

6 South Australia

6.1 Best practice pricing

Water and wastewater businesses should earn sufficient revenue to ensure their ongoing commercial viability while avoiding monopoly returns. To this end, governments agreed the following principles should apply:

- The jurisdictional independent pricing body should set or review prices or pricing processes for water storage and delivery and report publicly.
- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities (defined as the natural resource management costs attributable and incurred by the water business), taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and provision for future asset refurbishment/replacement. If a dividend is paid, it should be set at a level that reflects commercial realities and simulates a competitive market outcome. This is defined to be the lower bound of cost recovery.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (all external costs and benefits), taxes or tax equivalent regimes, and provision for the cost of asset consumption and the cost of capital, the latter being calculated using a weighted average cost of capital. This is defined to be the upper bound of cost recovery.
- In determining prices, the independent pricing body should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to customer classes at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation (CSO).
- Asset values should be based on a deprival value method unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of CSOs, contributed assets, the opening value of assets, externalities (including resource management costs), tax equivalent regimes and any remaining cross-subsidies.

Future reform: Metropolitan water systems should continue movement toward the upper bound of cost recovery by 2008. Rural and regional water systems should achieve the lower bound of cost recovery, and continue to move towards the upper bound where practicable. Where upper bound pricing is unlikely and a CSO is necessary, it should be publicly reported and the government should consider alternative management arrangements. Jurisdictions' approaches to pricing and attributing the costs of water planning and management should be consistent by 2006. Water prices should be set on a consumption basis, comprising a fixed component and a variable use component, where this is cost effective.

References: 1994 Council of Australian Governments (CoAG) water reform agreement, clauses 3(a)–(d); guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (1998 CoAG pricing principles); Intergovernmental Agreement on a National Water Initiative

Cost recovery of urban water and wastewater services provided by SA Water

Assessment issue: South Australia is to demonstrate that SA Water sets prices for water and wastewater services to achieve full cost recovery in accord with the CoAG pricing principles. During the 2003 National Competition Policy (NCP) assessment, South Australia undertook to publish annual pricing transparency reports on SA Water's water and wastewater prices, with the first statement to cover charges applying from 1 July 2004. The reports are intended to (1) establish the relationship between Cabinet decisions on water and wastewater prices, and the CoAG pricing principles, (2) provide information on SA Water's financial performance in the context of a decision and past and future expenditures, and (3) address details of revenues, CSOs, SA Water's capital expenditure program and SA Water's profit and the distribution of that profit. As part of the transparency report, the Essential Services Commission of South Australia (ESCOSA) reviews the processes adopted and the information used, in terms of the adequacy of the application of the CoAG pricing principles. For the 2004 NCP assessment, the National Competition Council has looked for South Australia to have published its first transparency report, and for the report to provide a robust case that SA Water's 2004-05 water and wastewater prices satisfactorily address CoAG's requirements on best practice pricing.

Future reform: Metropolitan businesses should price at least at the lower bound of cost recovery, and continue movement towards upper bound pricing by 2008.

References: 1994 CoAG water reform agreement, clauses 3(a) and (b); 1998 CoAG pricing principles; Intergovernmental Agreement on a National Water Initiative

SA Water is the primary supplier of water and wastewater services to Adelaide and South Australian country towns. It provides these water and waste water services to over one million people. Each year the South Australian Cabinet determines the price SA Water may charge for its water and wastewater services. Accordingly, the government intends producing annual water and wastewater pricing transparency statements — incorporating comment by ESCOSA on processes and information — as the basis for its future decisions on SA Water's water and wastewater service prices.

On 1 June 2004 the South Australian Treasurer tabled the state's first urban water pricing transparency statement, *Transparency statement — urban water prices in South Australia 2004-05* (Government of South Australia 2004). The statement is available on the Department of Treasury and Finance website (www.treasury.sa.gov.au). It comprises three parts: the government's statement prepared by the South Australian Department of Treasury and Finance (part A), the ESCOSA report (part B), and the government's response to the ESCOSA report (part C).

In August 2004 South Australia completed part A of its pricing transparency statement for SA Water's wastewater pricing for 2004-05. It has provided the statement to ESCOSA for comment and intends to finalise the entire statement by December 2004.

The government decided that the price of SA Water's urban water services in 2004-05 should increase by 3.5 per cent over the previous year's price. It considered that this is consistent with CoAG pricing requirements, and noted that revenue earned by SA Water in 2004-05 will achieve the lower bound of

cost recovery. The water pricing transparency statement calculates the (minimum and maximum) revenue outcomes that SA Water would need to achieve full cost recovery as defined by CoAG, and examines all relevant cost components. Transparency statement outcomes in relation to the major cost elements are summarised below.

Water pricing transparency statement findings relevant to the CoAG pricing principles lower bound of cost recovery

Operations, maintenance and administrative costs — efficient business costs

The government's statement argues that SA Water's current urban water service arrangements represent efficient business costs. It offered three reasons for its view:

1. SA Water participates in industry benchmarking analyses, including the Water Services of Australia's annual benchmarking report on the Australian urban water industry.
2. SA Water complies with its Customer Service Charter and minimum water quality standards monitored by the Department of Human Services.
3. SA Water outsources a number of functions (including the management of water and wastewater services for the Adelaide metropolitan areas and the operation of regional water treatment plants) using a competitive tendering process.

ECSOSA considered that the information provided in the government's statement lacks detail. It argued that compliance with the CoAG pricing principles on efficient costs requires the statement to include at a minimum:

- information on costs for both the Adelaide systems (found in WSAAfacts) and the country systems (because country systems assets are around 50 per cent of total SA Water assets in terms of replacement value, and are the systems that attract CSO funding)
- information on both cost performance and level of service for these regions
- an analysis of the differential impact of cost drivers on the retail versus wholesale (treatment and transmission) activities.

The government stated that it intends to provide additional information on SA Water's country systems, service standards, and cost drivers to support its decision on 2005-06 water and wastewater prices. It will provide this information in the 2005-06 urban water and wastewater pricing transparency statement, except for commercial-in-confidence information (which will be available to ESCOSA).

Interest cost on debt

The government's 2004-05 statement indicates that SA Water's borrowing costs are included as an expense to SA Water unless they relate to the construction of a qualifying asset (assets that take longer than 12 months to complete), in which case they are capitalised to the cost of the assets. Pursuant to the *Public Finance and Audit Act 1987*, the government guarantees SA Water borrowings.

Provision for future asset refurbishment/replacement using an annuity approach

The government's 2004-05 statement indicates that SA Water uses the straight-line depreciation method to produce a broad estimate of the cost of maintaining its water services asset base. The government notes, however, that SA Water is continuing to enhance its asset replacement forecasts.

ESCOSA considers that it is inappropriate to use straight-line depreciation as a proxy for asset renewal annuity in the calculation of the minimum revenue requirement, because the two approaches are likely to produce significantly different outcomes. It considers that SA Water's approach does not strictly comply with the CoAG pricing principles, but has acknowledged that the information necessary to comply with the principles is not currently available. ESCOSA considers that SA Water should estimate annuity based provisions for asset replacement/rehabilitation and report these provisions in each transparency statement.

The government intends to develop an appropriate annuity method for estimating provisions for asset refurbishment/rehabilitation consistent with the ESCOSA comments. It also intends to include an estimate, to the extent possible, in the 2005-06 urban water and wastewater pricing transparency statement.

Externalities

The government's 2004-05 statement indicates that explicit charges incurred by SA Water are included in the revenue outcomes used to establish water prices. An example is SA Water's payments to the catchment water management boards, including the 1 cent a kilolitre levy paid to the River Murray Catchment Water Management Board.

Water resource management in South Australia is the responsibility of the Department of Water, Land and Biodiversity Conservation, except to the extent that SA Water administers policy on water conservation by its customers. The department is funded from consolidated revenue, so water resource management costs are currently borne by the South Australian community. The government explained that it is reviewing the value of externalities and resource management costs attributable to SA Water as a result of providing services to urban water consumers.

ESCOSA has assessed that the 2004-05 transparency statement's treatment of externalities (resource management costs attributable to, and incurred by, SA Water) complies with the CoAG pricing principles. It considers, however, that the incorporation of all charges associated with the department's relevant activities is necessary to achieve the intent of the CoAG strategic framework — that is, that the price of water should include the true cost of water resource management. ESCOSA noted that water resource management charges that reflect the true cost provide a better signal as to the cost-effectiveness of alternative technical solutions to providing water services.

ESCOSA considers that the information in the transparency statement on externality costs should be enhanced. In particular, the statement should include advice on the cost of the department's (extraction based) water resource management services and their application to all relevant beneficiaries, including SA Water. ESCOSA also considers that the department's water resource management charges should be identified in terms of key catchments and that the charges relating to the supply of water to regions attracting CSOs should be differentiated.

The government is developing water resource management policies, which may affect the costs associated with providing water and wastewater services. It will report on any policy implications, including those for all relevant beneficiaries. This work is being undertaken separately from the 2005-06 urban water and wastewater pricing transparency report. The government has indicated it will address any outcomes, insofar as they affect future urban water and wastewater pricing decisions, in future transparency statements.

Taxes and tax equivalent regimes (excluding income tax)

The government's 2004-05 statement includes accrual tax expenses paid by SA Water in the estimated minimum revenue, in accord with the state's competitive neutrality policy. ESCOSA has assessed that SA Water's inclusion of tax equivalent regime costs in the minimum revenue requirement calculation is appropriate and complies with the CoAG pricing principles.

Dividends (if any)

The government has advised that SA Water's dividend policy is part of the business's total contribution (dividend and tax payments) to state revenue. The combined contribution is equivalent to 55 per cent of earnings before interest, tax, depreciation and amortisation. ESCOSA considers that South Australia's current approach does not comply with the CoAG principles. It noted in particular that SA Water's dividend policy is not reported on a standalone basis and that it is not clear that the dividend payments meet the CoAG commercial reality test. It has suggested that the transparency statement, for compliance with the CoAG principles, should:

- report the dividend policy transparently rather than as a combined dividend/tax contribution to the South Australian Government
- report depreciation calculated in accord with adjusted asset values
- outline SA Water's capital structure policy and demonstrate that the dividend policy is not leading to changes in capital structure
- include a statement from the Minister for Administrative Services as to the level of capital expenditure necessary to maintain SA Water's ongoing business operations.

The ESCOSA comments are relevant to the consideration of dividends in determining both the lower and upper bound prices.

The government has advised that it intends to develop a dividend policy (distinct from tax equivalent payments) and capital structure policy for SA Water (and all other public nonfinancial corporations) in accord with the ESCOSA suggestions. It intends to implement these policies for SA Water as far as possible before the 2005-06 urban water and wastewater pricing decision.

The government considers, however, that the process for considering capital expenditure provides adequate transparency. It has stated that it will review (separately from the transparency report process) the ownership structure of all South Australian Government public nonfinancial corporations (covering among other matters, dividend, capital structure and community service obligation policies). The government considers, given the proposed review, the use of an annuity for minimum revenue outcome purposes, and transparency in the current capital expenditure review process, that the Minister for Administrative Services does not need to make a statement on SA Water's capital expenditure requirements.

Water pricing transparency statement finding relevant to the CoAG pricing principles upper bound of cost recovery

Operations, maintenance and administrative costs — efficient business costs

The operations, maintenance and administrative cost estimates for the upper bound of cost recovery are the same as for the lower bound. Matters relevant to pricing compliance are discussed above.

Provision for the cost of asset consumption

The government's 2004-05 statement used a straight-line depreciation method to calculate depreciation expenses as part of estimating the upper bound of cost recovery. ESCOSA considers that this method complies with the CoAG pricing principles. It has noted, however, that the actual calculation of depreciation expenses was not provided in the 2003-04 transparency statement. This calculation should be included in the transparency statement and, therefore, available to the Cabinet when it decides water prices.

The government has undertaken to provide additional information on the method of calculating depreciation expenses, and on the level of those expenses in the estimate of maximum revenue, as part of the 2005-06 urban water and wastewater pricing transparency statements.

Asset valuation method

The government's 2004-05 statement indicates that SA Water assets were valued according to the optimised deprival value method for the year ending June 2002. Every three years the Hunter Water Corporation Pty Ltd reviews SA Water's asset valuation method. The most recent review in May 2002 concluded that SA Water adopted a modern equivalent replacement asset cost for valuing water assets. Contributed assets were included in SA Water's asset base in the 2004-05 water price setting process, and are recognised as revenue by SA Water when it gains control of the contribution.

ESCOSA has assessed that SA Water's approach is consistent with the CoAG pricing principles. It has raised concerns, however, about the treatment of contributed assets and the consequent effects for determining depreciation expenses and the return on capital. ESCOSA considers that it is not sufficient to state only that contributed assets are included in the asset base. In ESCOSA's view, more effective compliance with CoAG pricing principles would be achieved if SA Water removed the value of contributed assets from the regulatory asset base used to derive the upper bound cost recovery targets in future urban water pricing decisions. ESCOSA has stated that this approach may require SA Water to maintain a separate asset register for pricing purposes.

The government has undertaken to develop an appropriate method for treating contributed assets in SA Water's asset base to establish water and wastewater prices. It intends to finalise this method for inclusion, to the extent possible, in the 2005-06 urban water and wastewater pricing transparency statements.

Provision for the cost of capital

The government's 2004-05 statement did not derive the weighted average cost of capital (WACC) that should be used for setting prices. It referred to a consultancy study, which estimated a regulatory WACC of 6 per cent. Despite

this estimate, the transparency statement used an estimate for real pre-tax WACC of 6–8 per cent. The government has indicated that it will estimate an appropriate WACC after reviewing the ownership structure of South Australian public nonfinancial corporations.

ESCOSA considers that the transparency statement, although recognising the opportunity cost (as required by the CoAG pricing principles), does not provide sufficient information on the WACC. It has indicated that the government should determine an appropriate WACC for setting maximum revenue, or at least use a much smaller range when deciding on water pricing. The WACC calculation should be based on an efficient supplier's benchmark, such as the capital structure of an efficient water utility. ESCOSA has pointed out that the target revenue may remain below the maximum revenue, even after any adjustments to the asset values. Even in such a case, it is important to know by how much the target revenue is below the maximum revenue, because this will provide greater transparency and guidance on possible long term price paths and cross-subsidies.

The government has undertaken to develop an appropriate WACC to establish water and wastewater prices. It intends to finalise this WACC for inclusion, to the extent possible, in the 2005-06 urban water and wastewater pricing transparency statements.

Externalities

The treatment of externalities in the 2004-05 transparency statement complies with the CoAG requirement for the lower bound of cost recovery. ESCOSA considers that the government should establish the true cost of water resource management to determine water prices consistent with upper bound cost recovery.

As discussed, the government is developing water resource management policies, which may affect the costs associated with the provision of water and wastewater services. It has undertaken to address outcomes, insofar as they affect future urban water and wastewater pricing decisions, in future pricing transparency statements.

Taxes or tax equivalent regimes

The 2004-05 transparency statement includes all relevant taxes paid by SA Water, although it reports taxes and the dividend to the government as a combined SA Water contribution to revenue. It does not include a separate tax equivalent amount in calculating the maximum revenue outcome. It has argued that there is no requirement to include a separate allowance for income tax equivalents, because SA Water uses the pre-tax approach to estimating its return on assets.

ESCOSA has assessed that the information on tax equivalents could be better presented to achieve greater transparency and consistency. To achieve this, it has suggested:

- the taxation amount and the dividend amount be reported separately
- a post-tax WACC be used to calculate the maximum revenue, with the taxation amount included in the cash flows.

The government has undertaken to separately disclose tax equivalent payments and dividend payments to the Cabinet and in the 2005-06 urban water and wastewater pricing transparency statement. It has stated, however, that it will continue to use a pre-tax WACC.

Timeframe for the 2005-06 transparency statement

The government has advised that it is still to decide the method it will use to set SA Water's 2005-06 urban water and wastewater prices. After it has decided this, the Treasurer will provide a draft transparency statement to the Cabinet as the basis for the Cabinet setting 2005-06 prices. The draft transparency statement will include the government's assessment of the extent to which SA Water prices are consistent with the CoAG pricing principles. The government will then finalise the statement and provide it to ESCOSA by December 2004, from when ESCOSA will have two to three months to comment on the statement.

Discussion and assessment

South Australia's first publicly available annual transparency statement, covering the price of SA Water's urban water services in 2004-05, was prepared by the South Australian Department of Treasury and Finance, with ESCOSA commenting on procedural and data matters and on whether water pricing complies with the CoAG pricing principles. The government responded to all ESCOSA comments.

The water pricing transparency statement demonstrates that SA Water is pricing its water services to achieve the lower bound of cost recovery in 2004-05. This outcome meets the CoAG obligation on cost recovery for the 2004 NCP assessment. SA Water will need to move substantially towards upper bound cost recovery by 2008 to meet its National Water Initiative commitments.

While SA Water's water prices are achieving the lower bound of cost recovery, ESCOSA has indicated several areas in which the current arrangements do not comply with the CoAG pricing principles or are not best practice for the water industry. The government has undertaken to rectify most water pricing noncompliance, as identified by ESCOSA, in the next annual water and wastewater transparency statements. The matters raised by ESCOSA that

South Australia does not propose to rectify relate to the inclusion of a capital expenditure statement from the Minister for Administrative Services in future transparency statements and the use of a post-tax WACC for estimating return on assets.

The use of a post-tax WACC (as opposed to South Australia's use of pre-tax WACC) more accurately reflects the upper bound of cost recovery because it recognises tax equivalents (income tax). It would therefore mean that the taxation regime used to determine SA Water's upper bound of cost recovery is equivalent to private sector taxation arrangements (thus satisfying competitive neutrality objectives). The Council also notes ESCOSA's comment that the regulatory trend is towards using a post-tax cost of capital regime. The Council encourages South Australia to further consider its approach to calculating the WACC (recognising taxation equivalence obligations) and to including taxation amounts in SA Water's cash flows. The CoAG pricing principles oblige governments to ensure that water and wastewater prices reflect the expenditure needed for asset replacement and refurbishment, though not necessarily via a Ministerial statement. South Australia's review of the ownership structure of its public nonfinancial corporations (being undertaken independently of the water transparency statement process) may improve the transparency of SA Water's capital structure and expenditure.

South Australia is undertaking a similar process for SA Water's wastewater pricing. The government produced the statement in August 2004 and has provided it to ESCOSA for comment. It expects to finalise the statement by December 2004. South Australia considers that it should be able to address in the wastewater statement most minor issues raised by ESCOSA in the 2004-05 urban water pricing transparency statement.

Although the ESCOSA comments reveal some noncompliance with the CoAG pricing principles, and the government has not yet finalised the first wastewater pricing transparency statement, the Council considers that South Australia has made sufficient progress on water and wastewater pricing for this 2004 NCP assessment. The government has published the 2004-05 water pricing transparency statement and committed to implement most of the ESCOSA advice on water pricing, and it is producing the first wastewater statement.

To comply with CoAG's requirements on pricing, South Australia will need to demonstrate via the 2005-06 and subsequent annual transparency statements (or via price investigations by ESCOSA) that SA Water is achieving at least the lower bound of cost recovery in accord with the CoAG pricing principles, and is continuing to move towards the upper bound of cost recovery by 2008 consistent with the government's commitment under the National Water Initiative. Under the National Water Initiative, governments also committed to ensuring that the economic regulator sets or reviews prices or price-setting processes for water storage and delivery. South Australia therefore needs to ensure that ESCOSA continues to have full opportunity to comment publicly on the processes adopted and the data used in preparing the Cabinet advice on SA Water's pricing, and on whether the CoAG pricing principles are being appropriately applied.

Cost recovery and consumption based pricing by rural water service providers

Assessment issue: South Australia is to demonstrate that government-owned irrigation schemes and government-owned suppliers of bulk water are setting prices based on the principles of full cost recovery and consumption based pricing. Government-owned water businesses must also show that they are managing any subsidies consistent with efficient and effective service provision and use. In the 2001 NCP assessment, South Australia reported that it had devolved the management or privatised many of its irrigation districts. At that time, South Australia advised that all irrigation schemes were recovering costs in accord with the CoAG pricing principles, though did not provide detailed information to support this advice. Volumetric charging was not possible in the lower Murray reclaimed irrigation areas, but this may change with the rehabilitation of the district. For the 2004 NCP assessment, the National Competition Council has looked for South Australia to demonstrate that any remaining government owned irrigation schemes or bulk water suppliers to irrigation schemes are achieving at least lower bound full cost recovery and are setting prices on a consumption basis where possible. Where an irrigation scheme would not achieve full cost recovery by 30 June 2004, the Council has looked for South Australia to show that the scheme has made substantial progress towards lower bound cost recovery and to advise when lower bound cost recovery is likely to be achieved. South Australia has also needed to demonstrate that any CSOs supporting rural schemes are transparent.

Future reform: Governments should apply consumption based pricing, achieve lower bound pricing for all rural systems and continue towards upper bound pricing. Any subsidies must be transparent, and alternative management arrangements aimed at removing the need for a continuing subsidy must be introduced where practicable.

References: 1994 CoAG water reform agreement, clauses 3(a) and (d); 1998 CoAG pricing principles; Intergovernmental Agreement on a National Water Initiative

South Australia advised that it does not supply irrigation and drainage services to the privately-owned irrigation districts and that none receives government funding. It has transferred all irrigation districts to private ownership except for nine districts. These nine districts are in the lower Murray reclaimed irrigation areas and comprise two thirds of the total region. The government is upgrading the infrastructure that provides irrigation and drainage services to the nine districts so that it can meter water use (by June 2007), and meet the water use efficiency targets and the drainage requirements set by the Environment Protection Authority. It has announced a financial package for rehabilitating the swamps in the lower Murray reclaimed irrigation areas, which includes \$2.7 million from the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust.

South Australia intends to transfer its ownership of the lower Murray reclaimed irrigation areas' irrigation and drainage infrastructure assets to irrigators. The transfer will require the owners of irrigated properties to establish an irrigation trust (or several trusts) so they can jointly manage the irrigation district. The trust will be responsible for the operation, maintenance and future replacement of the infrastructure. Levee banks and waterfront land will remain government owned.

Under the *Irrigation Act 1994*, the Minister for Environment and Conservation has authority to set charges to irrigators. The Minister may impose charges to recover the costs of supplying water (or draining water) or

to meet other related liabilities. Other liabilities include the provision for asset replacement. South Australia did not provide information on how the Minister has set charges, or whether the charges recover all costs.

South Australia provided 2003-04 cost information for the nine government-owned districts, including on the costs of operations and maintenance, tax and capital works. (South Australia did not attribute any depreciation costs because it intends abandoning the assets by the end of 2004. The irrigation trust will replace these assets when rehabilitation and subsequent privatisation occurs.) South Australia advised that it sets irrigation and drainage charges to cover the costs of operations and maintenance, tax and capital works, but provided no information on the revenue raised in 2003-04.

Discussion and assessment

Under the 1994 water reform agreement and the National Water Initiative, South Australia needs to show that all government-owned rural systems at least achieve lower bound cost recovery in accord with the CoAG pricing principles, and it needs to move towards the upper bound where practicable. The lower bound of cost recovery should recover at least the operational, maintenance and administrative costs, externalities (defined as the natural resource management costs attributable and incurred by the water business), taxes or tax equivalents (not including income tax), the interest cost of debt, provision for future asset refurbishment/replacement, and dividends (if any).

While South Australia stated that the nine government-owned irrigation districts (within the lower Murray reclaimed irrigation areas) are setting charges for irrigation and drainage services that recover (at least) the lower bound costs, the information it provided was not sufficient to demonstrate this. The Council accepts, however, that South Australia is to transfer ownership of these districts to irrigators. When that occurs, irrigators will be responsible for setting charges, and there will be no government contribution.

In the 2001 NCP assessment South Australia advised that charges to irrigators in the lower Murray reclaimed irrigation areas are not volume based, but rather comprise a service charge and a charge based on the area of land serviced. At that time, South Australia noted it had no capacity to impose volume based charges but that this may change as the district is rehabilitated. In this 2004 NCP assessment, South Australia has confirmed that one of the objectives of the lower Murray rehabilitation project is to meter water use by 30 June 2007, and that following privatisation irrigators (and not the government) will be responsible for setting charges.

South Australia's proposal to transfer the ownership of the remaining government-owned irrigation assets is consistent with the CoAG institutional reform obligations. South Australia will, however, need to consider appropriate regulatory arrangements for water trading (including for the lower Murray reclaimed irrigation areas) to ensure that trading outcomes are consistent with the commitments it has made under the National Water

Initiative. These commitments include taking all necessary steps by June 2005 to facilitate permanent trade out of water irrigation areas (up to an interim annual threshold of 4 per cent), and to review the impact of trade under the interim threshold in 2009 to consider raising the threshold (see section 6.4).

Cost recovery in issuing licences for water extraction

Assessment issue: South Australia is to demonstrate that its approach to charging for water licences, renewals and transfers will achieve cost recovery in accord with the CoAG pricing principles. In the 2001 NCP assessment, the Council found that the licence fees represent a reasonable approximation of the administrative costs of undertaking relevant activities, and that customers are likely to pay amounts that reflect the cost of services received. The Council reached a similar finding in regard to levies charged by catchment management boards: it appeared that the beneficiaries of the boards' activities were contributing appropriately to the cost of securing those benefits. For the 2004 NCP assessment, the Council has looked for South Australia to provide information on any changes to licence fee structures since the 2001 NCP assessment.

Future reform: Signatories to the National Water Initiative are to bring into effect by 2006 consistent approaches to pricing and attributing the costs of water planning and management. This should involve the identification of all costs associated with water planning and management, and the identification of the proportion of costs that can be attributed to water access entitlement holders, consistent with the principle of linking charges as closely as possible to the costs of activities or products. These approaches should be consistent across sectors and jurisdictions in which water entitlements can be traded.

References: 1994 CoAG water reform agreement, clauses 3(a), (d) and (e); 1996 Agriculture and Resources Management Council of Australia and New Zealand (ARMCANZ) paper; 1998 CoAG pricing principles; 1999 tripartite meeting; Intergovernmental Agreement on a National Water Initiative

The Council has previously found that licence fees and catchment management board levies represent a reasonable approximation of the administrative costs of undertaking relevant activities in South Australia, and that customers are likely to pay amounts that reflect the cost of services received. South Australia did not report any changes to its licence fee and levy structures for this 2004 NCP assessment. The Council considers that South Australia has addressed its obligations in this area for the 2004 NCP assessment.

The National Water Initiative commits governments to bring into effect by 2006 consistent approaches to pricing and attributing costs of water planning and management. This should involve the identification of all costs associated with water planning and management, and the identification of the proportion of costs that can be attributed to water access entitlement holders consistent with the principle of linking charges as closely as possible to the costs of activities or products. The National Water Initiative requires consistency in pricing policies across sectors and jurisdictions where entitlements can be traded.

Murray–Darling Basin Commission costs — River Murray Water and water resource management cost allocation

Assessment issue: The River Murray Basin states have different policies on passing on River Murray Water costs and water resource costs to water users. In the 2001 NCP assessment, South Australia advised that it does not pass on River Murray Water charges for bulk water, or water resource management costs, to irrigators. For the 2004 NCP assessment, the Council has looked for South Australia to show that it allocates Murray–Darling Basin Commission (MDBC)s costs robustly and transparently among users.

Future reform: Signatories to the National Water Initiative are to achieve lower bound pricing for all rural systems in line with existing NCP commitments, and bring into effect by 2006 consistent approaches to pricing and attributing costs of water planning and management. This should involve identifying all costs associated with water planning and management, including the proportion of these costs that can be attributed to water access entitlement holders, consistent with the principle of linking charges as closely as possible to the costs of activities or products. These approaches should be consistent across sectors and jurisdictions in which water entitlements can be traded.

References: 1994 CoAG water reform agreement, clauses 3(a) and (d); 1998 CoAG pricing principles; Intergovernmental Agreement on a National Water Initiative

In previous assessments, the Council noted that the Murray–Darling Basin states have different policies on passing on River Murray Water costs¹ and MDBC water resource management costs to water users. South Australia meets its share of River Murray Water costs and water resource management costs from consolidated revenue, rather than by passing on costs to irrigators via water charges. New South Wales and Victoria pass on to irrigators a portion of the River Murray Water charges for bulk water, but apply different charging arrangements. Charges are part fixed and part variable in New South Wales and mostly fixed in Victoria. A consultancy study undertaken for the MDBC found that these differential charging arrangements for bulk water are likely to impede the expansion of permanent interstate trade (Scriver and Hassall and Associates 2003) (see section 6.4).

The MDBC's independent audit of cost sharing arrangements, conducted in 2002, considered that the following actions are necessary to provide clear price signals to water users:

- All River Murray Water costs need to be recognised and all subsidies and CSOs need to be disclosed.
- Financial and pricing information for River Murray Water should be publicly available.

¹ River Murray Water recovers the full cost of constructing, operating, maintaining and renewing assets from the MDBC's member governments. River Murray Water recovers 75 per cent of the cost of asset refurbishment and replacement from the states, with the Australian Government paying the remaining 25 per cent. The states meet the full cost of asset operation and maintenance.

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- States should disclose the level of subsidy and/or CSO per megalitre provided to each water business that receives bulk water from River Murray Water. Disclosure of the level of subsidy is particularly important because the Murray–Darling Basin states have different policies on passing on River Murray Water costs to water users (Langford and Scriven 2002).

At the time of the 2003 NCP assessment, South Australia indicated that it would investigate cost recovery matters relating to River Murray Water via a consultancy to be completed by October 2003. The brief for this study stated that South Australia is seeking a ‘review of costs associated with managing River Murray Water in South Australia, New South Wales and Victoria’. South Australia is also seeking to identify the beneficiaries of each state’s expenditure, compare each state’s water charging policies, comment on the extent to which externalities are accounted for, and discuss the effect of different policy, regulatory and administrative arrangements.

South Australia has engaged Marsden Jacob Associates to conduct the study. At the time of the 2004 NCP assessment, the report had been completed and the government was considering its release.

Discussion and assessment

Under the 1994 CoAG water reform agreement and the National Water Initiative, South Australia committed to implement best practice water pricing and institutional arrangements. These are arrangements that, among other things:

- promote the economically efficient and sustainable use of water resources and water infrastructure, and government resources devoted to water management
- facilitate the efficient functioning of water markets (including interjurisdictional markets) in both rural and urban settings
- apply user pays principles and achieve pricing transparency for water storage and delivery in irrigation systems
- achieve cost recovery for water planning and management, with consistent approaches to attributing planning and management costs by 2006.

South Australia’s current approach of using consolidated revenue to meet all the costs of River Murray Water supplying water to the state’s irrigators, and MDBC water resource management, means that irrigators do not face the cost of any MDBC services they use. The state’s approach is unlikely to promote the economically efficient and sustainable use of water resources and infrastructure because users are not faced with economic signals to conserve. In addition, there is a lack of transparency in the current arrangements, as South Australia does not report the taxpayer funded River Murray Water costs as a subsidy or CSO to irrigators, and the basis upon which it does this

— though transparent reporting would still leave the matter of full subsidisation and this would be unlikely to facilitate efficient water use and trade in water entitlements. South Australia's approach does not therefore comply with the best practice pricing principles in the 1994 CoAG water reform agreement and the National Water Initiative.

To comply with water reform obligations, South Australia will need to implement a charging arrangement that, by the end of 2004, attributes appropriate water storage and delivery costs to users. South Australia's share of Murray River Water's costs are relevant to this water reform obligation. Together with New South Wales and Victoria, South Australia will also need to ensure that, by 2006, it has identified all costs associated with water planning and management, and attributed costs appropriately to irrigators. The action taken will need to be consistent with other Murray–Darling Basin states to facilitate the efficient functioning of water markets (see section 10.3).

The Marsden Jacob Associates study is likely to be a useful step towards implementing best practice pricing in South Australia. The brief for the study indicates that it is intended to provide advice on the quantum of River Murray Water's costs attributable to South Australian irrigators, and identify differences in jurisdictional approaches in setting prices to irrigators.

6.2 Water access entitlements

Assessment issue: South Australia is to institute a statutory water access entitlement system and support systems for the consumptive use of water, separate from land. The water access entitlement system should be specified as a perpetual or open-ended share of the consumptive pool of a water source. These arrangements should be in place by 2006.

At the time of the 2003 NCP assessment, South Australia had established a system of water entitlements (termed allocations) separated from land title and specified in volumetric terms, with water licences issued in perpetuity. It had converted water allocations to a volumetric basis in most areas of the state, except the South East Catchment. South Australia had also established a register of water licences and allocations, which records third party interests. It was in the initial stages of upgrading its register towards a full Torrens title system and to enable access via the Internet.

For the 2004 NCP assessment, the Council has looked for South Australia to ensure its water access entitlements system and supporting arrangements are consistent with the state's commitments under the National Water Initiative. South Australia will need to specify its water access entitlements as shares of water available for consumption (rather than specified volumes), finish the conversion process in the South East Catchment and finalise the upgrade of its register of water entitlements.

References: 1994 CoAG water reform agreement, clause 4; 1999 tripartite meeting; Intergovernmental Agreement on a National Water Initiative

Under South Australia's *Water Resources Act 1997*, the extraction of water from a prescribed water resource requires a licence.² (Licences are set based on the level of consumptive use and the condition of the water resource.) Licences specify volumetric entitlements (the volume of water that may be taken in a given year, termed 'allocations' in South Australia) and the conditions of use. Licences are the holder's personal property, issued in perpetuity (unless terminated under the Act), separate from land title, transferable and enforceable. The Act provides for both water 'holding' allocations and water 'taking' allocations.³ The 'holding' allocation enables a person to hold water but not use it without first converting it to a 'taking' allocation.

The State Water Plan sets 2005 as the target for converting all water allocations from an area to a volumetric basis, and for all water use to be measured. In the 2003 NCP assessment, South Australia advised that it had converted water allocations to a volumetric basis in most areas of the state. The main area still to be converted was the South East Catchment, which is a significant groundwater catchment (having seven prescribed water resources). South Australia expected to complete the conversion process in 2006.

The Water Resources Act provides the framework for a hierarchy of water management plans for water resources in South Australia. Water allocation plans are the main tool for allocating water to water users and the environment in prescribed areas (see section 6.3). Local water management plans and broader catchment water management plans may be used to manage nonprescribed water resources.

The Minister for Environment and Conservation may reduce the allocations on a licence if it is necessary to prevent a reduction in water quality or to prevent damage to an ecosystem, if there is insufficient water to meet existing or expected future demands, or if there is a reduction in the quantity of water available under intergovernmental agreements covering the Murray–Darling Basin or groundwater. The Water Resources Act does not provide for compensation in the event that a water allocation is reduced (provided the reduction accords with the objectives of the Act). Decisions are subject to appeal to the Environment, Resources and Development Court.

In line with the requirements of the Act, South Australia maintains a water licence register. The register records all water licences and transfers, and includes provision for the registration of third party interests. Registered third parties must be notified before a licence transaction may proceed. At the time of the 2003 NCP assessment, South Australia was in the initial stages of

² In most areas, licences are not required for stock and domestic use. The exceptions are the River Murray and the Northern Adelaide Plains and Far North prescribed wells areas.

³ Provision for holding allocations has been made only in the River Murray and the South East Catchment.

upgrading its water licence register towards a full Torrens title system and to enable access via the Internet.

Reform progress

South Australia has advised that it has progressed the volumetric conversion of allocations in the South East Catchment and is on schedule to complete the process by December 2006. By June 2005 it expects around 56 per cent of allocations (approximately 2300 licences) in the catchment to still be area and crop based. During 2003-04 South Australia produced draft reports on defining irrigation requirements and on 'climatic variability and volumetric allocations' in the South East Catchment. It completed the installation of monitoring equipment for its field irrigation system trial sites, and it developed a process to ensure all trial sites are operating effectively. It also implemented a communication strategy (including local television news, three metering trade days, local government tours during Water Week, information sheets and the department's website) to inform the public of the project's requirements and progress.

South Australia expects to implement the first stage of its upgraded water licence registry system, the Water Information and Licensing Management Application, in 2004. The system incorporates the major business processes required to support the administration of the Water Resources Act, including the processing of water licence applications, the transfer of water licences and allocations, and the collection of levies, fees and charges. It includes an Internet based public register of water licences and interests. As a result of the system, South Australia expects to significantly improve data integrity, assessments of the salinity and other impacts of water use and transfers, and reporting for planning and other purposes. Future stages of the upgrade will include the development of a spatial interface and e-commerce facilities.

Discussion and assessment

The Water Resources Act establishes a comprehensive system of water allocations separated from land title and specified in volumetric terms. Licences are issued in perpetuity, although the Minister may reduce the allocations specified on the licence if necessary (for example, to prevent damage to ecosystems or if there is insufficient water to meet demand on a sustainable basis). South Australia also has a water licence register, which records third party interests, and which it is upgrading (including to enable access via the Internet). Both the system of water allocations and the register are consistent with 1994 CoAG water reform obligations.

South Australia has converted its water allocations from an area to a volumetric basis in most of the South East Catchment. It expects approximately 56 per cent of entitlements in the catchment to still be area

and crop based in 2005 (the deadline for substantial completion of allocation arrangements under the 1994 CoAG agreement), with the conversion process to be completed by December 2006.

The National Water Initiative requires participating states and territories to introduce perpetual water access entitlements, with similar status to that of freehold land, and to have compatible, publicly accessible and reliable systems for registering entitlements (including any encumbrances) and (permanent and temporary) trades. South Australia's water licences are issued in perpetuity. The requirement that water access entitlements be specified as shares of water available for consumption will require South Australia to amend its current arrangements by the end of 2006.

The Council considers that South Australia has made satisfactory progress against its CoAG obligations on water entitlements for this 2004 NCP assessment.

6.3 Water planning — providing a better balance in water use

Assessment issue: Governments are to establish systems of water allocations including formal allocations of water to the environment. In allocating water to the environment, governments are to have regard for the ARMCANZ/Australian and New Zealand Environment and Conservation Council (ANZECC) National Principles for the Provision of Water for Ecosystems. Environmental requirements are to be determined wherever possible on the best available scientific information, having regard to the water needs required to maintain the health and viability of river systems and groundwater basins. For river systems that are overallocated or deemed to be stressed, governments are to provide a better balance in water resource use, including appropriate allocations to the environment to enhance/restore the health of river systems. Governments should also consider environmental contingency allocations and with a review of allocations five years after they have been initially determined.

Arising from the 1994 CoAG water reform agreement, each state and territory established a program in 1999 for implementing water allocations for priority river systems and groundwater resources. Governments committed to substantially complete their 1999 programs by 2005 (including allocations for stressed and overallocated rivers by 2001). In the 2004 National Water Initiative, signatory governments confirmed the importance of water planning as a mechanism for assisting water management and allocation decisions. Signatory governments committed to substantially complete allocation arrangements (including appropriate allocations to the environment) by 2005 for all stressed and overallocated river systems and groundwater resources covered by their 1999 programs, and to make substantial progress by 2010 towards adjusting overallocated and overused rivers and groundwater systems. Signatory governments also committed to preparing water plans by the end of 2007 for other systems that are overallocated, fully allocated or approaching full allocation and plans by the end of 2009 for systems that are not yet fully allocated.

South Australia has completed all of the water allocation plans listed on its 1999 implementation program. In the 2002 NCP assessment, the Council indicated that it would consider any new systems that South Australia prescribes as additions to South Australia's implementation program (but not subject to CoAG's target for completion by 2005). At the time of the 2003 NCP assessment, South Australia had prescribed the Tintinara Coonalpyn wells area, Morambro Creek, the Great Artesian Basin, the Marne River and Saunders Creek, and had proposed to prescribe other water resources. South Australia is

(continued)

undertaking a stressed resources review to improve its approach to identifying water resources under stress (or at risk of stress) and developing appropriate management responses. It decided that the review's findings on monitoring would be further considered in a complementary review of the state's water monitoring programs.

For the 2004 NCP assessment, the Council has asked South Australia to report on:

- the water allocation plan for the Tintinara Coonalpyn prescribed wells area (completed in January 2003)
- progress with its stressed resources review and the complementary review of water monitoring programs.

References: 1994 CoAG water reform agreement, clauses 4(b)–(f); 1999 tripartite meeting; Intergovernmental Agreement on a National Water Initiative

Under the Water Resources Act, the State Water Plan 2000 provides the policy framework for water resources management and sustainable use throughout South Australia. The policy is implemented via catchment water management plans, water allocation plans and local water management plans for areas prescribed under the Act. These plans must:

- assess the state and condition of the water resources
- identify existing and future risks of damage to, or degradation of, the state's water resources
- include proposals for the use and management of the water resources to achieve the objectives of the Water Resources Act
- include proposals for monitoring changes in the state and condition of the water resources.

All water plans, including the State Water Plan, must be reviewed every five years to ensure consistency with the Act in light of new information and advances in technology and management.

South Australia identified 15 water sources, mostly groundwater, on its 1999 implementation program. At the time of the 2003 NCP assessment, South Australia had satisfactorily completed water allocation plans for all 15 of the prescribed water resource areas covered by its 1999 program. The Council indicated in the 2002 NCP assessment that it would consider any new systems that South Australia prescribes as additions to South Australia's implementation program (but not subject to CoAG's target for completion by 2005). At the time of the 2003 NCP assessment, South Australia had prescribed the Tintinara Coonalpyn wells area, Morambro Creek, the Far North Wells (Great Artesian Basin), the Marne River and Saunders Creek, and had proposed to prescribe other water resources. South Australia is undertaking a stressed resources review to improve its approach to identifying water resources under stress (or at risk of stress) and developing appropriate management responses. It decided that the review's findings on monitoring would be further considered in a complementary review of the state's water monitoring programs.

Reform progress

South Australia completed a water allocation plan for the Tintinara Coonalpyn prescribed wells area in January 2003, which the Council considered in this 2004 NCP assessment. South Australia is also drafting a water allocation plan for Morambro Creek, which it expects to adopt early in 2005, and plans for the Marne River and Far North Wells. It is prescribing the water resources in the Eastern Mount Lofty Ranges area and, in October 2004, announced its intention to prescribe the water resources of the Western Mount Lofty Ranges. Table 6.1 shows the status of water allocation plans for prescribed areas in South Australia.

South Australia continues to progress the stressed resources review that commenced in 2002. It has advised that it completed the following key tasks during 2003:

- the development of a spatial classification tool based on the River Styles ® method for surface water systems
- the refining and trialling in two groundwater systems of groundwater stress assessment criteria
- the development of draft surface water stress assessment criteria.

Table 6.1: Water allocation plans for prescribed areas in South Australia

<i>Water allocation plan</i>	<i>Status of plan</i>
Angas–Bremer	Adopted on 2 January 2001
Barossa	Adopted on 22 December 2000
Clare Valley	Adopted on 22 December 2000
Comaum–Caroline	Adopted on 29 June 2001
Eastern Mount Lofty Ranges ^a	Prescription process under way. Expected to be prescribed in the second half of 2004.
Western Mount Lofty Ranges ^a	Intent to prescribe announced in October 2004
Far North Wells ^a	Water allocation plan being drafted. Expected to be adopted in late 2005.
Lacepede Kongorong	Adopted on 29 June 2001
Mallee	Adopted on 21 December 2000
Marne/Saunders ^a	Water allocation plan being drafted. Expected to be adopted in late 2005.
McLaren Vale	Adopted on 6 November 2000. Draft review of the plan completed, to be finalised by November 2005.
Morambro Creek ^a	Water allocation plan being drafted. Expected to be adopted in early 2005.
Musgrave	Adopted on 2 January 2001

(continued)

Table 6.1 continued

<i>Water allocation plan</i>	<i>Status of plan</i>
Naracoorte Ranges	Adopted on 29 June 2001
Noora	Adopted on 2 January 2001
Northern Adelaide Plains	Adopted on 22 December 2000
Padthaway	Adopted on 29 June 2001
River Murray	Adopted on 1 July 2002
Southern Basins	Adopted on 31 December 2000
Tatiara	Adopted on 29 June 2001
Tintinara Coonalpyn ^a	Adopted on 22 January 2003

^a Additional systems identified since the development of the 1999 implementation plan.

Source: Government of South Australia 2004

By early 2005, South Australia intends to complete and validate the surface water stress assessment criteria, trial these criteria in several catchments, identify any data gaps and decide on its approach to applying the River Styles method.

South Australia established the State Water Monitoring Coordinating Committee in 1998 to conduct a review of the state's water monitoring requirements. The aim of the review is to ensure that water monitoring is efficient, effective and appropriately funded, and that information is accessible to the public. As part of this review, the committee has conducted a state-level review of monitoring design, criteria and priorities, and reporting protocols. It is extending the review to the regional and catchment scale to identify data gaps and prepare integrated water monitoring strategies at that level. It has also commenced work on data sharing and cost sharing arrangements. Existing work and further work proposed for the stressed resources review for 2004 will inform this other review.

Tintinara Coonalpyn water allocation plan

The Tintinara Coonalpyn prescribed wells area is located about 200 kilometres south east of Adelaide and covers 3423 square kilometres. The groundwater resource consists of two aquifers: a regionally unconfined limestone aquifer and an underlying confined aquifer.

The Tintinara area covers the Coastal Plain and the Mallee Highlands. The hydrogeology of this area is very different from that of most other groundwater areas. The area's groundwater is rising as a result of broad scale clearance of native vegetation that occurred predominately in the 1950s to 1970s. Less than 4 per cent of the native vegetation on the Coastal Plain remains.

The water allocation plan for the Tintinara Coonalpyn prescribed wells area prepared by the South East Catchment Management Board was adopted by the Minister in January 2003. The board employed private consultants to first assess the water needs of the area's ecosystems. The consultants identified

several water dependent ecosystems (in both the Coastal Plain and the Mallee Highlands) that are not at risk from the current extraction and use of water from either of the aquifers (table 6.2). The consultants identified the critical issue as managing broad scale land use to reduce rising watertables (URS 2001).

The consultants considered that the perched wetlands⁴ in the eastern part of the area could be affected by poor irrigation practices, leading to localised water logging. They found that the current irrigation management practices, aimed at preventing water logging that adversely affects agricultural production, are sufficient to protect the wetlands.

Table 6.2: Groundwater dependent ecosystems in the Tintinara Coonalpyn prescribed wells area

<i>Dependent ecosystems by area</i>	<i>Description</i>	<i>Environmental water requirements</i>	
		<i>Minimum requirement</i>	<i>Optimum requirement</i>
Coastal Plain			
Wetlands and phreatophytes (for example, pink gums and blue gums)	Underground water levels must be kept at levels that do not increase the duration and frequency of water logging beyond the range of natural variability. Salinity levels of groundwater must be kept within the range of 'natural' salinity levels.	Watertable at 1–2 metres above the level before post-settlement disturbance	No rise in the watertable level before post-settlement disturbance
Dissolution features and hypogean environments	Changes in underground water levels and quality must not affect fauna and flora (if present).	Unknown	No rise in the watertable level before post-settlement disturbance
Mallee Highlands			
Perched wetlands (for example, Bucks Camp Soakage and Rabbit Island Soakage)	Irrigation drainage should not increase the duration, frequency or timing of waterlogged conditions beyond the range of natural variability. Irrigation drainage should not increase levels of salinity, agricultural chemicals or other pollutants.	Maintainance of current water quality and availability conditions	Conditions before post-settlement disturbance
Phreatophytes (for example, pink gums)	Watertables must be kept at levels that do not cause water logging and salt stress.	Depth to groundwater no less than 10 metres	Conditions before post-settlement disturbance
Dissolution features and hypogean environments	Changes in underground water levels and quality must not affect fauna and flora (if present).	Unknown	Conditions before post-settlement disturbance

Source: South East Catchment Water Management Board 2003b

⁴ Perched wetland systems occur in areas where soils such as clay do not allow water to pass through.

The water allocation plan sets permissible annual volumes (the volumes of water available for licensed extraction) for seven management areas. South Australia nominally sets permissible annual volumes based on the estimated annual vertical recharge to the groundwater resource. For the Tintinara Coonalpyn prescribed wells area, these volumes also account for rising water levels, although this issue is predominantly addressed in the complementary South East Catchment water management plan.

The plan does not provide a volumetric allocation for the environment, but the board expects that management of the water resource should meet the minimum requirements of dependent ecosystems. A paucity of data, however, means there is some uncertainty about the sufficiency of the current plan. To date, the board has set the permissible annual volumes using estimates of hydrological recharge and sustainable yield developed from data obtained from monitoring bores. It considers that the water balance estimates are accurate to within plus or minus 30 per cent only (South East Catchment Water Management Board 2003b).

There are provisions for monitoring and adaptive management, enabling the plan to be adjusted as better information is obtained. As part of the monitoring program, licensees were required to install meters on their extraction wells, which were in place by 1 July 2003. Each licensee must also prepare and submit an annual report to the Department of Water, Land and Biodiversity Conservation, including details on water use and salinity levels. If monitoring indicates that salinity or water level trends are approaching a resource trigger set in the plan, the board will determine appropriate remedial action to prevent further degradation of the resource and to minimise potential impacts. Actions may include temporary restrictions or reductions to licensed allocations. The triggers in the plan are set primarily for the benefit of human use, but would have indirect environmental benefits.

The plan requires the board to monitor the ecological health of groundwater dependent ecosystems. It must investigate the dependency of the Coastal Plain's pink gums on underground water, consider the ecology of dissolution features (caves) and hypogean ecosystems, and assess the risk from irrigation to the perched wetlands in the Mallee Highlands. The plan states that the board would determine the details of its monitoring program for the Tintinara Coonalpyn prescribed wells area in the catchment management plan. The *South East Catchment water management plan 2003–2008* released in May 2003 does not appear to include these details, but it does set out broad strategies for monitoring water dependent ecosystems (South East Catchment Water Management Board 2003a). These strategies include a proposal to develop management plans for key water dependent ecosystems.

The board will review the permissible annual volumes and water allocation plan for the Tintinara Coonalpyn prescribed wells area every five years. It can also initiate an earlier review if monitoring detects adverse trends in the water quality or water levels. In addition to requiring annual reporting, the South East Catchment water management plan requires specific reporting on the health and condition of the water resources and ecosystems every five years. The board will use this information to evaluate changes in trends and

to consider options and actions to address new or emerging trends in catchment condition.

While the Tintinara Coonalpyn plan does not provide a specific environmental water allocation, and data inaccuracies create some doubt as to whether provisions in the plan will meet minimum environmental requirements, the plan does consider the needs of water dependent ecosystems and is open to amendment depending on monitoring outcomes. At this stage, however, the board has not fully developed the monitoring proposal for the area. It would be appropriate for the National Water Commission to monitor South Australia's progress on this aspect on the plan.

Assessment

South Australia is continuing to progress its water reform processes in a manner consistent with its 1994 CoAG water reform obligations. It has moved forward with its stressed rivers review and complementary state water monitoring review to the point at which these projects appear to be close to completion. It has also completed water allocation plans for all 15 of the prescribed water resource areas covered by its 1999 program, and it is continuing to identify additional water systems and develop plans to manage water allocations in a sustainable way.

6.4 Water trading

Assessment issue: Trading arrangements in water entitlements are to be instituted to maximise water's contribution to national income and welfare, where systems are physically shared or hydrologic connections and water supply considerations permit trading. Under the 1994 CoAG water reform agreement, trading arrangements were to be finalised by 2005. The National Water Initiative extends to 2007 the timeframe for establishing institutional and regulatory arrangements that facilitate intra- and interstate trade, and requires the removal of certain barriers to trade.

Under the National Water Initiative, governments are to immediately remove all restrictions on temporary trade. Also, in the southern Murray–Darling Basin, the relevant governments (including South Australia) are to take all necessary steps to enable exchange rates and/or tagging of water access entitlements by June 2005, and establish an interim annual threshold limit of 4 per cent on permanent trade out of water irrigation areas, with a review in 2009 to consider raising the interim annual limit.

In the 2003 NCP assessment, which considered intrastate trading arrangements, the Council found that South Australia had developed an effective framework for water trading. It identified, however, constraints on trading that are inconsistent with CoAG obligations, including limits on trade out of some irrigation districts (for example, the Central Irrigation Trust's 2 per cent cumulative limit on the proportion of entitlements that can be permanently traded out of the trust's districts) and the reduction factors applied to transfers of water allocations in some prescribed areas (so the amount of water acquired by the buyer is less than that sold). Permanent interstate trade is permitted only in high security water entitlements in the area covered by the MDBC's pilot interstate trading project.

(continued)

South Australia needs to:

- make substantive progress towards removing constraints on trade out of irrigation districts, consistent with its National Water Initiative commitments
- remove the reduction factors that apply to transfers in some areas, or demonstrate that they are consistent with CoAG obligations
- ensure the trading rules in water allocation plans facilitate trading where water systems are physically shared or hydrologic connections and water supply considerations permit trading
- develop arrangements for interstate water trade beyond the MDBC's pilot interstate trading project.

References: 1994 CoAG water reform agreement, clause 5; 1999 tripartite meeting; Intergovernmental Agreement on a National Water Initiative

In South Australia, water trading is possible in irrigation schemes and in prescribed areas in which water licences have been issued. Trade may be temporary (for the short or long term) or permanent. South Australia also participates in the MDBC's pilot project for permanent interstate water trading (see chapter 10). The pilot project is limited to the permanent transfer of high security water entitlements in the Mallee region of South Australia, Victoria and New South Wales (downstream of Nyah).

Irrigation trusts

Under the Irrigation Act, the irrigation trust in an irrigation area holds a water 'taking' allocation. Whether the trust devolves all or part of this allocation to its members varies among the trusts. (In the 2003 NCP assessment, South Australia advised that a small number had devolved ownership of the water allocations to irrigators through internal administrative arrangements.) Where the allocation is devolved, subject to the trust's approval, the owner of an irrigated property may transfer all or part of their allocation to another land owner within their district or to the trust. An irrigation trust may trade all or part of its surplus allocation (the allocation held by the trust in excess of the sum of entitlements held by individual irrigators) to another party outside the trust.

Some irrigation trusts have imposed constraints on water trading that appear to be inconsistent with CoAG requirements for water trading. The Council has sought to clarify the detail of these constraints in both this assessment and the 2003 NCP assessment, considering a study on water trading arrangements undertaken for the MDBC (Hassall and Associates 2002) and asking the South Australian Government to specify the detail of any trading restrictions imposed by the trusts. While available information is inconsistent, there appear to be some significant restrictions. The major restrictions identified by the study undertaken for the MDBC include the following:

- For permanent trades, the Central Irrigation Trust imposes a 2 per cent cumulative limit on the proportion of allocations that can be traded out of

the trust's districts, and a limit on transfers from a property of 25 per cent of the landholder's original water allocation.

- The Central Irrigation Trust also has a limit of 4000 megalitres a year for temporary trade to private diverters, although it advised the South Australian Government that this limit has not been reached.
- The Renmark Irrigation Trust does not permit permanent trade.
- The Sunlands and Golden Heights irrigation trusts permit permanent trade only into their areas (Hassall and Associates 2002).

Other areas

Outside the irrigation areas, water trading is possible in any prescribed area in which licences have been issued to water users under the Water Resources Act (see sections 6.2 and 6.3). The water allocation plans for prescribed areas include objectives and principles or rules for trading (see box 6.1 for the objectives included in the most recently completed plan). The trading provisions in the plans must be consistent with the overarching State Water Plan, which includes the following provisions of relevance to trading:

- The nature of South Australia's highly variable surface water and watercourse water resources generally means that water allocations may be transferred downstream in a catchment but not upstream.
- While transfers of water between catchments are generally not supported, given the potential environmental impacts, a transfer is supported if it is within the ecological limits of the taking and receiving environments. South Australia has advised that water transfers from the River Murray to the Barossa and Clare valleys are two examples of successful inter-catchment transfers.
- In relation to groundwater trading, transfers are not permitted:
 - between management zones (which may include aquifers) unless specifically provided for within the water allocation plan
 - to areas of high intensity extraction unless a detailed hydrological assessment and a monitoring program suggest minimum risks to the resource and any groundwater dependent ecosystems
 - unless they have positive or neutral effects on water quality outcomes, consistent with the higher value uses required of the water bodies.

Box 6.1: Transfer objectives for confined aquifers in the water allocation plan for the Tintinara Coonalpyn prescribed wells area

- To prevent loss of biodiversity and to protect local and regional ecological processes dependent on underground water from significant degradation, arising from the taking and use of underground water from the confined aquifer
- To ensure that the management, taking and use of underground water from the confined aquifer protects the environment and prevents and/or addresses significant degradation of any other resource including soil, water and vegetation
- To promote the efficient use of water according to industry best practice standards
- To manage the confined aquifer underground water resource in a cautious manner so that it may continue to be utilised by future generations and is available for stock and domestic supply
- To provide flexible and fair access to the confined aquifer
- To encourage and expedite an active water market so that water allocations are readily available for future economic development

Source: South East Catchment Water Management Board 2003b

The transfer of a licence and/or all or part of the water allocation attached to the licence is subject to the approval of the Minister for Environment and Conservation. All parties having a registered interest in the licence must be notified of an application to trade before the Minister can grant approval. The Minister may direct that an expert (approved or appointed by the Minister) assess the effect of the application being approved. In reaching a decision, the Minister must ensure:

- the transferred allocation and the conditions placed on the licence are consistent with the relevant water allocation plan
- the trade is in the public interest.

The Minister may reduce the allocation (by applying a 'reduction factor') or vary the conditions of the transferred licence before approving the trade. (The Minister's decision may be appealed.) A reduction factor of 20 per cent is applied to permanent and temporary transfers in the Northern Adelaide Plains.⁵ Under this arrangement, the transfer results in the volume of water allocations acquired by the buyer being 20 per cent less than the volume sold.⁶

⁵ Reduction factors have applied to transfers of allocations in the Northern Adelaide Plains since 1984. The 20 per cent reduction factor has applied since early 2002. At the completion of a temporary transfer, the 20 per cent of water allocations retained by the Minister is returned to the licence holder. Transfers within families, between partners in a partnership, or within the same entity are generally not subject to the reduction. The reduction may be waived where the transfer results from the sale of land.

⁶ In the 2003 NCP assessment, the Council noted that a reduction factor also applied in McLaren Vale to transfers of water allocations from other crops (which use more water) to grapevines. The reduction factor was a transitional measure pending the conversion of water licences from an area basis to a volumetric basis. South Australia indicated that the reduction factor returned a licence to its intended volumetric entitlement.

The Department of Water, Land and Biodiversity Conservation maintains a website to facilitate water trading and provide market information. The website contains year-to-date, as well as historical, water trading market information for all areas of South Australia. While there is provision for pricing information to be included, traders are not legally required to report prices to the department. The department intends to obtain and report verified data on prices from RevenueSA, which collects the information for stamp duty purposes. The website also provides a mechanism for buyers and sellers to make initial contact. It includes a water trading noticeboard for potential traders to place 'wanted to buy' and 'for sale' advertisements detailing volumes, prices and contact information, but does not provide for trades to be processed.

Recent trading activity

Water trade in South Australia is concentrated in the River Murray (table 6.3). There is also significant trade in other areas, but mostly in groundwater (table 6.4).

In the River Murray, intrastate transfers accounted for almost three-quarters of water trade in 2002-03, when:

- most trade (almost 80 per cent of intrastate and over 90 per cent of interstate trade, by volume) occurred via temporary transfers
- the volume of temporary interstate transfers from South Australia was more than double that transferred into the state, with New South Wales accounting for almost two-thirds of temporary trade into and out of South Australia
- the volume of permanent interstate transfers into South Australia was three times that transferred out of the state, with Victoria accounting for nearly 80 per cent of permanent trade into South Australia.

Table 6.3: Water trading in the River Murray, South Australia

	2001-02		2002-03	
	no.	Megalitres	no.	Megalitres
Intrastate transfers				
Permanent	94	8 022	205	12 999
Temporary	238	63 520	300	48 738
Total	332	71 542	505	61 737
Interstate transfers				
<i>Permanent</i>				
Victoria to South Australia	14	1 270	2	1 100
New South Wales to South Australia	3	104	6	320
South Australia to other states	–	–	2	477
Total	17	1 374	10	1 897

(continued)

Table 6.3 continued

	2001-02		2002-03	
	no.	Megalitres	no.	Megalitres
Temporary				
Victoria to South Australia	2	2 150	15	2 225
New South Wales to South Australia	11	4 220	13	3 315
South Australia to Victoria	4	1 160	36	5 118
South Australia to New South Wales	25	11 371	45	9 444
Total	42	18 901	109	20 102
Total permanent	111	9 396	215	14 896
Total temporary	280	82 421	409	68 840
Total transfers	391	91 817	624	83 736

Source: Government of South Australia 2004

In the prescribed wells areas for which South Australia provided data (table 6.4), most groundwater trade occurs via licence transfers (mainly accompanying land sales). In 2002-03 licence transfers accounted for over three-quarters of the volume of water traded. Permanent transfers of water allocations (separate from licence transfers) exceeded temporary transfers in most of these areas. In aggregate, permanent transfers of allocations accounted for three times the volume of temporary transfers in 2002-03.

Table 6.4: Water trading in selected prescribed wells areas, South Australia, 2002-03

Prescribed wells area	Temporary allocation transfers	Permanent allocation transfers	Licence transfers	Total transfers	Total transfers
	ML	ML	ML	ML	no.
Comaum–Caroline	712	1 000	1 760	3 472	48
Lacepede–Kongorong	140	2 630	16 294	19 064	117
Mallee	86	1 038	na	1 124	6
Naracoorte Ranges	936	1 919	7 568	10 423	63
Padthaway	219	36	545	800	5
Tatiara	534	1 547	4 262	6 343	33
Tintinara–Coonalpyn	–	–	6 973	6 973	12
Total ^a	2 627	8 170	37 402	48 199	284

^a The total number of transfers comprised 32 temporary allocation transfers, 82 permanent allocation transfers and 170 licence transfers. **na** Not available.

Source: Government of South Australia 2004

South Australia has advised that the price range for recent water trades in the River Murray was \$100–1100 a megalitre for temporary transfers and \$930–2000 a megalitre for permanent transfers. Prices for permanent transfers were highest in McLaren Vale (\$16 880–20 730 a megalitre) and the Barossa Valley (\$4500–5400 a megalitre). In other areas, the price range for permanent transfers of groundwater was typically \$10–500 a megalitre. Recent temporary transfers in the South East Catchment were priced at \$10 a megalitre.

For water taking allocations, South Australia has indicated that the time taken to approve a permanent trade varies considerably, depending on the complexity of the technical assessment required. Generally, the assessment needs to consider both the seller's and buyer's points of extraction and use. The Department of Water, Land and Biodiversity Conservation aims to assess within eight to 10 weeks the applications to trade water taking allocations. In some areas, however, particularly for groundwater but increasingly for the River Murray (where salinity impacts need to be assessed), the process can take up to six months. For water holding allocations (in the River Murray and the South East Catchment), the department generally processes trades within 10–15 days, because a technical assessment is not required.

Reform progress

In its 2004 NCP annual report, South Australia has not reported any significant changes to the legislative and institutional arrangements for water trading since the 2003 NCP assessment. The Department of Water, Land and Biodiversity Conservation is developing and/or improving systems to track the time taken for trades and to identify where delays are occurring. It is aiming to improve the timeliness of trading without compromising resource management.

Discussion and assessment

In previous NCP assessments, the Council found that South Australia's legislation and related arrangements provided an effective framework for water trading, although it identified constraints on trading that are inconsistent with CoAG obligations. South Australia is also still to develop arrangements for interstate trade beyond the MDBC's pilot project.

Under the 1994 CoAG water reform agreement, trading arrangements were to be substantially implemented by 2005 for the water sources covered by governments' 1999 implementation programs. The National Water Initiative extends to 2007 the timeframe for establishing institutional and regulatory arrangements that facilitate intra- and interstate trade (although barriers to temporary trade are to be removed immediately). In the southern Murray–Darling Basin, the relevant governments (including South Australia) committed to take all steps (including legislative and administrative changes) to enable by June 2005 exchange rates and/or tagging of water access entitlements traded from interstate sources to buyers in their jurisdictions.

In the 2003 NCP assessment, the Council indicated it was satisfied that water entitlements in South Australia are sufficiently specified to enable efficient trade. Licences are issued in perpetuity and are separate from land title. In most irrigation areas, the irrigation trust holds the water taking allocation and provides a share of this allocation to individual irrigators. This entitlement is freely transferable within the scheme and can be traded

outside the scheme through the trust. Outside the irrigation areas, water licences are vested in the end users and specifically recognised as personal property. The register of water licences includes provision for the registration of third party interests. Registered third parties must be notified, and have an opportunity to object, before the Minister can approve a trade. Further, South Australia's provision for water holding allocations allows financial institutions to more easily obtain ownership of a water allocation in the case of default.

South Australia's trading arrangements contain a range of measures to protect the environment and the interests of other water users. In approving trades, the Minister must account for the relevant water allocation plan and the broader public interest. For longer term trades, approval to use the traded water is also subject to the completion of an irrigation drainage and management plan, with the water purchaser obliged to offset any salinity impacts over time.

Permanent and temporary water trading in South Australia is undertaken through a variety of mechanisms, including private trades, brokers and water exchanges (including the Central Water Exchange operated by the Central Irrigation Trust). The website established by the Department of Water, Land and Biodiversity Conservation has improved the availability of water market information throughout the state and facilitated contact between buyers and sellers. While the department can take up to six months to assess trading applications, this occurs only in cases requiring complex technical assessments (for example, to consider salinity impacts). The approval process is often much shorter, and South Australia is working to speed up the process without compromising resource management.

In the 2003 NCP assessment, the Council considered the trading provisions in South Australia's two most recently completed water allocation plans (the plans for the River Murray and the Tintinara Coonalpyn prescribed wells area). It found that the plans do not appear to contain provisions that conflict with CoAG water trading obligations. Their trading provisions are directed at facilitating trade in a manner that maximises economic benefits while protecting the environment and the interests of other water users. Under the National Water Initiative, South Australia will need to ensure the trading rules in subsequent plans facilitate trading where water systems are physically shared or hydrologic connections and water supply considerations permit water trading.

The Council identified two water trading compliance issues for South Australia in the 2003 NCP assessment. The most significant issue is the limits on trade out of some irrigation districts (such as the Central Irrigation Trust's 2 per cent cumulative limit on permanent trade out of the trust's districts). In previous NCP assessments, the Council acknowledged that the irrigation trusts imposed these limits in response to concern that net trade out of districts may result in adverse outcomes including the diminution of local production and regional economies, a reduction in the rate base for local governments, the loss of economies of scale, the potential 'stranding' of irrigation infrastructure and, more recently, uncertainty about the amount of water available for extraction once The Living Murray Initiative is implemented. In its 2004 NCP annual report, South Australia has reiterated its position that

it has met its obligations under the 1994 CoAG water reform agreement because the trading limits have been applied by the private irrigation trusts under their articles of association and are not government policy.

The limits on trade out of irrigation districts, however, impede water trading both within South Australia and interstate, and inhibit the state's capacity to achieve CoAG objectives.⁷ While the ability to vary trading rules rests with the boards of the trusts and their member customers, the CoAG water agreements place responsibility on the South Australian Government to facilitate trading in water, subject to protecting the environment and third party interests. The government acknowledged this responsibility in the National Water Initiative, committing to take all necessary steps to facilitate permanent trade out of water irrigation areas (up to an interim annual threshold limit of 4 per cent) by June 2005. A review in 2009 is to consider raising the threshold. Barriers to temporary trade are to be removed immediately.

The other compliance question that the Council identified in the 2003 NCP assessment is the 20 per cent reduction factor applied to water allocations that are traded (permanently or temporarily) in the Northern Adelaide Plains. At that time, South Australia advised that it intended to continue to apply the reduction factor to reduce the demand on groundwater, as a precautionary measure. As the Council has previously indicated (NCC 2003a), reduction factors on traded allocations provide a disincentive to trade and are a less direct influence on water use. Reduction factors are thus likely to be inconsistent with CoAG trading obligations. Alternative ways of limiting water use that are less likely to adversely affect trade include the government reducing allocations for all water licence holders in an area by a uniform percentage and/or buying allocations in the market.

Given the commitments made by South Australia under the National Water Initiative, the Council considers that the state has made sufficient progress against its CoAG obligations on water trading for this 2004 NCP assessment.

⁷ At the time of the 2002 NCP assessment, South Australia reported that the 2 per cent cumulative limit imposed by the Central Irrigation Trust had been reached for about 25 per cent of allocations held by the trust. This had occurred in five of the smaller irrigation districts in the trust's area (each with an allocation of less than 5 gegalitres). The three districts holding the majority of the water (20 gegalitres or more per district) had not reached their 2 per cent cumulative limit. South Australia has not provided more recent data.

6.5 Investments in new rural water schemes

Assessment issue: Investments in new rural water schemes or extensions to existing schemes are to be undertaken only after appraisal indicates the scheme or extension is economically viable and ecologically sustainable.

In the 2003 NCP assessment, the Council concluded that South Australia had met the CoAG obligation relating to economic viability for the Clare Valley Water Supply Scheme. Based on an ecological study of the project, the Council's preliminary view was that South Australia would also comply with the CoAG obligation relating to ecological sustainability if it implemented appropriate responses to the study's recommendations.

South Australia needs to demonstrate that it has acted to address the matters raised in the ecological study for the Clare Valley project, and report on the initial outcomes of the regional monitoring of groundwater and surface water.

References: 1994 CoAG water reform agreement, clause 3(d)(iii); Intergovernmental Agreement on a National Water Initiative

The Clare Valley Water Supply Scheme, a SA Water project, involves the construction of 83 kilometres of new pipeline and related infrastructure (at a capital cost of \$27 million). The scheme will enable up to 7.3 gigalitres a year of filtered and treated River Murray water to be transferred to the Mid North region of South Australia. The water will be used to improve the reticulated supply of high quality water to several townships, augment supplies to the mid-north region and supply water to the Clare Valley region for irrigation and bulk water purposes. The South Australian Government approved the scheme subject to the establishment of an ongoing groundwater and surface water monitoring program. Originally scheduled for completion by November 2003, the scheme is now expected to be completed by late 2004.

In the 2003 NCP assessment, the Council concluded that South Australia had complied with the CoAG obligation to demonstrate that the scheme is economically viable. Based on an ecological study of the scheme by consultants Resource and Environmental Management, the Council's preliminary view was that South Australia would also comply with the CoAG obligation to demonstrate that the scheme is ecologically sustainable if it implemented appropriate responses to the study's recommendations (NCC 2003a).

Developments since 2003

South Australia has advised that it is addressing, consistent with its commitment in approving the Clare Valley Water Supply Scheme, the five key potential environmental risks identified in the environmental assessment report: (1) waterlogging and drainage hazard formation, (2) higher stream baseflow and baseflow salinity, (3) groundwater salinisation, (4) impacts from the release of chloraminated water to the environment and (5) impacts from pipeline construction.

The Department of Water, Land and Biodiversity Conservation and SA Water are establishing an environmental management regime to address the first three risks. The regime is being applied at two levels:

1. At the regional level, the environmental management regime involves determining the volume of imported water that may be applied in each subcatchment of the Clare Valley without adversely affecting ecosystem health, land productivity, water resource quality and/or downstream catchments. The sustainable volume for each subcatchment has been determined via scientific investigation and the existing water allocation plans for the Clare Valley and the River Murray. In addition, the Department of Water, Land and Biodiversity Conservation is implementing a regional monitoring program using an adaptive management approach. Baseline monitoring has commenced for groundwater, surface water quality and in-stream biota. Stream flow monitoring will soon commence. South Australia has advised that the initial outcomes from the regional monitoring program for groundwater and surface water will not be available until the water supply scheme commences operation over the summer of 2004-05.
2. At the property level, the department is using detailed mapping data to help assess applications for permits and licences to use water from the scheme. Irrigators require a permit to use water from the scheme during the peak irrigation period, and a River Murray licence to take water off-peak. The department will not grant permits and licences in areas in which there is an unacceptable risk to the environment. Both the permits and licences will be subject to conditions on the use of the water (which may vary between properties), as well as ongoing annual reporting to monitor catchment condition.

The potential environmental impacts from the release of treated (chloraminated or chlorinated) water (the fourth risk) will be addressed by the application of SA Water's standard environmental impact assessment procedures for operational water releases. The same procedures will apply to any water releases required during the commissioning of the pipeline.

Potential environmental impacts associated with pipeline construction (the fifth risk) are being addressed by:

- planning and design of the pipeline route and associated infrastructure to avoid environmentally significant areas and minimise impacts on vegetation
- requiring contractors to meet environmental management plans for construction activities, with periodic auditing of construction works by SA Water environmental officers.

South Australia advised that it has undertaken a community consultation program covering the scheme's benefits, the availability of water to towns and irrigators, and the possible environmental impacts of the water imported into the region. The program included media releases and public notices, radio

interviews, community information days, brochures and displays, face to face briefings for stakeholders, letters to residents and irrigators, and regular information updates in four regional newspapers and on the SA Water website.

Discussion and assessment

The Council found in the 2003 NCP assessment that South Australia had complied with the requirement to show that the Clare Valley Water Supply Scheme is economically viable. The Council's preliminary view in the 2003 NCP assessment was that South Australia would also comply with the CoAG obligation to show that the project is ecologically sustainable if it addressed the matters raised in the ecological study.

Following the ecological study, South Australia has adopted environmental management measures and processes aimed at addressing potential environmental risks. While the initial outcomes from the regional monitoring program for groundwater and surface water will not be available until the water supply scheme commences, the adaptive management approach being implemented by the Department of Water, Land and Biodiversity Conservation and SA Water should ensure that appropriate action is taken if monitoring identifies any adverse environmental effects.

The Council considers that South Australia has met the CoAG obligation to demonstrate that the Clare Valley scheme is ecologically sustainable.

6.6 Other matters from the 2003 National Competition Policy assessment

Water legislation review and reform

Governments agreed to review and, where appropriate, reform by 30 June 2002 all existing legislation that restricts competition. Reform is appropriate where competition restrictions do not provide a net benefit to the whole community and are not necessary to achieve the objective of the legislation. Any new legislation that restricts competition must also meet this test.

At the time of the 2003 NCP assessment, South Australia had substantially completed its review and reform of water industry legislation. The Council found that South Australia would complete its program with the repeal of two Acts (the *Irrigation (Land Tenure) Act 1930* and the *Loans for Fencing and*

Water Piping Act 1938), which the State proposed for late 2003. For the 2004 NCP assessment, the Council has considered whether South Australia repealed the Acts.

South Australia repealed the Loans for Fencing and Water Piping Act in July 2003. It has advised that it intends to deal with the Irrigation (Land Tenure) Act in the context of a single piece of legislation that addresses all tenure matters associated with Crown land. Parliamentary Counsel has completed a draft Crown Land Management Bill 2004 for agency and public consultation. South Australia plans to introduce a settled Bill to Parliament in February 2005.

Discussion and assessment

South Australia will complete its review and reform program for water industry legislation with the repeal of one Act (scheduled for early 2005). With the repeal of this Act, South Australia will satisfy its NCP review and reform obligations on water industry legislation.

Institutional reform

At the time of the 2003 NCP assessment, South Australia was still to complete CoAG water reform agreement institutional reforms to:

- devolve a greater degree of responsibility for irrigation scheme management to local bodies
- implement integrated catchment management.

Devolution of greater responsibility for irrigation scheme management

The CoAG water reform agreement requires that governments devolve a greater degree of responsibility for the management of irrigation schemes to local bodies. Devolution can take different forms, ranging from the scheme manager's consultation with local constituents on management issues, to full devolution of operational responsibility to the local level. Any devolution of operational responsibility should occur within a regulatory framework that ensures all of CoAG's water reform objectives can be met.

At the time of the 2003 NCP assessment, South Australia had commenced measures to devolve the management of irrigation districts in the lower Murray reclaimed irrigation areas. The government owns and operates nine irrigation schemes in the lower Murray, comprising 70 per cent of the irrigation areas.

A major study, completed in June 2001, recommended that the most viable parts of the irrigation areas be rehabilitated following the restructure of the dairy industry. The government approved this option and agreed to provide financial assistance to landowners for restructuring and rehabilitation. It reported in 2003 that funding had commenced via the National Action Plan for Salinity and Water Quality and private irrigator contributions. The government expected to complete the rehabilitation program by 2008.

In the government-owned districts, South Australia has made the provision of funding conditional on the districts converting to private irrigation districts. South Australia expects all government-owned districts to convert, which will mean that irrigators have ownership of schemes. Property owners will, for example, become members of an irrigation trust that jointly makes management decisions. Infrastructure assets would be transferred to the trust, which would be responsible for their operation, maintenance and replacement.⁸

The Council found in the 2003 NCP assessment that South Australia was progressing devolution arrangements for the lower Murray. By making financial assistance conditional on conversion into a private irrigation district, the government was providing incentives for the conversion to occur. At October 2004, three districts had formally applied to the Minister to convert. Applications for funding close on 26 November 2004.

South Australia has reported in 2004 that although restructuring and rehabilitation funding assistance was made available from February 2003, the drought and consultation processes had delayed the commencement of works to late 2004. As an interim step towards self-management, South Australia transferred responsibility for the operation and maintenance of irrigation infrastructure from SA Water to the Lower Murray Operations Pty Ltd (a company formed by the irrigators) in 2003. In the same year, the Minister for the River Murray established a process for individual irrigators to trade water. The scheme provides for the Minister to act as an intermediary in the sale of water from the allocation he holds for the district. South Australia attached two conditions to the water trades, which it considers are needed to safeguard the resource and other irrigators:

1. Unless the irrigator installs a water meter, the whole allocation must be sold and the authorised area of land must be retired from irrigation.
2. The irrigator must pay a one-off fee (\$2 a megalitre), to be accumulated in a fund for works to physically isolated retired land.

Discussion and assessment

The Council found in the 2003 NCP assessment that South Australia was making significant progress in developing arrangements to devolve the

⁸ Levee banks and waterfront land will remain government owned.

management of government irrigation districts in the lower Murray reclaimed irrigation areas (as part of a wider restructuring and rehabilitation exercise). While progress has since been delayed by the drought and consultation processes, there have been two further significant steps: (1) the transfer of the operation and maintenance of irrigation infrastructure from SA Water to a private irrigator company and (2) the commencement of water trading. The Council considers, for the 2004 NCP assessment, that South Australia has continued to meet its CoAG obligations to devolve irrigation scheme management, but notes that significant work remains to be done. For the 2005 NCP assessment, the Council would expect South Australia to have made further progress in implementing devolution arrangements.

The Council draws attention to its comments in section 6.4 concerning the obligation on governments under the 1994 CoAG water reform agreement to ensure that regulatory arrangements facilitate trading in water, subject to protecting the environment and third party interests. South Australia acknowledged this responsibility under the National Water Initiative, committing to immediately remove any barriers to temporary trade and to take all necessary steps to facilitate permanent trade out of water irrigation areas (up to an interim annual threshold limit of 4 per cent) by June 2005, with a review in 2009 to consider raising the threshold.

Integrated catchment management

The CoAG water reform agreement requires that governments establish institutional arrangements for an integrated approach to the management of water and land resources, including at the catchment level. Catchment management should address issues such as salinity, river degradation and pollution, biodiversity loss and soil degradation. It should be implemented via partnerships among the different levels of government and nongovernment organisations. Approaches include the regional strategies being developed under bilateral agreements between the Australian, state and territory governments under the national action plan.

South Australia's review of the Water Resources Act recommended that administrative arrangements for natural resource management should be reformed as a matter of urgency. The complexity of the arrangements has attracted widespread criticism from stakeholders. At the time of the 2003 NCP assessment, South Australia had released the Natural Resources Management Bill 2003 for consultation.

South Australia has now enacted the *Natural Resources Management Act 2004*. The Act consolidates in a single piece of legislation the Water Resources Act, the *Soil Conservation and Land Care Act 1989* and the *Animal and Plant Control (Agricultural Protection and Other Purposes) Act 1986*, and the existing administrative processes for delivering the Natural Heritage Trust extension and the National Action Plan for Salinity and Water Quality.

Discussion and assessment

The enactment of the Natural Resources Management Act is a significant step in the reform of South Australia's natural resource management arrangements. The Council considers that South Australia has satisfactorily addressed its integrated catchment management obligations for the 2004 NCP assessment.