: service provision (via the Melbourne Water Corporation and three retailers), water resource and asset management, drinking water quality (through licence conditions);
- Treasurer: appoints Directors to Boards, submits pricing to Cabinet (pricing is set by the Governor in Council) and monitors business performance;
- Minister for Finance: responsible for ORG, which sets minimum standards for customer service (for example customer contracts, compliance with licence conditions concerning water quality management);
- Minister for Health: drinking water quality; and
- Minister for Conservation and the Environment: Environment Protection Agency (EPA) which sets environmental standards such as effluent discharge standards.

¹⁹⁰ Urban Water Review, 1996.

The second tranche report notes that the service provision is provided by state owned corporations with an explicit commercial focus. Bulk water is supplied following negotiation between Melbourne Water and the three corporations. As regards the roles of the Treasurer in regulating both metropolitan pricing and overseeing the financial performance of the businesses, it is noted that these activities are separated in terms of departmental arrangements.

The Council was advised that service provision was the responsibility of the metropolitan water businesses, although key standards of customer service, drinking water quality and the environment are set elsewhere. In addition, the retailers consult with their respective customer consultative committees on customer matters, and to set the terms of the customer contract within the framework of the ORG. The same Minister sets both metropolitan pricing and oversees the financial performance of the water businesses.

Retail businesses are limited in the following ways in their operations by the present arrangements:

- the Government has the ability to regulate wholesale prices, although current prices were negotiated by the businesses and are spelt out in agreements between Melbourne Water Corporation and the retailers;
- TERs and dividends accounting for over 40 per cent of operating profit are calculated by Treasury; and
- borrowing costs are not negotiable.

NMUs

NMUs are statutory authorities under the *Water Act 1989* (the Act). The Minister for Natural Resources/Minister for Agriculture and Resources (referred to in this section as the Minister) appoints directors to the NMUs following consideration of a shortlist prepared by a selections panel appointed by the Minister (see *Expressions of Interest, Directors (Board Membership) of Regional Urban Water Authorities*).

The determination of dividends for NMUs has been explained above.

Functions of NMUs, provided for under the Act, include to provide, manage, operate and protect water supply systems (Part 8) and to provide, manage, and operate systems for conveyance, treatment and disposal of sewage and trade waste (Part 9).

NMUs are required to prepare business plans and submit them to the Minister. The Minister may direct that the plans be varied after consultation with the relevant NMU authority (including, for example, a pricing veto), and authorities are not permitted to make major deviations from the plan or key decisions unless the decision is submitted to the Minister who may issue guidelines (section 247).

In addition, the Minister may give directions to an Authority in relation to the performance of any of its functions and the exercise of any of its powers (section 307).

Authorities are permitted to borrow at rates of interest approved by the Minister and on terms and conditions imposed by the Minister. The Minister has the power to set the

limit of financial accommodation permitted in any year (section 254). Authorities set tariffs by resolution (section 260). Individual tariffs are reviewable by the Victorian Civil and Administrative Tribunal (section 266).

The Department of Natural Resources and the Environment, the Minister's Department, also has additional roles in administering the Act, setting NMU policy, resource allocation, reform implementation and water licences.

The second tranche report notes that while the Minister is responsible for both service delivery and water resource management, these activities are separated in terms of departmental arrangements, and there is significant involvement from the Department of Treasury and Finance. The Department of Human Services and the EPA are also responsible for quality regulation. These arrangements ensure no conflicts of interest exist.

The Department of Human Services is responsible for monitoring drinking water quality and the Environmental Protection Agency monitors effluent standards.

The Council received information concerning the refusal of some NMUs to permit customers to opt out of compulsory connection to reticulated sewerage systems and instead use waste sewerage systems that use alternative waste water treatment systems endorsed by health and environmental regulators. The matter was investigated by the Victorian Competitive Neutrality Complaints Unit in July 1998, which recommended that '*the business and regulatory functions of water authorities should be separated to reduce perceptions that water authorities are exercising an unfair advantages over potential competitors*'.¹⁹¹ The Unit, while accepting that there was a strong case for separation of regulatory and commercial functions of NMUs, identified this matter as one of '*regulatory gap*'. It was noted that the Environmental Protection Agency established a working party to identify a body which could take on this role.

RWAs

The rural water authorities have been amalgamated into five Rural Water Authorities (RWAs) supplying irrigation, domestic and stock and other rural water services. Goulburn Murray is the largest RWA utilising some 70 per cent of Victoria's total water requirements. RWAs are statutory authorities under the *Water Act 1989*. RWAs are responsible in terms of policy settings to the Department of Natural Resources and the Environment (DNRE) which has the power of veto on pricing.

Water Services Committees

Water Services Committees (WSC) are integral to the service provision by RWAs. The Council was advised that these provide a degree of institutional separation in service provision. The functions of WSCs include: negotiation of a district corporate plan and water services agreement (WSA); prioritisation of local investment and replacement programs; involvement in local salinity management plans; and advising on service delivery issues. Issues covered in WSAs include pricing, service availability, performance standards and mutual expectations of customers and the RWA. Attached is

¹⁹¹ Letter, Jamie Carstairs, Dept. of Premier and Cabinet, 14/12/98.

a Regulatory framework for RWAs (attachment 3). The Council has been advised that each of the RWAs (excluding First Mildura Irrigation Trust, where the board members are elected) has WSCs in operation.

The Council was advised that although pricing of water to rural customers was set by the Minister for Agriculture and Resources or delegate, prices would not be signed-off until the relevant WSC had agreed to the price. Occasionally intervention had resulted in lower prices to customers. This process provided a degree of institutional separation through such features as consultation, joint decision making and transparency.

The Council was provided with the Customer Services Agreement between the Central Goulburn Area WSC and Goulburn Murray Rural Water Authority. The agreement provides for the expectations of both parties and provisions concerning irrigation water supply, surface drainage, diversion from surface drains and sub-surface drainage services, a water pricing, vermin and noxious weeds control and stock damage policies. The irrigation water supply schedule specifies such matters as delivery targets (including flow rates, water ordering, water quality and water transfers) tariff structures (two part tariff comprised of a fixed water allocation at agreed price component and variable sales water component), price (\$22.10 per ML), billing arrangements and asset management, replacement and maintenance programs.

Catchment Management Authorities (CMA)

The second tranche report notes the responsibility of CMAs to perform resource management duties, working closely with the RWAs to develop agreement on the management of the catchment.

Groundwater

The Victorian Groundwater Policy Framework provides for the following institutional arrangements and responsibilities:

- Minister for Agriculture and Resources: to ensure the resource is properly managed at a sustainable level including: assessment; allocation; establishment of Groundwater Supply Protections Areas (GSPA); and, qualification of rights during shortages;
- DNRE: policy, planning, regulation and management of water resources. Oversight of government expenditure;
- RWAs: provide retail level services including licensing, setting of prices and implementation of Groundwater Management Plans (GMP). RWAs are to develop performance indicators and benchmarks, establish consultative mechanisms and make publicly available information; and
- State Groundwater Council (SGC): policy advice.

Other information

Victoria has noted the following additional information concerning metropolitan and NMU arrangements:

- The responsibility for setting the level of metropolitan retail prices cannot be said to rest exclusively with the Treasurer. Prices are submitted to Cabinet and Governor in Council and documentation is signed off by the Minister for Natural Resources. In addition different parts of the Department of Treasury and Finance provide advice on the level of prices and the level of dividends.
- NMU Boards are skills based and neither the Minister nor DNRE are involved day to day operations. Other than legislative rights to determine appropriate methods of wastewater reticulation, NMUs perform no resource management (CMAs have this responsibility), standard setting or regulatory enforcement functions.
- Where conflicts exist departmental arrangements ensure that they are minimised. For example, the Minister for Natural Resources' responsibilities in relation to borrowing and interest rates have been or are being transferred to the Minister for Finance.
- Public health issues are regulated by the Department of Human Services. Environmental standards are regulated by the EPA.
- It is premature for the NMU sector to have independent price regulation applied when they are not producing drinking water that complies with health standards or effluent that complies with EPA licences.
- Memorandum of Understandings provide detailed lists of outputs required by NMUs after receiving significant capital contributions to upgrade drinking water quality and effluent treatment.

The Council was also provided with the direction by the Minister for Agriculture and Resources (29/6/98) requiring NMUs and RWAs to separately report the financial performance of retail and wholesale operations.

The Premier of Victoria has advised the President of the Council that Victoria will undertake a further review of the water industry's regulatory arrangements and it is expected that this will be completed prior to the third tranche assessment¹⁹².

Council Comment

The Council has a number of concerns regarding institutional arrangements in Victoria:

1. As regards metropolitan water providers, the Council is particularly concerned about the various roles of the Treasurer. The Treasurer, for example, appoints a Board of Directors, approves business plans, submits prices to Cabinet and sets dividends, and regulates the amount and terms of borrowings. There is no effective structural separation between price setting, dividend setting and price regulation and there is difficulty in obtaining independent verification of levels of full cost recovery (to ascertain that full cost recovery has not resulted from increases in asset values).

¹⁹² Letter dated 29 June 1999

NERA as consultants to the Victorian Government on water pricing reform stated that:

*Government is not as well placed to make efficient pricing decisions as market agents. The fact that pricing decisions, arguably the most important aspect of the retailer/customer relationship, are set elsewhere, also undermines the principle of having corporate, though Government-owned, enterprises, operating on a quasi-commercial basis at arms length from the State. The role of government should be limited to a regulatory pricing framework which limits the abuse of monopoly power.*¹⁹³
(p27)

One way of addressing these concerns would be a move to independent economic regulation by the ORG. This would also in large part address the reservations as regards pricing identified previously. It would make pricing decisions both more transparent and accountable.

2. The Council also has concerns regarding the various roles of the Minister for Agriculture and Resources, DNRE and NMUs and their respective water management functions. The Minister, for example, appoints directors to NMU boards, fixes dividends in consultation with the Treasurer, has oversight powers in respect of business plans including tariffs and may determine the amount of money that can be borrowed by the NMUs and the rate at which it can be borrowed. It is the Council's view that the Minister effectively controls or oversees all aspects of NMU service delivery. In addition, the Minister and his Department have responsibilities in relation to water resource allocation, including environmental allocations. The nature of the concerns with this arrangement mirror the concerns reflected for metropolitan providers;
3. In addition, the role of NMUs in respect of determining appropriate methods of wastewater reticulation, and then providing a monopoly service in respect of this function clearly exhibits a conflict between service provider and regulator;
4. It is difficult to see the NMU structure as consistent with the strategic framework requirements concerning separation of water service provision from functions of water resource management, standard setting and regulatory enforcement. At best it provides some dissolution of the various roles between the respective parties. The conflicts of interest, particularly for the Minister, but also for the NMUs as service providers, standard setters and partial regulators, are apparent; and
5. As regards RWAs, the conflicts of interest between service provision and other functions are addressed in large part by the following considerations:

¹⁹³ It is noted that this report is not endorsed by the State Government and has no status as government policy

- the implementation of WSCs that enter into agreements with RWAs concerning the provision of water and include significant consultation as regards pricing and other aspects of service delivery;
- WSCs are armed with relevant information to permit a meaningful negotiation prior to making agreements;
- ring-fencing of the wholesale and retail functions of RWAs provides further institutional separation and better information to WSCs;
- the Minister will generally not sign off on pricing recommendation of RWAs without agreement to pricing by the relevant WSCs; and
- CMAs perform resource management functions.

The contrast between this structure and the metropolitan/NMU structure is readily apparent.

The Council notes that these arrangements provide a substantial degree of separation, particularly as between service provision, standard setting and to some extent water resource management. The distinction between regulation and service provision has not, however, been clearly explained to the Council. The Council would expect that any review of institutional arrangements in Victoria should include an examination of the present arrangements for rural water to ensure that those structures are consistent with both the strategic framework and other arrangements.

The Council is of the view that institutional arrangements are not sufficient to meet framework requirements.

The Council notes Victoria's commitment to further review of institutional arrangements in the water industry. Given this commitment the Council accepts that second tranche commitments have been met and a path to resolving concerns has been identified.

10.3.3.2 Metropolitan service providers must have a commercial focus, whether achieved by contracting out, corporatisation, privatisation etcetera, to maximise efficiency of service delivery.

Incorporate appropriate structural and administrative responses to the CPA obligations, covering legislation review, competitive neutrality, structural reform.

Victorian arrangements

Metropolitan

Melbourne Water and the 3 retailer companies are all corporatised under the *State Owned Enterprises Act 1992*, and the 3 retailers come under the Corporations Law. Melbourne Water is a statutory corporation. All have skills-based boards and pay dividends and tax equivalents. Melbourne Water has a statutory charter to act in a commercial manner. The three metropolitan retail water companies supply water and wastewater services under exclusive operating licences that are overseen by the ORG. The three retailers compete with each other by comparison. The ORG collects data on

service delivery performance and publishes comparative reports that have been independently audited on an annual basis.

Other matters

Legislation Review: Victoria will undertake a review of all water related legislation, including the *Water Act 1989*, *Water Industry Act 1994*, *MMBW Act 1958*, and *Melbourne Water Corporation Act 1992*. The consultancy will commence early in 1999.

Implementation of Competitive Neutrality: The main provisions of Victoria's policy on application of competitive neutrality to water are to establish a TER covering income tax (including capital gains tax) and wholesales tax, payments of State and Local Government taxes and charges, and debt guarantee fees to be imposed as a financial accommodation levy to offset advantages to GBEs in obtaining cheap debt. Metropolitan service providers comply with competitive neutrality requirements.

Council Comment

With the previous reservations concerning institutional separation put to one side, the Council is satisfied that metropolitan water providers have a commercial focus to maximise efficient service delivery.

Performance Monitoring and Best Practice

10.3.3 ARMCANZ is to develop further comparisons of interagency performance with service providers seeking best practice.

Jurisdictions have established a national process to extend inter-agency comparisons and benchmarking. Benchmarking systems are to be put in place for the NMU and rural sectors, "WSAA Facts" is to be used for major urbans, and service providers are to participate.

The Council will accept compliance for the three sectors subject to the Productivity Commission confirming consistency with the Report of the Steering Committee on National Performance Monitoring of Government Trading Enterprises, "*Government Trading Enterprises Performance Indicators*" (Red Book). The Productivity Commission has already confirmed the consistency of "WSAA Facts" for the major urbans. The Council recognises the first reports for the NMU and rural sectors are likely to be a rough cut in the initial years.

Victorian arrangements

Barwon, Central Gippsland, Central Highlands, City West, Coliban, Melbourne, South East and Yarra Valley water businesses all participate in WSAA Facts.¹⁹⁴

WSAA Facts also compiles a benchmarking report for the Victorian Water Industry Association (VWIA) that includes all metropolitan and NMU water service providers.

¹⁹⁴ WSAA Facts 1998.

ORG publishes an annual report on information collected from metropolitan service providers in respect of licence conditions, the information being independently audited when being provided to ORG.

The second tranche report notes that Victoria is involved in the performance monitoring and benchmarking pilot study for RWAs being undertaken by Barraclough & Co for the High Level Steering Group.

Council Comment

The Council notes that it is aware of the participation of NMUs in the ARMCANZ performance monitoring project, being co-ordinated by WSAA. The Council is satisfied that Victoria participates in interagency benchmarking through WSAA facts, the VWIA report and participation in the pilot RWA benchmarking study. The Council will continue to monitor the development of these initiatives prior to the third tranche assessment. The Council is satisfied that Victoria has met its second tranche commitment for this aspect of the strategic framework.

B10.3.4 REFORM COMMITMENT: ALLOCATION AND TRADING

10.3.4.1 There must be comprehensive systems of water entitlements backed by separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality.

A 'comprehensive' system requires that a system of establishing water allocations which recognises both consumptive and environmental needs to be in place. The system must be applicable to both surface and groundwater.

The legislative and institutional framework to enable the determination of water entitlements and trading of those entitlements should be in place. The framework should also provide a better balance in water resource use including appropriate allocations to the environment as a legitimate user of water in order to enhance/restore the health of rivers. If legislation has not achieved final parliamentary passage, the Council will recognise progress towards achieving legislative change during its assessment of compliance.

Victorian arrangements

Bulk Entitlements

The *Water Act 1989* (the Act) provides that the Crown has the right to the use, flow and control of all water in a waterway¹⁹⁵ and all groundwater (section 7). The Act continues the private right to take water for domestic and stock use (section 8). The Act permits the granting of bulk entitlements (BE) by the Crown to water authorities and other specified users.

BEs include source entitlements (the right to harvest water directly from a waterway), delivery entitlements (the right to divert water from a regulated waterway operated by another Authority) and hybrid entitlements (such as the Murray BEs) which are adapted to take into account special circumstances.

The Bulk Entitlement Conversion Process (November 1995), a report prepared by DNRE (the conversion report), outlines the objectives of the BE program; these include clearly defining authorities' property rights to water and providing authorities' flexibility to manage within entitlements. The report notes that the BE program provides a basis for sharing limited water resources, protecting the entitlements of other users and protecting instream values. It facilitates water trading and the appropriate redistribution of water resources over time and allows specific entitlements for environmental purposes.

The Act provides for the conversion of existing entitlements to water to BEs (section 47). Victoria has advised that this process of conversion is the first of a two phase process to clarify water rights. The second phase involves the better specification

¹⁹⁵ Including a river, creek, streamwater, watercourse, natural channel into which water regularly flows (whether or not continuous), lake, lagoon, swamp, marsh etcetera: section 3.

of the rights of the environment and the rights of private diverters on unregulated waterways.

The conversion report notes the following general principles for specifying BEs:

- BEs are generally held by water authorities with a retail function;
- existing legal rights to water will be converted;
- the process of conversion of entitlements will not result in new resource commitments;
- total BEs for a basin will not exceed 100 per cent of the available resources at an agreed level of security;
- conversion should be fair to all claimants and give due consideration to the environment; and
- an open and participatory conversion process will be used.

The BE may specify matters such as:¹⁹⁶

- the means of quantifying the amount of water such as by volume, reference to the measure of flow at any point or reference to a share of flow or storage;
- various obligations including financial obligations and obligations of the storage operator and resource manager;
- whether and to what extent the water supply is transferable; and
- the protection of the environment including the riverine and riparian environment.

The conversion report outlines the process of defining a Rural Water Authority's (RWA) BE, which will contain an explicit list of irrigation retail entitlements and other commitments which the RWA must supply. Initially the entitlement will represent the sum of retail entitlements for all user group categories supplied by the RWA. Irrigation entitlements (allocations/security) are quantified using a simulated computer model incorporating existing irrigation infrastructure, operating rules, allocations policies and irrigation demands.

The conversion report also provides principles for defining BEs of urban water systems including: delivery entitlements from regulated waterways (including for example, daily and annual amounts of water to be extracted, supply security and financial obligations); delivery entitlements from RWAs; and, source entitlement from unregulated waterways (defining such matters as share of flow, storage capacity and limits on daily and annual amounts of water).

¹⁹⁶ Section 42, Water Act.

In order to manage environmental effects, each BE application is categorised in to one of three types depending on the potential environmental impact or impact on other water users:

- *Category 1* applications involving water entitlements in systems that are operating near capacity and environmental values and the interests of downstream users are not at risk. These can be converted without further consultation.
- *Category 2* applications where water supplies can be converted following confirmation with NRE and RWAs that existing and proposed operating arrangements are satisfactory.
- *Category 3* applications where water supplies cannot be converted without further assessment of the impact of higher extractions on flow regimes. This category is relevant where, for example, utilisation of resources at design intent will cause significant risk to downstream water user rights and/or environmental values.

Categorisation is made following the development of hydrological information for the BE Assessment Report.

The Council was provided with the Scientific Panel Environmental Flow Assessment of the sections of the Coliban and Campaspe Rivers, Bulk Entitlement Conversion Orders for Latrobe-Southern Rural (Latrobe order) and River Murray-Goulburn Murray Water (GMW order) (draft).

The Coliban and Campaspe Rivers Assessment assessed and made recommendations relating to the environmental health of the rivers and minimum flow requirements for specific reaches were developed.

The GMW order provides that all of GMW's entitlement to take water from the River Murray is converted to a bulk entitlement on the conditions set out in the order. The order sets out the BE, including definition of the "water available" and also the requirement to supply primary entitlements (domestic and stock allowances, take and use water licences (TUL), BEs to urban and other water authorities and the environment) to water users. GMW is required to propose and implement a metering program approved by the Minister responsible for the Act and report on matters such as the amount of water extracted and other specified particulars. The GMW order provides for financial arrangements concerning water storage and supply costs (operator costs) and the costs of the resource manager.

The Latrobe order also provides for the conversion of BEs and requires the supply of primary entitlements to licence holders. The order provides the authority with a share of capacity at particular reservoirs, a share of flows at specified points and minimum passing flows. The order requires the authority to agree on operational arrangements with the storage operator. The authority is required to propose a program to manage the environmental effects of harvesting water.

In addition, the Council was provided with '*Source Bulk Entitlements - Summary to June 1998*' which provides information concerning Source BEs granted to June 1998. The report provides a summary of the BE conversion process and notes that an Area Review Group was established in respect of each BE application which included the Flora,

Fauna and Fisheries manager, the Waterways unit, fisheries, flora and fauna expertise, the National Parks Service and RWAs (representing TULs).

The Act provides for applications for the grant of new BEs. In determining an application the Minister/Governor in Council/delegated person is to have regard to matters including:¹⁹⁷

- any report prepared by a panel convened to consider a BE entitlement;
- the existing and projected availability and quality of water in the area;
- any adverse effect that the allocation or use of water under the BE is likely to have on existing authorised water users, waterways or aquifers and the environment including the riverine and riparian environment;
- the need to protect the environment, including the riverine and riparian environment; and
- the approved management plan for any relevant groundwater supply protection areas.

BEs are recorded in a register of entitlements maintained by the Director-General.

Information provided by Victoria as regards the progress of BE conversions as at February 1999 indicates:

- for urban water systems, the BEs of three authorities (Southern Gippsland, Westernport and South West) are completed, six authorities' BEs are 90 per cent completed, three authorities are 50 per cent or more completed and the remaining two (including Melbourne Water) are less than 50 per cent. In respect of Melbourne Water, development of a regime of tradeable entitlements requires significant new reform initiatives;
- for Rural Water Authorities (RWA), Gippsland and Southern Rural RWA is 90-100 per cent completed on major river systems, GMW is 95-100 per cent completed on some systems (Goulburn, Murray and Campaspe Rivers) and 10-20 per cent on others (Ovens, Broken and Loddin Rivers), Sunraysia is 95 per cent completed and the Wimmera-Mallee RWA BEs are 10 per cent completed; and
- the present expectation is that the BE conversion process should be completed by the year 2002.

In addition, the second tranche report notes that the BE conversion program has reached the stage where flow sharing arrangements at approximately 70 per cent of diversions across the State have been negotiated and agreed with stakeholders'. The report provides completion and progression dates for the bulk entitlement process and advises that a new database will be completed and populated and basin accounts published by 1999.

¹⁹⁷ Section 40, Water Act.

Take and Use Water Licences

The Act also provides for TULs¹⁹⁸ and their transfer (permanent or temporary). TULs are described in the conversion report as '*a retail right to water*'. TULs can be converted into notional delivery BEs on regulated waterways. TULs on unregulated waterways are managed by such tools as performance contracts that specify resource commitments and Streamflow Management Plans (SMPs) for priority waterways (determined by scarcity, environmental values and other issues). SMPs include a description of the total resource commitments, trading rules, minimum flow sharing arrangements and consultative mechanisms.

Protection of the environment

The conversion report notes that water allocations need to take into account the ecological values of the State's water resources and that the BE process is designed to provide long term protection for existing aquatic values. Protection of environmental values occurs through:

- environmental impact assessment including: assessing environmental impacts of proposals to convert existing rights to water to BEs; assessing environmental impacts of TULs via SMPs; assessing the impacts of proposed new BEs or water developments; and
- providing environmental BEs by conversion of the environment's few existing legal rights to water to bulk entitlements and issuing new BEs for priority rivers following applications made by environmental managers.

The major advances to the management of environmental values identified in the conversion report include the setting of baselines, that future growth will occur via water trading rather than building new dams, the ability of environmental managers to participate in the water market to provide additional water to meet environmental needs and the development of guidelines to review the environmental implications of applications for new water developments.

Institutional arrangements

The Act provides¹⁹⁹ for the appointment of a system operator (operation of headworks/management of TULs) and resource manager (monitoring compliance with BE conditions, investigating and mediating disputes, preparing basin Water Accounts, supervising qualification of water rights during periods of water shortage, directing releases of water to maintain water quality, investigating and controlling significant unauthorised use of water) in respect of each BE.

Consultation

The conversion report notes that consultation is required with key stakeholders (for example the Victorian Farmers Federation) and regional groups involved in the

¹⁹⁸ The second tranche report notes that the power to issue TULs has been delegated to RWAs.

¹⁹⁹ Section 43A, Water Act.

conversion process to ensure that water authorities and other water users are confident that existing rights to water are being fairly converted.

An example of the consultation undertaken to progress allocation and trading of water (including BEs), *Sharing the Murray*, was provided to the Council. This document explains the challenges in managing finite resources, outlines needs for the environment, provides an explanation of the BE allocation system and the benefits and costs to users of water (including rural water users and the environment). Stakeholders are provided with the opportunity to make comment on the fairness of the proposal, matters not properly taken into account and any way in which the proposal could be improved.

Other water rights

The conversion report notes that other water rights are issued from BEs. For example, in irrigation districts, water authorities are required to make available to owners of irrigation holdings the amount of water for irrigation that is specified in the register in relation to that holding. Authorities are required to keep registers in irrigation districts showing all holdings of land in the district and the volume of water rights attached to the holdings. The register must be revised to reflect transfer of water rights.

Groundwater

The Water Act provides for groundwater management in the following manner:

- defining the rights of the Crown and individuals to groundwater;
- providing for BEs and TULs in respect of groundwater;
- providing for the management of groundwater via investigation and monitoring of groundwater supplies; and
- providing for the establishment of Groundwater Supply Protection Areas (GSPA) in appropriate circumstances.

The present *Victorian Groundwater Policy Framework* provides that the aims of groundwater management includes:

- encouraging the efficient and sustainable development of groundwater resources;
- equitable allocation of groundwater;
- encouraging the use of groundwater for high value development;
- production of groundwater management plans; and
- provision of allocation and pricing mechanisms to better integrate surface and groundwater resource management.

The policy notes that Groundwater Management Areas (GMAs) have been established in areas where the groundwater resource is developed or where there is potential for development. Permissible Annual Volumes (PAV) reflecting the optimum level of allocation for the sustainable yield of the aquifer have been set, and when allocations

reach 70 per cent a GSPA is established (Part 3, Division 3 of the Act). Groundwater management plans are developed via a consultative committee comprising mainly landholders/farmers and including all relevant interests. The plans address issues such as metering and monitoring, allocations and transfer arrangements and costs associated with implementing the plan. The relevant RWA is responsible for administering the plan.

The *Groundwater Management – Victorian Overview* paper notes that to date eleven GSPAs have been established, GMPs prepared for two of these and consultative mechanisms commenced in the remaining nine; all have a December 2001 target date for completion of GMPs.²⁰⁰ Five further applications to establish GSPAs are presently being (a decision is expected by December 1999),²⁰¹ with a further ten GSPAs to cover all areas in the State where allocation is greater than the PAV to be established in the next three years. Those areas where PAV exceeds 70 per cent will then be prioritised.

The conversion report provides that specification of groundwater BEs is to occur following specification of surface water BEs.

Council Comment

On the information provided to the Council, Victoria has implemented a comprehensive scheme for implementing a system of water entitlements. Attributes of the scheme include:

- a clear definition of the rights of the Crown to the State's water, and a clear separation of water rights from land title;
- a clear system of distributing those rights to users through BEs, TULs and water rights separate from land title;
- entitlements that specify in detail rights (including for example rights to specified volumes or flow of water) and responsibilities (such as financial and environmental responsibilities);
- entitlements that can be transferred by holders;
- classification of BE conversion applications according to the impact on the environment. This process provides for further assessment of the particular water supplies as required;
- a roll-out program for converting existing water rights into BEs with an estimated completion date of 2002 for all BE conversions; and
- provision for public education and consultation regarding the BE process and management of applications.

²⁰⁰ Second tranche report.

²⁰¹ Second tranche report.

The program outlined to the Council and evidenced in the various reports, policies and legislation is comprehensive in its coverage of the various regulated and unregulated surface water systems and groundwater supplies. It deals with the variety of existing rights, makes specific provision for the requirements of the environment and provides for timeframes in which the various processes are to occur.

10.3.4.2 Jurisdictions must develop allocations for the environment in determining allocations of water and should have regard to the relevant work of ARMCANZ and ANZECC.

Best available scientific information should be used and regard had to the inter-temporal and inter-spatial water needs of river systems and groundwater systems. Where river systems are overallocated or deemed stressed, there must be substantial progress by 1998 towards the development of arrangements to provide a better balance in usage and allocations for the environment.

Jurisdictions are to consider environmental contingency allocations, with a review of allocations five years after they have been initially determined.

Jurisdictions must demonstrate the establishment of a sustainable balance between the environment and other uses. There must be formal water provisions for surface and groundwater consistent with ARMCANZ/ANZECC "*National Principles for the Provision of Water for Ecosystems*".

Rights to water must be determined and clearly specified. Dormant rights must be reviewed as part of this process. When issuing new entitlements, jurisdictions must clarify environmental provisions and ensure there is provision for environmental allocations.

For the second tranche, jurisdictions should submit individual implementation programs, outlining a priority list of river systems and groundwater resources, including all river systems which have been over-allocated, or are deemed to be stressed and detailed implementation actions and dates for allocations and trading to the Council for agreement, and to Senior Officials for endorsement. This list is to be publicly available.

It is noted that for the third tranche, States and Territories will have to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocations to the environment in all river systems which have been over-allocated, or are deemed to be stressed. By 2005, allocations and trading must be substantially completed for all river systems and groundwater resources identified in the agreed and endorsed individual implementation programs.

Victorian arrangements

Environmental flow programs

As regards the environmental flow program, the Council was informed that the objective of the program is to provide water to maintain and, where possible, restore the environmental values of rivers and wetlands. The approach is staged to provide environmental water including:

- the BE conversion process;
- streamflow management plans (SMP);
- specific BEs for the environment.
- integrate management of stressed systems including stressed river plans;
- making effective use of environmental allocations; and
- the fish program.

The conversion report (outlined above) notes that the BE framework maintains current environmental values of rivers, allows for the reallocation of water for environmental purposes through market mechanisms and ensures that future water developments are subject to assessments that ensure that environmental requirements of river systems are met. The BE process, however, will not be reducing water allocations to current users to reallocate to environmental uses.

A summary of the BE process²⁰² as at June 1998 noted that of the seventy-three systems where BE allocation had occurred: 27 of the systems had current flow regimes sufficient to meet environmental requirements, and these had been codified in a BE; negotiation in 4 systems resulted in environmental BEs that met all environmental requirements; 30 systems (50 per cent) where BE conversion had taken place resulted in a '*current flow regime [which] does not meet environmental however improvements negotiated through BE process*'; a further 6 systems where the current flow regime did not meet environmental requirements and there was no improvement negotiated through the BE process.

The NRE publication '*Victoria's Environmental Flow Program*' outlines some environmental achievements for the BE conversion process including:

- in the lower Thomson River, environmental flows were increased from 25 to 125 ML per day; and
- in the Goulburn River, environmental flows from Lake Eildon have increased from 120 to 250 ML per day and an 80 000 ML flush in November provides water for wetlands.

Further documentation²⁰³ concerning the Murray Bulk Water Entitlement Process noted the representation of the environment throughout the process and documented provisions for the environment including: Barmah-Millewa Forest; allocations for Murray wetlands; and increase in flows on the basis of recommendations²⁰⁴ of the Murray Scientific Panel. The information noted management processes for environmental water

²⁰² Source Bulk Entitlements, Summary to June 1998.

²⁰³ Victorian Murray River Environmental Flow Process, NRE, 1999.

²⁰⁴ Not final recommendations.

including works to be completed to ensure environmental water reached and remained in priority floodplain areas.

Streamflow Management Plans

SMPs are developed to define competing uses of water in unregulated streams. SMPs define rules and agreements that allow water to be transferred, provide certainty for new developments and introduce a clear understanding of flow sharing rules in times of drought. The aim is to provide a long term management plan for TULs that has provisions to protect and where necessary restore environmental values in a river; *Procedure for preparing SMPs* (draft, 14 October 1998) (the SMP procedure draft). SMPs are to be developed by the relevant water authorities.²⁰⁵

The SMP procedure draft provides for: certain matters to be included in SMPs; roles and responsibilities of the project manager and project group, which includes local, authority, departmental, environmental and other representatives; and consultation upon and endorsement of SMPs. Key issues that need to be considered include:

- environmental flow provisions. The SMP procedure draft notes that when formulating a SMP for over committed systems, a process of negotiation may lead to an agreed environmental flow provision which is below that required to maintain the long term health of the river system. It recommends mechanisms such as establishing trading rules that benefit the environment and restricting when trades can occur, as ways that environmental flows may be increased;
- system operation and assessing the impacts of change. The SMP draft notes that the development of a hydrological model creates a structured tool for ordering processes required to develop a SMP and to assist the project group to make judgements of the effect of different flow sharing options, including the impacts on river flows, supply security and environmental flows. The preferred model for water quantity simulation is the Resource Allocation Model (REALM);
- existing licences;
- new licences;
- water trading;
- metering;
- tariffs; and
- monitoring and compliance.

The criteria for selecting waterways for SMPs includes matters such as level of consumptive use, demand for new licences, frequency of rosters/restrictions, history of management problems and conservation and recreational values.

²⁰⁵ Second tranche report.

The Council was provided with the SMPs for the Merri and Gellibrand Rivers. The Merri River SMP addressed the issues identified in the SMP procedure draft. Recommendations included: an environmental flow of 12ML per day be maintained; new TULs be updated to reflect the SMP and no new summer licences be granted to increase existing water entitlements commitments; water trading not to be permitted upstream in some circumstances. The Gellibrand River SMP similarly has regard to the relevant matters identified in the SMP draft procedure, and recommendations include: detailed flow shares including shares for the environment; restrictions on the types of new licences that can be issued until thorough environmental flow studies are undertaken and provided the licences do not affect water security or environmental flows; and trading in water conditional on maintaining agreed environmental flows.

The Council has been informed that seven SMPs are presently being developed (first to be completed in December 1999) and thirty priority streams nominated for SMPs, to be completed at the rate of five or six per year. The second tranche report provides that four further SMPs will be commenced in 1999, five in 2000, five in 2001 and seventeen will be commenced by 2001, although the priorities as regards these rivers have not been determined.

Groundwater Management Plans

The *Groundwater Management Structure and Cost Sharing Arrangements* report produced by the State Groundwater Council (SGC) (April 1997) notes the present light management of groundwater.

The report proposes 49 Groundwater Management Areas (GMA) and in those areas where the licence allocations exceed 70 per cent of Permissible Annual Volume (PAV), a Groundwater Supply Protection Area (GSPA) is to be established (Water Act, Part 3, Division 3). GMAs require the collection of usage data and metering of bores extracting significant quantities. Where the PAV is reached new licence allocations will and transferable water entitlements will be introduced where appropriate to ensure water can be used to its highest economic benefit. The report outlines principles of cost sharing.

The Council was provided with the *Terms of Reference for the Consultative Committee for the Katunga GSPA*. The Consultative Committee was instituted to produce a basic Groundwater Management Plan (GMP) and the terms of reference reflect the principles in the report. The objective of the Plan is to ensure that the groundwater resources of the GSPA are managed in an equitable manner so as to ensure the long-term sustainability of the resources during normal and drought seasons. The terms of reference include consideration of: the severity of the threat to sustainability; metering and monitoring programs; restrictions or prohibitions on the issuing of licences (that is an allocation policy for unallocated water); transferability of licences; and the proportion of costs born by users. The GMP must take into account both the report and the ARMCANZ paper '*Allocation and use of groundwater*'. The terms of reference require public consultation.

Stressed Rivers Program

The Victorian Stressed Rivers Program (SRP) is defined (in the *Priority Rivers for Restoration Plans; findings of the Stressed Rivers Scientific Reference Panel*, July 1998

(the Reference Panel report)) as involving the identification of rivers which are stressed due to inadequate flow regimes and the development and implementation of comprehensive work plans to improve their condition. The Reference Panel report identified eight priority rivers to receive funding for restoration plans from the Rural Water Reform Package²⁰⁶ and further rivers were identified should additional funding become available. The criteria for identifying rivers included hydrological information (total annual flow, seasonality of flow, variation of flow, flooding, low flow periods and zero flow periods), environmental significance, potential for and feasibility of restoration and cost/benefit analysis. The Reference Panel report noted that plans should focus on habitat protection as well as habitat restoration and monitoring must be built into each plan.

The Council has been advised that two case studies (Thomson and Avoca rivers) are presently being undertaken (July 1999 – September 2000) and the remaining six river systems identified to be the subject of restoration plans between January 2001 and June 2002.

The Council was provided with a copy of the *Snowy River Rehabilitation Concept Plan* (November 1998) (the rehabilitation plan), noted in the Reference Panel report to be a case study for the development of restoration plans around Victoria. The rehabilitation plan includes a stocktake of the existing condition of the Snowy River including: exotic weed invasion; loss of pools; reduction in fish habitat; deteriorating wetland values; and upstream migration of the saline wedge. The rehabilitation plan identifies desirable riverine features (habitat, fish passage, floodplain inundation, sediment transport, aesthetic appeal, recreational and resource use), key issues (habitat requirements of aquatic fauna, environmental flow requirements, pool formation) and rehabilitation strategies (reinstatement of environmental flows, reinstatement of pools, wetlands and riparian vegetation rehabilitation). The project costs (about \$26 million), a cost benefit analysis (based on various increases to value of wetland and tourism and at different discount rates) project schedule and implementation and monitoring procedures are also canvassed.

Other information

The Council has been provided with a copy of the implementation program for BEs, SMPs and GMPs. These are at attachments 4, 5 and 6. The Council secretariat has discussed with Victorian officials aspects of the program to clarify priorities and timeframes.

In providing the program, Victoria noted that timetable are heavily dependant on participatory processes. While it was possible to indicate starting times, intimate involvement of the community in the planning processes makes it virtually impossible to manage tight deadlines.

²⁰⁶ On 9 October 1997 the Victorian Government announced a \$40 million commitment to 'improve service quality and environmental performance of rural water' which included dam improvement projects, SMPs and increased monitoring of water use.

Council Comment

The *National Principles of the Provision of Water for Ecosystems* includes the following principles directly relevant to the Council's assessment:

Principle 1 River regulation and/or consumptive use should be recognised as potentially impacting on ecological values.

In respect of BEs, SMPs, GMPs and the SRP there is clear recognition of the impact of both river regulation and extraction of water as both potentially and actually impacting on ecological values, in terms of the riverine environment and associated ecological systems (for example, wetlands and floodplains).

Principle 2 Provision of water for ecosystems should be on the basis of the best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems.

It is difficult to say what 'best scientific information' at any point in time is. However, in this respect the Council notes:

- the BE conversion process involves a hydrological assessment of the particular system prior to conversion, and further assessment of the impact of extractions on flow regimes where there is significant risk to downstream environmental values;
- SMPs use a preferred REALM model to simulate water flows which assist in judging the effect of different flow sharing options. These are used in managing the resource including determining environmental flows, allocations and trading of water;
- GMPs have regard to information collected in order to determine both present and future management of groundwater resources; and
- SRPs have used scientific panels to determine a priority of rivers to be restored. In addition they provide guidance for restoration plans and propose the use case studies to assist in further development of restoration.

Principle 3 Environmental water provisions should be legally recognised.

Explicit recognition of existing environmental rights to water are provided through the BE conversion process. New BEs may also be granted or purchased. These have explicit legal recognition under the Water Act. Flow provisions are provided for in BEs for various authorities.

SMPs, GMAs and SRPs will provide for environmental allocations, either by limiting extractions to PAV (GMAs) or providing for particular flow provisions that simulate natural flows or provide for long term river health. Given that, in many respects, programs are still in their infancy, there is considerable reliance on the implementation of environmental flows and other provision for water ecosystems following any review.

Principle 4 In systems where there are existing users, provision of water for ecosystems should go as far as possible to meet the water regime

necessary to sustain the ecological values of aquatic ecosystems whilst recognising the existing rights of other water users.

The BE conversion report makes clear that the BE process will not reduce water allocations to current users in order to reallocate water to the environment. In addition, the SMP procedure notes that negotiation with users in an overcommitted system may lead to an agreed flow regime that is below that required to maintain long term environmental health.

Nevertheless, Victoria has advised that in 31 of the 73 systems where BE allocation has occurred, the current flows meet environmental requirements. In a further thirty-six there was an improvement in the environmental flows. In only six was there no improvement. It is clear from this information that the BE conversion process resulted in an improvement to the water supply to the environment, and clear recognition of existing user rights.

Similarly, GMPs recognise existing rights, seek to intervene where extractions approach or exceed sustainable amounts, impose a regime that preserves the current situation and review that management within a defined period.

Principle 5 Where environmental water requirements cannot be met due to existing uses, action (including reallocation) should be taken to meet environmental needs.

The SMP procedure proposes that trading be used as a device for improving environmental outcomes to increase flows. This is reflected also in trading rules for BEs and other water rights. The suspension of issuing of TULs for groundwater where the PAV is reached or exceeded provides a further mechanism to preserve and improve environmental outcomes. In addition, the ability of the environmental managers to participate in the water market and purchase water to meet needs provides a further mechanism to augment environmental water.

Principle 6 Further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained.

In relation to new BEs and groundwater, the existing availability of water and effects of additional allocations on the environment are integral to the future management of the respective resources. In addition, SMPs and GMPs provide for the future allocation (or otherwise) of TULs based on the assessment of the stream or aquifer.

Other matters

The SMPs draft procedures provide for a review of the plans with a set period to ensure objectives are being met. Amendments are expected if the SMP is not meeting its management objectives or a stakeholder raises concerns. The Merri and Gellibrand SMPs include review provisions within five years of implementation. The Snowy River rehabilitation plan (the SRP case study) provides for ongoing monitoring to assess outcomes.

SMPs also provide for the reallocation of sleeper licences, reflected in the Merri and Gellibrand SMPs.

Victoria has provided clear evidence of the process used to identify stressed rivers and the program to undertaken assessment and create management plans for these systems. It has provided detailed information concerning the management of unregulated and regulated systems, including present and future allocations to users and the environment.

The Council will monitor the continued implementation of processes to provide water to the environment prior to the third tranche assessment. The Council will carefully assess environmental outcomes including in particular the creation of water rights to satisfy the needs of the environment. Where outcomes do not satisfy environmental requirements the Council would look to evidence of mechanisms (such as trading rules and the environment manager entering the water market) are used to improve environmental outcomes.

The Council agrees to the implementation programs provided by Victoria. In doing so, it notes the following relevant matters:

- the National Land and Water Resource Audit, funded under the Natural Heritage Trust, is presently being undertaken and will provide valuable information to jurisdictions and the Council as to any relevant systems not included in the programs or that require a higher priority;
- the High Level Taskforce on Water Reform may, prior to the third tranche assessment, undertake to identify some relevant criteria for classifying stressed systems. This process may result in a modification to implementation programs; and
- the implementation programs, by their nature, may need to be amended depending on many factors including proposed new developments and other significant events.

The Council is therefore of the view that the implementation programs may change over time, provided there is agreement between Victoria and the Council.

10.3.4.3 Arrangements for trading in water entitlements must be in place by 1998. Water should be used to maximise its contribution to national income and welfare.

Where cross border trade is possible, trading arrangements must be consistent between jurisdictions and facilitate trade. Where trading across State borders could occur, relevant jurisdictions must jointly review pricing and asset valuation policies to determine whether there is any substantial distortion to interstate trade.

Jurisdictions must establish a framework of trading rules, including developing necessary institutional arrangements from a natural resource management perspective to eliminate conflicts of interest, and remove impediments to trade. The Council will assess the adequacy of trading rules to ensure no impediments. If legislation has not achieved final parliamentary passage, the Council will recognise the progress towards achieving legislative change during its assessment of compliance.

As noted above, for the second tranche, jurisdictions should submit individual implementation programs, outlining a priority list of river systems and groundwater resources and detailed implementation actions and dates for allocations and trading to the Council for agreement, and to Senior Officials for endorsement. This list is to be publicly available.

Cross border trading should be as widespread as possible. Jurisdictions are to develop proposals to further extend interstate trading in water.

Victorian arrangements

Statutory Scheme

The Water Act permits the permanent or temporary trading of BEs²⁰⁷ between authorities by auction, tender or in any other manner with the approval of the Minister. Sale of BEs in these circumstances must be advertised. The Act also provides for the trading of BEs between the authorities and landholders in irrigation districts or TUL holders, permanent transfers requiring advertisement and the approval of the Minister. The Act permits the temporary inter-state trade of a BE with the approval of the Minister. In addition the Act provides for the sale of unallocated water by the Minister in certain circumstances. The Act provides that amendments or transfers of BEs must be entered into the Register of Entitlements kept by the Director General.

As regards TULs, the Act provides²⁰⁸ for the sale of TULs by the Minister and the permanent or temporary transfer inter or intrastate of a licence.

The Act permits the permanent and temporary transfer of water rights intrastate with the approval of the RWA responsible for delivering the water and, in the case of permanent trades, with the approval of both RWAs. It also provides for the permanent and temporary transfers of water rights (other than sales water) interstate with the approval of the Victorian RWA (for temporary trades) and the receiving authority. In addition, the Act permits the Governor in Council to make regulations for the transfer of water rights including setting maximum and minimum amounts of water that may be held by land owners (having regard to salinity and the need to protect the water rights of other users) and setting limits on the amount of water that can be transferred out of districts. Authorities must review the water rights register to reflect permanent interstate transfers of water rights (section 230).

Trading to date

At the presentation by Victorian representatives, it was noted that all intrastate trades occurred in irrigators' rights and licences. Some figures were provided indicating the extent of interstate trading:

²⁰⁷ Section 46-46B, Water Act.

²⁰⁸ Section 57-63, Water Act.

Table 10.3.1 Water trading in Victoria, 1991-1997

Type of trade	February 1991	May 1995	August 1997
Permanent	50 trades totalling 2000 ML	190 transfers averaging 75 ML (total 14 369 ML or 0.6 per cent of water rights)	250 trades totalling 17 000 ML at \$800-\$1200 per ML
Temporary			up to 250 000 ML at > \$90 per ML.

The rules for trading of water entitlements are fairly rudimentary²⁰⁹ and include:

- a 1:1 exchange rate and same security at destination as for source;
- 2 per cent limit on permanent trades out of respective water systems each year (the 2 per cent rule);
- no increase in saline drainage to the River Murray;
- channel capacity constraints must be considered;²¹⁰ and
- certain statutory requirements (for example, the seller must advertise 28 days in advance) for less frequent, more expensive permanent trades.²¹¹

The second tranche report notes that the 2 per cent rule, the only trade-restricting rule, was introduced to allay fears that increased permanent trade could cause rapid structural adjustment which may have undesirable social impacts on a particular region. At this stage, trades out of any of the systems have not reached the 2 per cent per annum limit. However, the Victorian Government will consider removing the rule as it develops more sophisticated trading rules.

The regulations prescribe forms, outline the procedure including the obtaining of consents from RWAs, minimum and maximum amounts of water rights that can attach to a property and limits on transfers into and out of districts. The Council was advised that work in trading rules is needed in the following areas:

- limiting trades in sales water;
- limiting trade out of upper tributaries;

²⁰⁹ Found in Water (Permanent Transfer of Water Rights) Regulations 1991 (the regulations) and in authority bylaws (temporary).

²¹⁰ Second tranche report.

²¹¹ Second tranche report.

- distinguishing between winter and summer use;
- accounting for flow and financial adjustments; and
- fraud prevention measures.

The Council has been provided with information concerning the Northern Victorian Water Exchange, operated by Goulburn Murray Rural Water Authority, as an example of the market in temporary water trades. The role of the exchange is to facilitate and encourage temporary (annual) water trading by establishing a transparent process that will provide market information on prices and volumes.

Private trading continues²¹² in addition to trading on the exchange. The exchange commenced in September 1998, is operated on a weekly basis and provides for buyers and sellers of water to make offers. An exchange does not occur unless traders can obtain the prices offered or better. Buyers only pay the maximum price they have offered or lower. Sellers receive the minimum price they have offered water for or higher. An example of the exchange's operation on 4 February 1999 is summarised below.

Table 10.3.2 Water Exchange, Goulburn Murray RWA, 4 February 1999

Pool price established	\$92.50 per ML
ML traded	655
Offers to sell unsatisfied (ML)	2740 (\$92-\$120 per ML)
Offers to buy unsatisfied (ML)	235.6 (\$90 per ML)

The second tranche report notes that the pool price on the Goulburn river has now reached \$200/ML and \$80/ML on the Murray River. The volume traded at the weekly exchange has varied between 400-1400 ML.

Groundwater

The *Groundwater management – Victorian Overview* document notes that the development of groundwater trading markets is at an early stage because until the establishment of GMAs and the quantification of the sustainable yield of the resource, groundwater entitlements were generally freely available.

The report notes that isolated trades have occurred and will be an important feature of GSPA management regimes.

²¹² The exchange accounts for about 10 per cent of water traded; second tranche report.

Interstate water trading

As regards interstate trade, a 5000 ML of excess environmental water was sold to New South Wales in 1994. The sale was effected after consultation with possible Victorian users.

Victoria is also a participant in the pilot interstate water trading project in the Mallee border region of the Murray-Darling Basin.²¹³ The project is limited to permanent transfer of high security water entitlements held by private diverters. Each trade must be approved by respective state authorities. The scheme provides for the registration of the trades and exchange rates to limit the impact of trades on the security of others' water entitlements and the environment. Environmental clearances are integral to the pilot, as is the maintenance of the Salinity and Drainage strategy.

The Council has been advised by the MDBC that the first water trade under the project occurred in September 1998 and that as at 15 February 1999, 248 ML had been transferred from New South Wales to Victoria, 600 ML from Victoria to South Australia and 528 ML from New South Wales to South Australia. The present price for trades is about \$1000 per ML. The MDBC is presently reviewing the project.

The second tranche report notes that Victoria is currently working with other scheme participants to resolve cost recovery and security of supply issues which need to be addressed before the project can be extended.

Council Comment

Victoria has implemented a system for trading of water entitlements that:

- provides for the trading of the spectrum of water rights (including groundwater) both interstate and intrastate;
- has now been operating for some considerable time in both temporary and permanent intrastate trading of water rights;
- includes legislative provisions enabling transfer of water rights;
- provides for regulations and bylaws to govern water trading;
- incorporates voluntary markets run by an RWA providing information and support to water traders; and
- protects the environment through such mechanisms as the prohibition on water trades from high impact zone areas to non-high impact zone areas.

The Council will continue to monitor the development of trading rules prior to the third tranche assessment with a view to see identified weaknesses addressed and the further development of interstate trade.

²¹³ The Pilot Interstate Water Trading Project information sheets; MDBC, 1998.

The infancy of interstate trade is acknowledged by the careful progress of the MDBC pilot project. Nevertheless, some trading has occurred, and the project is presently being reviewed. This should provide an opportunity for problems to be identified and solutions jointly created by member states.

10.3.5 REFORM COMMITMENT: ENVIRONMENT AND WATER QUALITY

10.3.5.1 Jurisdictions must have in place integrated resource management practices, including:

- **demonstrated administrative arrangements and decision making processes to ensure an integrated approach to natural resource management and integrated catchment management;**
- **an integrated catchment management approach to water resource management including consultation with local government and the wider community in individual catchments; and**
- **consideration of landcare practices to protect rivers with high environmental values.**

The Council will examine the programs established by jurisdictions to address areas of inadequacy. Programs would desirably address such areas as government agency co-ordination, community involvement, co-ordinated natural resource planning, legislation framework, information and monitoring systems, linkages to urban and development planning, support to natural resource management programs and landcare practices contributing to protection of rivers of high environmental value.

Victorian arrangements

The 1997 publication, *Managing Victoria's Catchments – Partnerships in Action*, outlines the framework for implementation of the Regional Catchment Strategies (RCS) for each of the 10 Catchment and Land Protection regions established under the *Catchment and Land Protection Act 1994* (CALP Act). It provides for the roles and responsibilities of the relevant participants (including farmers, Government at Local, State and Federal levels, Landcare groups, Catchment and Land Protection Boards (CALPB) and the Council (CALPC)), outlines arrangements for the implementation of State-wide and Regional Catchment Strategies and identifies policies and priorities. The primary goal is identified as: To ensure the sustainable development of natural resource-based industries, the protection of land and water resources and the consideration of natural and cultural heritage.

The document outlines the priority of issues (developed by the CALPC, CALPBs and Regional Assessment Panels) and includes as high priorities pest plants and animals;, eutrophication, irrigation and dryland and waterways salinity. The objectives and performance measures for the program include assessment of: waterway management; floodplain management; salinity and drainage management; groundwater management; water allocation and managing water entitlements; sustainable agriculture; soil conservation and land management; landcare support and property management planning; vegetation management and environmental planning; sustainable regional communities; regional development; private forestry; and pest plants and animals.

The *Review of Catchment Management Structures in Victoria* (February 1997) considered catchment management advisory and service delivery arrangements and recommended that existing CALPBs and other community advisory groups be integrated into Catchment Management Authorities (CMA) which combine an integrated planning

role (for example, development and co-ordination of implementation of the RCS) with service delivery for waterway management including floodplain and rural drainage management. The structure proposed included a Board (with more than one half of the members being primary producers and other members appointed having regard to their experience and knowledge of matters such as land protection, water resource management and environmental conservation) and Implementation Committees (IC) responsible for the development of detailed work programs and their delivery. CMAs would report directly to the Minister. It was recommended that the CALPC, which previously had a state-wide role in overseeing CALPs in addition to advising the Minister on matters concerning catchment management and land protection, would now provide advice to the Minister without an overseeing role. The structure proposed by the review was adopted by the Victorian Government (*Future arrangements for Catchment Management in Victoria - Response by the Victorian Government*).

The Council was supplied with the *Operating Guidelines* for CMAs outlining the respective roles of the Boards and Implementation Committees and outlining such matters as the structure and functions of CMAs and partnerships between CMAs and other stakeholder organisations such as RWAs, DNRE, Landcare groups and Local Government.

The Council has been assisted, in assessing the approach of Victoria to integrated resource and catchment management, by information provided by Victoria including:

- Regional Management Plan (RMP) Guidelines (November 1998). An RMP guides the implementation of the RCS. The guidelines outline the various responsibilities of CMAs, ICs and other parties. The Guidelines provide for CMA projects to be subject to merit-based funding which involves both a retrospective assessment of performance and assessment of proposed projects by CMAs;
- the RCSs for each of the Catchment and Land Protection Regions. Each RCS outlines objectives and actions in respect of regional issues. For example, the Glenelg RCS provides for issues-based and structural programs. The Water quality and quantity management strategy notes the objectives of maintaining water quality standards within agreed parameters for the maintenance of biological processes, geomorphic systems, natural features and consumptive needs and providing for the development and implementation of an equitable balance in flow volumes and diversity for the maintenance of biological systems, geomorphic systems, natural features and consumptive needs.

The actions include preparation of catchment-based water quality management strategies, implementation of key activities and works to reduce nutrient loads and impacts in waterways and riparian environments and preparation of environmental and stream flow management plans for priority rivers. The Waterway and Water Resources strategies include planning for waterway and drainage management, floodplain management and groundwater management; and

- *Working together in catchment management*, a document that outlines the reasons for co-operation between local government and CMAs, their respective responsibilities and opportunities for co-operation.

Council Comment

The information provided by Victoria evidences the following matters:

- there has been comprehensive reviews of water resource management practices in Victoria;
- the reviews have resulted in the creation of CMAs with advisory and service delivery functions. Service delivery functions (for example, responsibility for drainage) are in part the result of identified gaps in integrated management of catchments;
- catchment and other resource management is co-ordinated through an RCS which identifies priorities and an RMP that guides its implementation of the strategy;
- CMAs are charged with RCS implementation and the success of this arrangement is premised on the co-operation of CMAs with other local bodies including local government and landcare groups;
- CMAs are statutory bodies representing a cross-section of interests, providing strategic direction for ICs and accountable for both function performance and financial management; and
- state-wide advice on integrated catchment management is provided by the CALPC.

Plans and other information provided to the Council evidence the approach outlined in the reviews in terms of implementation of RCSs and co-ordination with local authorities.

10.3.5.2 Support ANZECC and ARMCANZ in developing the National Water Quality Management Strategy (NWQMS), through the adoption of market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewerage disposal and community consultation and awareness.

Jurisdictions must have finalised development of the NWQMS and initiated activities and measures to give effect to the NWQMS.

Victorian arrangements

The second tranche report notes the implementation of NWQMS through catchment management strategies and in regional schedules to the State Environmental Protection Policies (SEPP). In areas where it is considered a priority to develop water quality and nutrient management actions plans, there are included as regional schedules in the SEPP *Waters of Victoria*. The ANZECC Australian Water Quality Guidelines for Fresh and Marine Waters are adopted as the minimum standard.

Victoria provided the Council with information concerning two initiatives, Nutrient Management and Water Quality, which are outlined in further detail below.

Nutrient Management

The Council has been provided with the Nutrient Management Strategy for Victorian Inland Waters (1995) which notes the objective of providing a policy and planning

framework to assist local communities and the state government manage nutrient levels in waterbodies to minimise the potential for the development of algal blooms, particularly blue-green algae.

The range of actions identified includes wastewater treatment options, best management practice, development of nutrient guidelines, lowering nutrient levels in stormwater runoff, studying options for irrigation drainage and community education and participation. The strategy noted the NWQMS guidelines form the basis for state and local plans and guidelines. The strategy reviews the then current arrangements for nutrient management and outlines the responsible agency for identified action. The plan also outlines the cost-sharing principles reflecting polluter and beneficiary pays principles.

Overall responsibility for implementing the strategy was placed with the CALPC, which established the Nutrient Management Strategy Implementation Committee to support this work.

The Review of Catchment Management Structures in Victoria recommended integration of water quality working groups with CMAs, which has since been implemented. The 1996-1997 Nutrient Management Strategy Implementation Committee Annual Report noted that the lead role of the CMAs in overseeing the development and implementation of nutrient management plans permits integration of this work with other waterway management functions. A review of the strategy (published October 1998) noted that since 1995, 16 catchment based management nutrient plans identifying priority areas and activities within catchments and addressing nutrient problems had been developed and implemented. The review includes a number of case studies regarding work in getting to the source of the problem, research, improved management practice and identifying the costs and benefits of algal blooms and interventions.

The Council was provided with a copy of the Draft Ovens Basin Water Quality Strategy (June 1998) which: identifies the need for a water quality strategy; identifies the nutrient loads in the Ovens basin; develops strategy objectives and basic principles; outlines strategy programs and actions; models outcomes; and provides a costs and benefits analysis.

Water Quality

The SCARM taskforce review²¹⁴ noted the three tier strategy to achieve 1996 Australian Drinking Water Guidelines: drinking water standards to be incorporated into operating licences; directors of water corporations to be exposed to duty of care requirements; and aesthetic parameters to be negotiated with customers.

In relation to metropolitan water retailers, a condition of their water licences is compliance with NHMRC water quality guidelines (99.8 per cent) reported.²¹⁵ The

²¹⁴ Finalised December 1997.

²¹⁵ *Water industry reform in Victoria: emerging benefits*; Hon A R Stockdale, Treasurer of Victoria, 1997.

Yarra Valley Water annual report (1996-1997) noted compliance for two parameters in excess of those set out in the licence.

As regards NMUs, the Council was advised of the October 1997 reform package which included \$450 million to reduce debt and accelerate capital work projects to improve water and environmental quality.²¹⁶ The Council was provided with documents entitled *Improved Wastewater Management in Small Towns* (May 1997) and *Low Costs Water Treatment for Small Towns* (March 1997). The wastewater publication canvasses the problems in rural areas not adequately serviced with appropriate sewerage services; canvasses options for improvements to services; and provides consultation processes to address the needs of small communities. The water treatment report provides a guide for NMU authorities to assess a range of water quality improvement measures; canvasses the options and their various costs; and provides options for implementation of choices made.

The Council has been provided with the DNRE publication *Biological Quality of Drinking Water; Questions and Answers* (June 1996) which canvasses the effects and causes of and controls for poor quality water.

WSAA Facts

WSAA Facts '98 noted, as regards water quality compliance, Melbourne Water's 99.4 per cent compliance with bacteriology quality and 99.5 per cent compliance with Physico/Chemical (turbidity/colour/pH) as set out in the 1987 NHMRC Guidelines. CityWest Water's results were 99.7 per cent and 97.8 per cent respectively (NHMRC 1987), South East Water's results were 97.4 per cent and 97.5 per cent respectively (NHMRC 1987) and Yarra Valley Water's results were 99.9 per cent and 96.4 per cent respectively (NHMRC 1987). As regards wastewater effluent, all providers listed above are 99.9 or 100 per cent compliant with overall discharge standards.

Council Comment

The information provided to the Council exhibits progress by Victoria in the following respects:

- a co-ordinated approach to nutrient management with formulation of a strategy, identification of a responsible bodies (CMAs) and how the interventions are to be funded;
- progress on improvement of metropolitan drinking water in accordance with NHMRC guidelines through urban water licensing requirements and reporting of results.
- active measures to improve NMU water quality, including water and wastewater treatment; and
- funds have been set aside for improving NMU water quality and involving local communities in the choices made.

²¹⁶ Press Release, Office of the Premier, 9 October 1997.

The Council is satisfied, on the information provided that the work of the NWQMS is supported. The Council will continue to monitor the development of programs that seek to implement the various NWQMS prior to the third tranche assessment.

B10.3.6 REFORM COMMITMENT: PUBLIC CONSULTATION, EDUCATION

10.3.6.1 Jurisdictions must have consulted on the significant COAG reforms (especially water pricing and cost recovery for urban and rural services, water allocations and trade in water entitlements). Education programs related to the benefits of reform should be developed.

The Council will examine the extent and the methods of public consultation, with particular regard to pricing, allocations and trade. The Council will look for public information and formal education programs, including work with schools, in relation to water use and the benefits of reform.

Victorian arrangements

The second tranche report notes that:

Victoria has widespread public consultation and education throughout its water industry. Customer consultative committees in the urban sector and water services committees in the rural sector ensure adequate consultation takes place. Substantial stakeholder involvement is also a key part of the process to develop bulk water entitlements and environmental flows.(p93)

As regards the urban water industry, each is required to have a customer consultative committee as required by its operating licence. The customer contract sets out basic consumer rights and obligations and the ORG determines benchmark terms in consultation with the consultative committee.

The second tranche report notes that although NMUs are not governed by licensing arrangements, each has developed its own Customer Participation Strategy, which includes mechanisms for public consultation and education. Although only minimal consultation took place in implementing two part tariffs, once the reforms were announced, the Government, with assistance from the retail water authorities, undertook an extensive media campaign to ensure customers understood the implications of the reforms.

WSCs play an important role in the implementation of full cost recovery in rural and irrigation services, and the second tranche report notes that RWAs use WSCs to communicate the objectives of reform and to assist by negotiating the necessary pricing and service requirements to meet the 2001 deadline.

The public education programs cited in the second tranche report include: National Water Week; Waterwise program (covering 75 per cent of water customers); Waterwatch; school education programs run by urban water authorities as part of their water conservation plans, and included as a condition of the operating licence; and internet sites are provided by water retailers for education purposes. In addition both urban water authorities and NMUs produce television commercials to educate the public about the importance of water resources, and RWAs have radio spots and media releases to announce water allocation and trading information.

Council Comment

The Council is generally satisfied that the reforms to the water industry implemented by Victoria has been the subject of considerable consultation. This is particularly true of the rural water reforms in converting existing water rights to bulk entitlements.

The Council has reservations concerning the admitted failure to consult as regards reforms of urban water pricing. This extends beyond the NMUs and includes changes made to urban water service pricing. The failure to consult as regards NMU pricing reforms is magnified by less rigorous ongoing consultation requirements.

However, having regard to the success at implementing reform, subsequent education provided to NMU customers and consultation regarding reforms across the water industry the Council that Victoria has met this reform commitment.

The Council considers that there is an inherent conflict in the service provider supplying this ongoing public education on water conservation when it has a financial interest in increased water consumption. The Council notes its preliminary view that the most appropriate body to undertake this type of activity is the resource manager and not the service provider. The service provider is, however, well placed to provide information concerning water price and service conditions. The Council will continue to review this matter prior to the third tranche assessment.

Attachment 1

Table 10.3.3 NMU Cost recovery

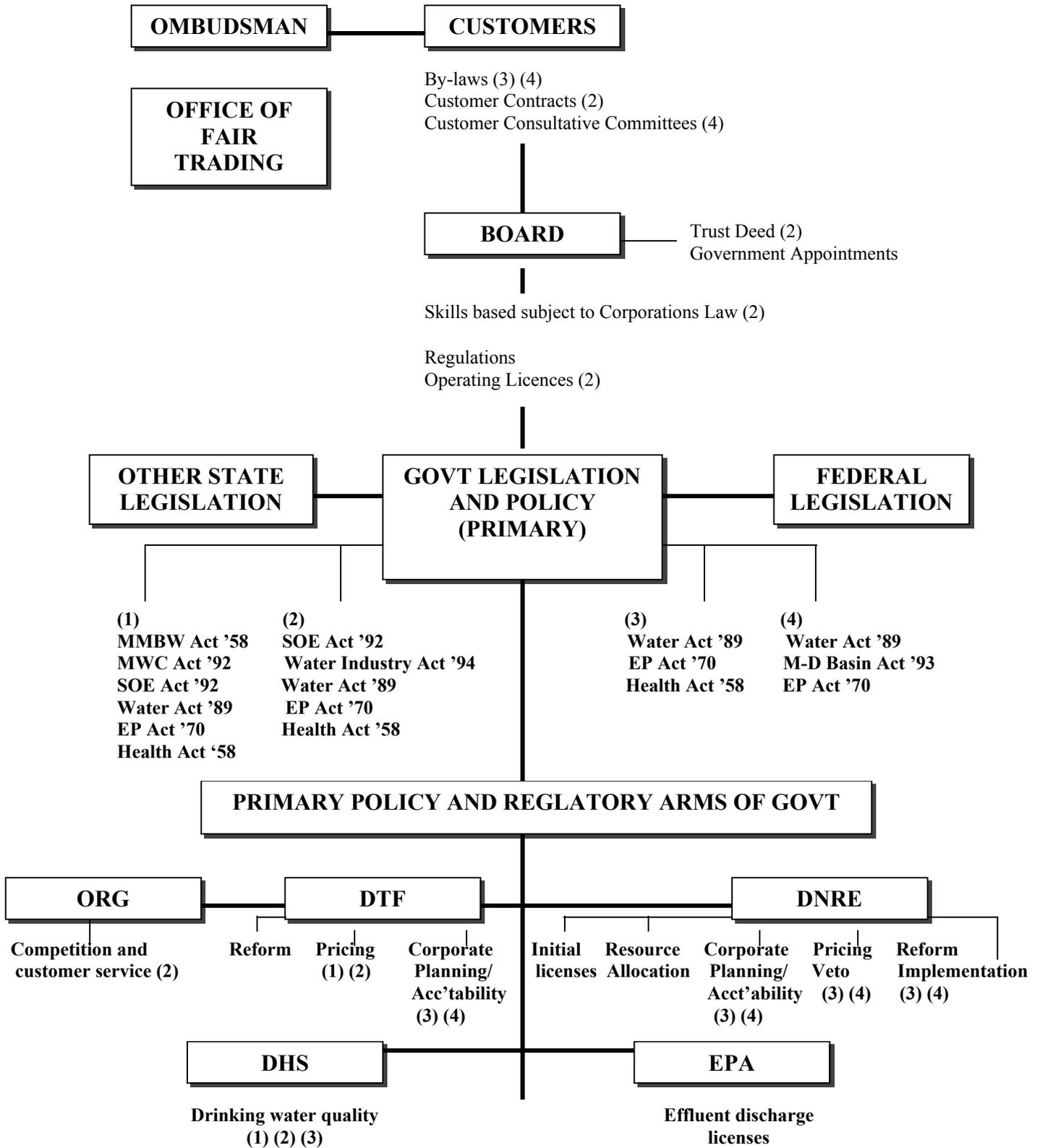
Water Supplier	Upper bound ²	Actual revenue	Lower Bound A (3,4)	Lower Bound C (5)
Barwon	126 629	77 043	72 755	60 956
Central Gippsland	66 333	44 705	34 154	29 108
Central Highlands	64 715	44 603	32 360	24 401
Coliban	75 610	37 411	34 129	25 874
East Gippsland	17 767	14 517	9 105	10 253
Glenelg	10 586	5 098	4 774	3 756
Goulburn Valley	47 369	35 005	25 092	20 365
Grampians	26 800	21 342	16 538	14 165
Lower Murray	26 207	19 495	13 344	11 246
North East	38 623	24 794	20 148	17 697
Portland	7 779	5 923	3 715	4 711
South Gippsland	15 620	10 842	7 928	6 099
South West Water	21 985	18 523	11 160	9 101
Western	36 406	30 880	23 036	19 616

Water Supplier	Upper bound ²	Actual revenue	Lower Bound A (3,4)	Lower Bound C (5)
Westernport	11 983	9 799	7 705	6 342

- 1 All figures expressed in '000's, 1997-1998.
- 2 For the purposes of calculating the upper band, the following costs are included: operations and maintenance costs, administration expense, depreciation expense and per cent WACC.
- 3 For the purposes of calculating the lower band, the following costs are included: operations and maintenance costs, administration expense, dividends, interest. For the purposes of calculating the lower band no cost of capital is included.
- 4 Renewals estimate 2 per cent of written down replacement cost of fixed and leasehold assets.
- 5 Average of "capital expenditure on asset replacements" forecasts for the next five years, expressed in 1997/8 dollars .

ATTACHMENT 2

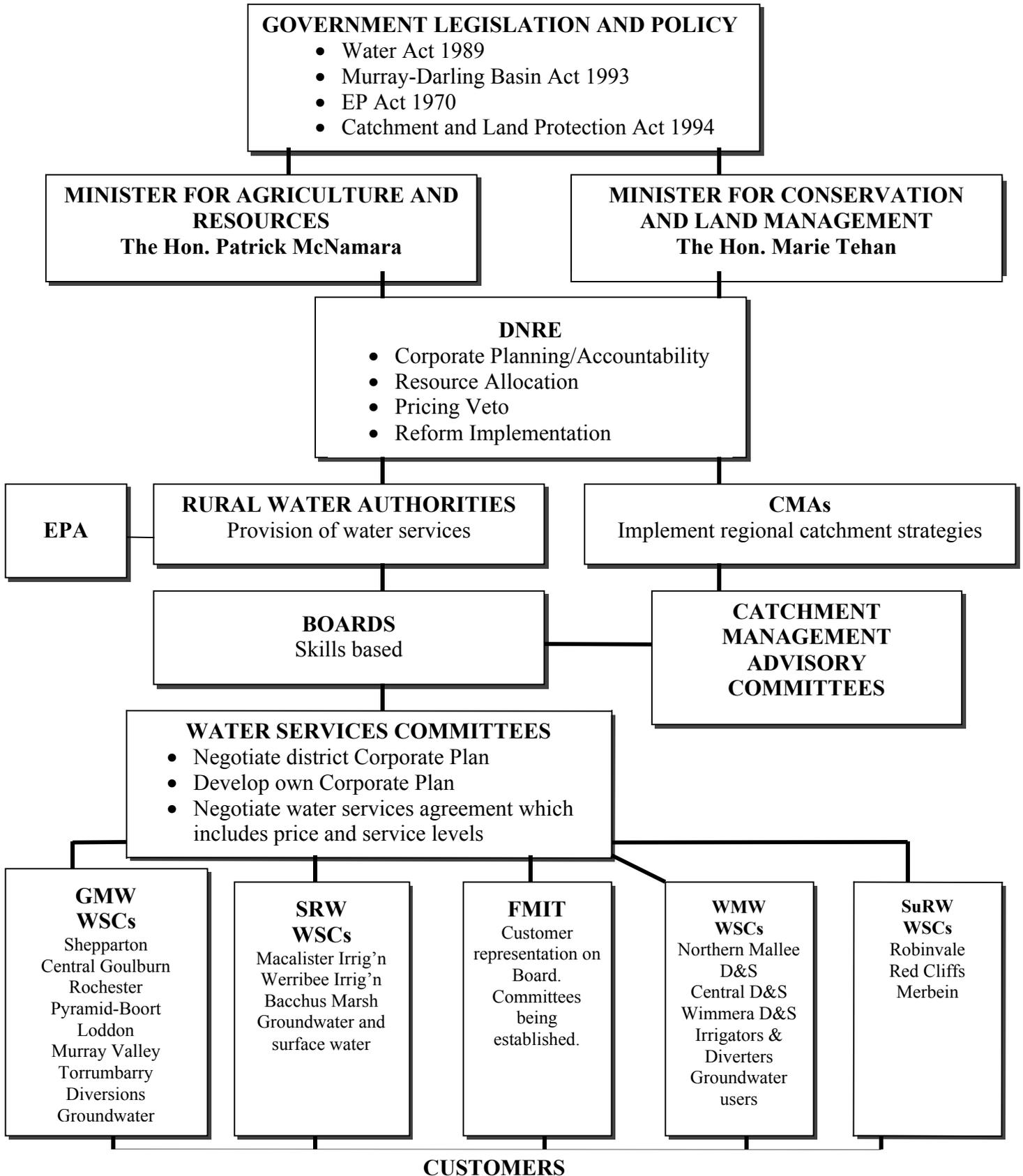
Figure 10.3.1 Victorian Regulatory Profile



Key (1) Melbourne Water Corporation (2) Metropolitan Retailers (3) NMUs (4) Rural Water Authorities

ATTACHMENT 3

Figure 10.3.2 Regulatory Framework Rural Water Services



Attachment 4

Victorian Programs for Implementation of COAG Water Resource Reforms

WATER ALLOCATION AND TRADING FRAMEWORK

Bulk Entitlement Program

Water Allocation Framework

The Victorian 1989 Water Act established the legislative framework to enable water entitlements to be clearly defined and provided the statutory basis for environmental allocations.

The bulk entitlement program directly deals with the allocation of water to authorities and the environment and provides a comprehensive framework for the trading of surface water entitlements.

When complete, bulk entitlements will cover approximately 98% of the State's allocated resources, covering nearly 500 diversion sites within approximately 160 separate bulk entitlement orders.

Process to Establish Bulk Entitlements

The process to establish bulk entitlements requires:

- extensive consultation with all stakeholder groups to gain ownership of the process and acceptance of the outcomes where trade-offs between competing users are required;
- a good understanding of the environmental flow issues within each river valley;
- hydrologic modelling of each river system to examine the implications of trade-off options, establish security of supply and provide the means to monitor resource use and regulate future trading of entitlements.

There are a number of defined steps (milestones) in the process of establishing bulk entitlements. Depending on the complexity of the system these can include all or some of the following –

- Establish a Project/consultative Group of key stakeholders
 - Develop REALM simulation model
 - Undertake preliminary assessment of sharing arrangements/system yield
 - Undertake preliminary assessment of environmental requirements
-

- Propose initial water shares/ identify issues
- Agree on water shares and where appropriate financial obligations
- Finalise bulk entitlement Orders

The timetable to complete this process for each system is heavily dependent on the level of understanding of all stakeholders on Project Groups and the amount of effort required to work through issues identified through the consultative process. A high level of Cupertino is also required with water authorities in the timing and input of resources.

Experience to date has shown that on complex systems the full process can take up to three years to complete. As a general rule, less complex would require approximately two years. It should also be noted that relatively small systems in terms of total amount of water could be complex to resolve, particularly where the water resources are heavily committed.

Progress to Date and Future Program

The program has now reached the stage where flow sharing arrangements at approximately 70% of the diversion sites across the State have been negotiated and agreed with stakeholders. At the vast majority of sites this has resulted in improved environmental outcomes. As at June 1999, 115 bulk entitlements have been granted covering 75% of the State's water resources that are to be allocated as tradeable bulk entitlements. Regulatory systems, to monitor and manage the entitlement system including water trading, are being progressively implemented with the granting of entitlements.

The timetable to implement the remainder of the bulk entitlement program is outlined below. It has been developed in conjunction with water authorities, and will be subject to the constraints of the consultation processes necessary to ensure that the community accepts the outcomes. This may result in variations within the program and to the final completion date.

Year 1999

Bulk Entitlements finalised and granted

- All Murray Bulk Entitlements to Urban and Rural Water Authorities
- Campaspe System Bulk Entitlements
- Maribyrnong
- Central Highland urbans

Conversion processes actively progressed

- Thomson/Macalister Bulk Entitlements
 - Melbourne
 - Tarago System
 - Barwon River
-

- Ovens River
- Broken River

Management of Entitlements

- New data base completed and populated
- Basin accounts published (for completed systems)
- Progress documentation of model runs

Year 2000

Bulk Entitlements finalised and granted

- Thomson/Macalister Bulk Entitlements
- Melbourne
- Tarago System
- Barwon River

Conversion process actively progressed

- Ovens River
- Broken River
- Loddon River
- Birch Creek
- Wimmera-Mallee D&S System
- Grampians urbans

Management of Entitlements

- Basin accounts published (for completed systems)
- Resource Management arrangements reviewed
- Progress documentation of model runs

Year 2001

Bulk Entitlements finalised and granted

- Ovens River
 - Broken River
-

- Loddon River
- Birch Creek
- Wimmera-Mallee D&S System
- Grampians urbans

Management of Entitlements

- Basin accounts published (for completed systems)
- Resource Management arrangements reviewed
- Progress documentation of model runs

Year 2002

Bulk Entitlements finalised and granted

- Loddon River
- Any outstanding supply systems

Management of Entitlements

- Basin accounts published (for completed systems)
 - Resource Management arrangements reviewed
 - Progress documentation of model runs
-

ATTACHMENT 5

GROUNDWATER MANAGEMENT

Groundwater Management Plans

When allocations reach 70% of the sustainable yield of the aquifer (expressed as the Permissible Annual Volume or PAV), a mechanism to establish a Groundwater Supply Protection Area (GSPA) is triggered and a Groundwater Management Plan developed.

A consultative committee, comprising mainly farmers but representing all relevant interests, is responsible for developing the management plan.

The management plan must address issues such as metering and monitoring, allocation arrangements including transferable water entitlements, and costs associated with implementing the plan.

The objective of a management plan is to make sure that the groundwater resources of the relevant groundwater supply protection area are managed in an equitable manner and so as to ensure the long-term sustainability of the resources.

Progress to date

Eleven GSPAs have been established to date. Groundwater Management Plans have been prepared for two of these areas. The remaining nine GSPA were established in late 1998 early 1999. Target dates for establishment of and Consultative Committees, which have the responsibility to develop Management Plans, are shown in Table 1. The steps (key milestones) necessary to identify and achieve management objectives are identified.

Future Targets

Over the next three years it is proposed to establish a further fifteen GSPAs to cover all areas in the State where allocation is greater than the PAV. Five areas are at the initial stage of GSPA set up whereby the first rounds of community consultation takes place, refer Table 2. An additional ten areas are planned to be dealt with within the timeframe as listed in Table 3.

Table 1
Declared Groundwater Supply Protection Areas

Groundwater Supply Protection Areas	Establish Consultative Committees	Steps necessary to achieve objectives	Management Plan (Target)
Kooweerup Dalmore	NSW arrangements		NA In place
Shepparton Irrigation Area	NSW arrangements		NA In place
Campaspe Deep Lead (incorporates Echuca South, Diggora)	June 1999	<ul style="list-style-type: none"> • Identify Groundwater Management Issues • Address technical issues <ul style="list-style-type: none"> ▪ Construction of observation bores ▪ Determine monitoring arrangements ▪ Environmental water requirements • Develop groundwater allocation options • Determine future management arrangements • Address pricing issues • Produce draft groundwater management plan • Consult with users • Amend groundwater management plan following consultation and submit for approval • Implement plan • Establish ongoing consultative arrangements • Undertake monitoring – over 5 years • Collect usage data – over 5 years • Review management arrangements after 5 years 	Dec 2001
Katunga			
Spring Hill			
Murrayville			
Neuarpur			
Yangery			
Nullawarre			
Denison			

Table 2**Initial Steps taken for Groundwater Supply Protection Areas**

Groundwater Supply Protection Areas – Initial Steps	Initial Consultation (Target)	Decision on Declaration
Avenel/Nagambie	June 1999	December 1999
Bungaree	April 1999	December 1999
Sale	April 1999	December 1999
Wy-Yung	April 1999	December 1999
Deutgam	May 1999	December 1999

Table 3
Future Groundwater Supply Protection Areas – 3 years

Groundwater Management Areas

Warrion

Ascot

Merrimu

Wandin Yallock

Bridgewater

Lancefield

Seacombe

Lang Lang

Balrootan

Gerangamete

ATTACHMENT 6

STREAMFLOW MANAGEMENT PLANS AND STRESSED RIVERS

Streamflow Management Plans

On unregulated rivers, not covered under the bulk entitlement program, the management of diversions will be undertaken through the development and implementation of streamflow management plans (SMPs). SMPs will establish environmental objectives, immediate and, where necessary, long term environmental flow provisions, mechanisms to achieve long term environmental flows provisions, rostering rules, trading rules, and rules covering the granting of any new licences. In addition, they will include provisions for monitoring and compliance and plan review. SMPs are developed under the auspices of the RWAs, in consultation with the relevant group of stakeholders with a general public consultation phase. The process has been designed to ensure that there is stakeholder ownership of the planning process and general acceptance of the plan. It must be recognised that it takes time to foster community understanding and achieve general consensus on key aspects of a plan which may change available options, practices or opportunities for some stakeholders. These community-driven processes can take up to three years to develop a draft plan. However, this time is necessary if there is to be widespread acceptance of the outcome. Key milestones in the development of a SMP and the indicative time taken for each are given below:

- Development of background report from collation of existing information on environmental values, hydrology and water use (3 months).
- Commencement of environmental flow study (6-12 months depending on season and river flows).
- Establishment of steering committee from key water use, environmental and recreational stakeholders (2 months).
- Development of hydrologic model (6-12 months depending on complexity).
- Development of draft plan (12-24 months).
- Release of draft plan for public comment (3 months).
- Submission of final plan to Government (3-12 months depending on input from public consultation program).

In developing the work program for the development of SMPs, the following criteria were used to set priorities:

- level of consumptive use (i.e. ecological impact due to changed flow regimes);
 - conservation value;
 - demand for new licences;
 - frequency of rosters/restrictions;
-

- history of management problems;
- recreational value; and
- community expectation of the need for a SMP.

An indicative timetable for work over the next two years is provided in Table 4. It should be noted that this timeframe is indicative and will change depending on the nature of the environmental study involved, the complexity of the model required and the community processes as they develop.

Stressed Rivers

River Restoration Plans (RRPs) will be developed for rivers where the environmental provisions made through the Bulk Entitlement process are considered to be insufficient to meet environment objectives. RRP will build on the current environmental provisions. They will set clear environmental objectives, set priorities for any additional water, identify mechanisms to provide additional water, identify complementary instream and riparian habitat works that will maximise environmental gains and establish agreed cost-sharing for implementation. The points made above in relation to community-driven processes apply particularly to RRP since, in general, they will be starting at a point where any flexibility in operating systems has already been identified and negotiated within the BE conversion process. In RRP, stakeholders and their communities will need to examine innovative solutions for improving flow regimes as well as the potential for complementary habitat works. To assist in developing guidelines for the development of RRP, two case studies are currently being undertaken. These case studies will examine the extent of information required on environmental needs, water usage, water systems efficiency etc., the stakeholder participation processes that will be required, the level of innovative scientific input required as well as identifying a number of possible solutions that may be more generically applied. RRP for other rivers will not commence until substantial progress has been made on the case study RRP.

Key milestones in the development of a RRP are anticipated to include:

- Collation of existing information on environmental values, hydrology and water use (3 months).
 - Commencement of environmental flow study (6-12 months depending on season and river flows).
 - Establishment of Steering Committee from key water use, environmental and recreational stakeholders (2 months).
 - Development of draft plan (12 -24 months).
 - Release of draft plan for public comment (3 months).
 - Submission of final plan to Government.
-

The indicative timeframe for work over the next two years is provided in Table 5. It should be noted that this timeframe is indicative and will change as information from the case studies assist in developing the process.

TABLE 4: PROGRAM FOR STREAMFLOW MANAGEMENT PLANS

Work Program for River Restoration Plans																																				
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6						
Thomson R d/s Cowwarr Weir																																				
Avoca R																																				
Loddon R																																				
Glenelg R																																				
Broken R																																				
Lerderderg R																																				
Badger Ck																																				
Maribyrnong R																																				

TABLE 5 Work Program for River Restoration Plans

River	June - December 1999						December - June 2000						June - December 2000						December - June 2001						June - December 2001					
	Milestones						Milestones						Milestones						Milestones						Milestones					
	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Thomson R d/s Cowwarr Weir																														
Avoca R																														
Loddon R																														
Glenelg R																														
Broken R																														
Lerderberg R																														
Badger Ck																														
Maribyrnong R																														