

**IPART
Capex, Asset
Management and Opex
Review**

Overview Report

Final

February 2005

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GLOSSARY OF TERMS

<i>Term</i>	<i>Meaning/Definition</i>
ABC	Activity Based Costing
AIR	Annual Information Return
BOOT	Build Own Operate Transfer
capex	capital expenditure
Council	When we refer to Wyong Shire Council (Gosford City Council), WSC (GCC), or the agency, we mean the water and sewerage sections of these councils, the regulated business. We refer to the remainder of Wyong Shire Council (Gosford City Council) as “the Council”
CPI	Consumer Price Index
CSO	Community Service Obligations
D&C	Design & Construct
Determination	The price limits set by a regulator
DEC	Department of Environment and Conservation
DIPNR	Department of Infrastructure, Planning, and Natural Resources
DMP	Drainage Management Plan
DoC	Department of Commerce
DSP	Development Services Plans
EPA	Environmental Protection Authority
FY	Financial Year. We express expenditure in all tables related to the end of the financial year. For example, the financial year 2005/06 is shown as 2006.
GCC	Gosford City Council
GIS	Geographical Information System
HWC	Hunter Water Corporation
IPART	Independent Pricing and Regulatory Tribunal
KPI	Key Performance Indicator
MMA	McLennan Magasanik Associates
NSW	New South Wales
OFWAT	The Office of Water Services, United Kingdom
opex	operating expenditure
price control period	The period over which price limits are determined
price path review	The review of price limits for the price control period
price base	All expenditure is reported as the cost in year 2004/05
PAC	Powdered Activated Carbon
SCA	Sydney Catchment Authority
SIR	Special Information Return
SWC	Sydney Water Corporation
TFP	Total Factor Productivity
UK	United Kingdom
WA	Western Australia

<i>Term</i>	<i>Meaning/Definition</i>
WRc	Water Research Centre (UK)
WSAA	Water Services Association of Australia
WSC	Wyong Shire Council
WTW	Water Treatment Works
WWTW	Wastewater Treatment Works
<p>Throughout this report, all capital and operating expenditure is reported by financial year ending 30 June for each year. For example expenditure in year 2006 refers to the financial year commencing on 1 July 2005 and ending 30 June 2006.</p>	

1 Introduction

1.1 Terms of Reference

In September 2004 the Independent Pricing & Regulatory Tribunal of New South Wales (IPART) appointed the Atkins/Cardno team to carry out a review of the capital expenditure, operating expenditure and asset management practices of the five New South Wales (NSW) water agencies for which it regulates prices. These five agencies are Gosford City Council, Hunter Water Corporation, Sydney Catchment Authority, Sydney Water Corporation and Wyong Shire Council.

This report has been prepared in accordance with the Terms of Reference set out in the contract between Atkins and IPART dated 29 September 2004 and summarises our findings.

The Terms of Reference require us to make recommendations on the efficient level of operating and capital expenditure to maintain and, where appropriate, enhance standards to customers and the environment over the four year period 2006 to 2009. We are also asked to comment on asset management processes. It is for IPART to consider the appropriate duration of each price control.

1.2 The Review Process

The Atkins/Cardno team held interviews at each agency's offices with key members of staff.

IPART required each agency to provide a submission outlining and substantiating its proposed price path for the period 2005-2010. We used this information as the basis of our review. Whilst we have endeavoured to satisfy ourselves as to the provenance and robustness of the data provided, a detailed audit of the completeness and accuracy of the information lies outside the scope of this project.

Over the course of the interview period we requested additional supporting documentation in relation to a range of issues. The agencies provided this information to the best of their ability.

We discussed our initial findings with each agency. This report takes account of comments made by agencies during a consultation process carried out through November and December 2004.

This report is the outcome of our review of the expenditure and processes of the agencies. It is based on the background information provided to us by IPART, the submissions and supplementary information provided by each agency, the findings of our interviews and the outcome of the consultations.

Atkins/Cardno would like to take the opportunity to thank the agencies for making their key staff available over the course of the interview days and subsequent period and for responding to our challenges and requests for further information.

1.3 Outline of Methodology

Approach

Our approach to the efficient level of capital and operating expenditure of the agencies is based on a combination of data analysis, assessment of processes, interviews with agency staff and a review of sample capital and operational schemes. In regulatory reviews of this nature there is usually a wide information asymmetry between agencies and reviewer. As reviewer, we therefore make an assessment of the agency's performance and apply our judgement, developed from wide experience of undertaking efficiency views for price controls, asset management, water engineering and utility management in Australia and internationally, to form our independent professional opinions. We summarise our methodology below, addressing capital and operating expenditure.

Capital Expenditure

For each agency's capital expenditure IPART requires us to:

- ◆ *Comment on the prudence of the businesses' capital expenditure for the period from 2002/2003 to 2004/2005 and nominate a value for any capital expenditure considered imprudent.*
- ◆ *Provide an opinion as to the efficiency of each agency's capital expenditure program for the period from 2005/2006 to 2009/2010 and provide for each year estimates, with supporting reasons, of the level of capital expenditure that the consultant considers efficient in order to undertake each agency's business and functions.*

Historical and Current Expenditure

In order to evaluate the prudence of historical expenditure we reviewed a representative sample of completed schemes. We reviewed the need for each scheme, its timing, the difference between anticipated and out turn costs and any cost control measures that were employed, to form a view on this aspect of the agency's expenditure. We identified any scheme that was not, in our opinion, consistent with the core business of the agency. Finally, we compared actual expenditure against that allowed by IPART in its 2003 Determination and reviewed the reasons for any variances.

Future Expenditure

Our approach to determining recommended allowable future capital expenditure is based on an assessment of the capital expenditure submission drawn from a review of a representative sample of schemes, our views on asset management, procurement and the robustness of cost estimates. We also confirmed the drivers of expenditure and the timing of programs of work; in particular for growth and new standards.

From our assessment, we excluded expenditure which was not related to the agency's core business. We made specific adjustments to the expenditure profile to reflect our comments on the scope, cost and timing of schemes. For some agencies we reprofiled areas of expenditure to reflect likely limitations in achievability. Finally we made adjustments to expenditure to reflect the potential for continuing and catch-up efficiencies.

Capital Efficiency Methodology

Our assessment of capital efficiency is based on the concepts of continuing and catch-up efficiency. Continuing efficiency is the scope for top performing or frontier companies (agencies) to continue to improve their efficiency. It reflects the continuing efficiencies being gained across all major sectors through innovation and new technologies. Catch-up efficiency is the scope for all other utilities to reach the performance of a frontier utility.

This concept was developed and applied by the Office of Water Services (Ofwat) in England and Wales for the 1999 Periodic Review and also used in the 2004 Periodic Review¹ and subject to independent scrutiny by the UK Competition Commission². Ofwat was able to collect and analyse extensive data sets on costs and performance to allow a quantitative assessment of catch-up efficiencies to be made. In New South Wales, the extent of data is not sufficient to carry out a quantitative analysis. We have therefore applied a qualitative assessment of the capital processes currently in use, or recently developed, by each agency to manage capital expenditure, and the methods and costs used to prepare the capital expenditure proposals in the SIR.

The approach is consistent with the methods we applied to efficiency studies to support price controls in the postal sector in UK and to gas and electricity sectors in Northern Ireland.

We focussed our approach on asset management process in place, being applied and to be implemented. We looked at the methods used to prepare cost estimates and the extent of contingencies included. We evaluated the current and proposed procurement processes, compared these with best practice and assessed the impact of improved procurement practices on the capital expenditure proposals. Our views on program management were influenced by the analysis of historical expenditure and outputs delivery and discussions with agency staff.

Catch-up Efficiency

We applied our judgement to determine the level of catch-up efficiency that could be achieved by 2009, based on our detailed experience of best practice applied in England and Wales and our qualitative assessment of each agency's capital processes.

Our assessment resulted in recommended catch-up efficiencies in the range 2-3% in 2006, increasing to 7-9% in 2009. These efficiency values are informed by those achieved by English water companies over the period 1999 to 2004 and Ofwat projected efficiencies over the period 2006 to 2010. The average actual catch-up in efficiency by the English and Welsh water companies over the period 2000 to 2005 varied between 6% and 8% per annum.³ Our opinion from this review is that the best performing agencies in NSW are equivalent to the average large water and sewerage utilities in England and Wales.

Our approach has been to phase catch-up efficiency over the price control period, recognising that the benefits arising from improvements to processes will take some time to realise.

¹ Future Water and Sewerage Charges 2005-10 Final Determinations, Ofwat 2004

² Sutton and East Surrey Water plc, A report on the references under sections 12 and 14 of the Water Industry Act 1991, Competition Commission 2000 and Mid Kent Water plc, A report on the references under sections 12 and 14 of the Water Industry Act 1991, Competition Commission 2000.

³ Future Water and Sewerage Charges 2000-05 Final Determinations, Ofwat 1999

Continuing Efficiency

We have assumed a continuing capital efficiency of 0.5% per annum over the period 2006 to 2009 to reflect the impact of new technology and innovation which all agencies, including a frontier agency, should achieve. This figure is factored down from the identified potential for continuing efficiency to reflect other factors which may affect these comparisons. This assumption is informed by productivity information in Australia⁴ and assumptions by Ofwat in 1999 and 2004. We suggest that any significant differences between the forecast and outturn continuing efficiency should be considered from a retrospective analysis of prudent expenditure at the next price path review.

Operating Expenditure

For operating expenditure IPART requires us to:

- ◆ *Identify and analyse the agencies' potential for cost reduction for each function and make recommendations, with supporting reasons, about efficiency gains that the Tribunal can consider when determining efficient operating expenditure levels for price setting. If current expenditure in an area of operations is assessed as inadequate, specification and quantification of recommended additional expenditure should be undertaken.*
- ◆ *Provide the consultant's opinion as to the efficiency of each agency's proposed level of operating expenditure for each year between 2005/2006 and 2009/2010 and provide for each year estimates, with supporting reasons, of the level of operating expenditure that is required to efficiently undertake each agency's regulated functions*

Future Expenditure

Our approach to determining recommended allowable future operating expenditure is based on an assessment of the agency's operating costs by service area, the management structures it has in place, the processes that are established to manage operating costs, and specific agency issues impacting on operating costs. We excluded expenditure not related to the core business. We made specific adjustments to areas of expenditure to reflect the findings of our review of costs and processes. We made general adjustments to the expenditure to reflect continuing and catch-up efficiencies. For some agencies we recognised that a proportion of operating costs are not directly controllable.

Operating Efficiency Methodology

Our approach to operating efficiency is similar to capital, using the concepts of continuing and catch-up efficiency. Continuing efficiency is the scope for top performing, or frontier, companies (agencies) to continue to improve their efficiency. Catch-up efficiency is the scope for all other companies to catch up with the frontier agencies or utilities.

Our assessment is consistent with a methodology developed and applied by the Ofwat in England and Wales for the 1999 Periodic Review and also used in the

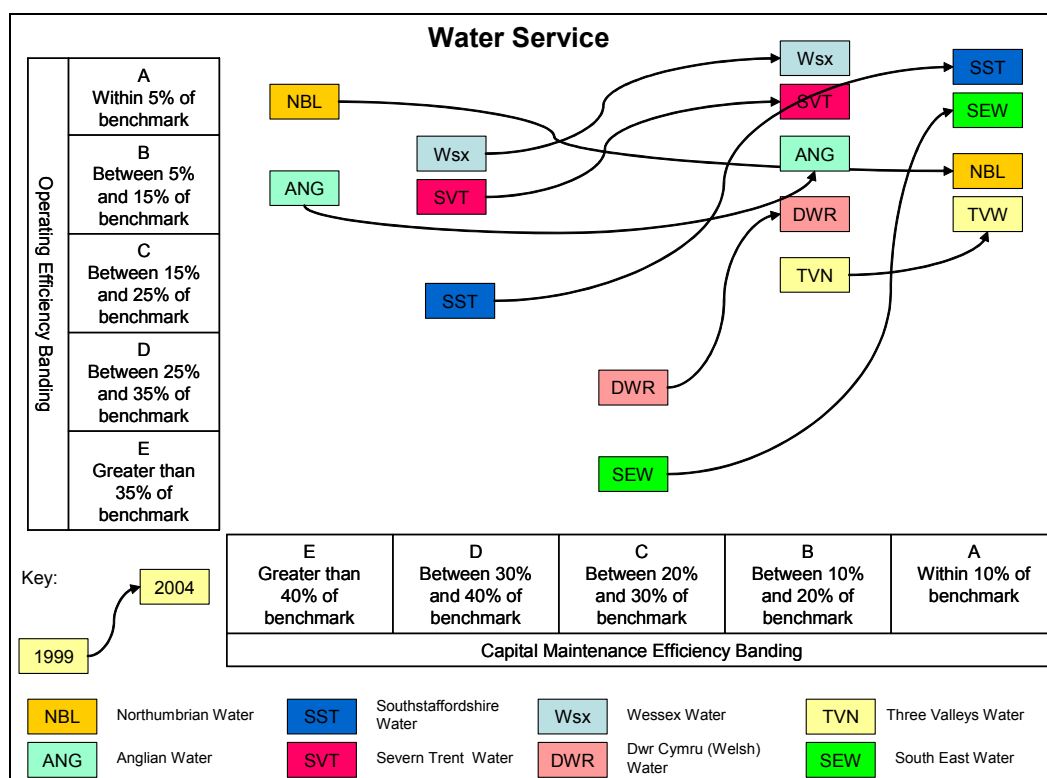
⁴ Productivity in the Market Sector, National Accounts Table 22, Australian Bureau of Statistics, 2004.

2004 Periodic Review. The method was independently scrutinised by the UK Competition Commission⁵. The limited extent of data available from agencies in New South Wales does not allow the application of a detailed quantitative approach. Our opinion is therefore based on an assessment of operating cost processes against best practice, the potential for savings identified from our detailed reviews and a comparison with the level of efficiencies achieved by water utilities in England and Wales.

Water companies in England and Wales were set challenging operating expenditure targets for the period 2000 to 2004 and most achieved these. For example, the average annual continuing efficiency target set by Ofwat at the 1999 Periodic Review was 1.4% per annum and the annual catch-up efficiency ranged from 0-3.5%, with an average 1% per annum.

Several companies moved closer (“caught-up” with) to the frontier company over this time, as shown in Figure 1.

Figure 1 Movement of English Companies towards the Frontier – Water Service



Source: Ofwat Periodic Review – Final Determinations 1999 and 2004

For this study we have followed the concept of continuing and catch-up efficiency that has been established within the Ofwat methodology. However, there is insufficient cost information available to allow us to undertake a detailed review such as Ofwat's, which uses extensive econometric modelling and analyses. We have therefore made an assessment of efficiency based on the information currently available, combined with the experienced judgement of our project team.

⁵ Sutton and East Surrey Water plc, A report on the references under sections 12 and 14 of the Water Industry Act 1991, Competition Commission 2000 and Mid Kent Water plc, A report on the references under sections 12 and 14 of the Water Industry Act 1991, Competition Commission 2000.

We noted that one agency is developing a total factor productivity methodology to understand trends in its own productivity over time for comparison with the utility sector and other sectors. The initial results are encouraging and the approach provides a good basis for further development. A key issue is the definition of outputs and how the influence of quality and service performance may be modelled. There is clearly scope for further work in this area over the price control period to develop total factor productivity methodologies within and across utilities to provide an econometric approach to the assessment of future efficiencies.

2 Overview

2.1 The Agencies

The five agencies that are the subject of this review each have different structures to carry out their functions to provide water supplies. All these structures impact on charges to customers in some way. In this section we describe the regulatory background affecting these agencies. We also comment on outputs and capital expenditure drivers and include specific comments on operating cost processes. We identify some regulatory issues for IPART to consider.

Structures

Hunter Water Corporation (HWC), Gosford City Council (GCC) and Wyong Shire Council (WSC) are vertically integrated agencies responsible for whole water cycle activities from headworks, treatment and distribution of water, to the collection, treatment and disposal of wastewater, and some stormwater functions. Gosford and Wyong Councils have established a Joint Water Authority to manage their combined headworks whilst the water and sewage functions of GCC and WSC are carried out by departments of the General Councils which are designated Water Supply Authorities under the Water Management Act 2000.

HWC is a state owned statutory authority, whilst the water and sewage functions of GCC and WSC are departments of the general Council body.

The Sydney Catchment Authority (SCA) is a wholesale water provider with two key functions: to provide untreated bulk water of a high standard to the 4 million inhabitants of Sydney and to manage and protect the city's drinking water catchments.

Sydney Water Corporation (SWC) is a retail agency responsible for the treatment and distribution of water, the collection, treatment and disposal of wastewater and the collection, discharge, and some treatment of stormwater.

Regulation

IPART is responsible for regulating prices for each agency and for monitoring the Operating Licence performance of SWC, SCA and HWC. The Department of Infrastructure, Planning and Natural Resources (DIPNR) is responsible for regulating water abstractions from each of the agencies and for planning issues. Potable water quality is regulated by the Department of Health. The Department of Conservation (DEC), formerly the Environmental Protection Authority, is responsible for regulating the wastewater discharges to the environment. Table 1 summarises the regulators for the agencies.

Agency	Prices	Operating Licence Regulator	Potable Water Standards	Water Abstraction	Sewage Discharges
GCC	IPART	None	Dept of Health	DIPNR	DEC
HWC	IPART	IPART	Dept of Health	DIPNR	DEC
SCA	IPART	IPART	Dept of Health	DIPNR	DEC
SWC	IPART	IPART	Dept of Health	DIPNR	DEC
WSC	IPART	None	Dept of Health	DIPNR	DEC

Table 1 Regulatory Bodies

2.2 Outputs and Expenditure Drivers

Maintaining Existing Standards

Agencies are required to deliver outputs to customers related to the reliability of water resources, continuity of supply, and maintaining adequate pressure. The agencies are also required to meet environmental standards by limiting intermittent discharges and achieving defined effluent discharge standards. Expenditure has been included in the price control period to maintain, and in some areas enhance, these outputs.

Stakeholders need assurance that water and wastewater assets are adequately maintained in the long term and that continuing good financial and asset performance is not at the expense of deteriorating assets. This assurance is provided through asset management plans which address medium and long term asset performance and related investment.

We found that both Hunter Water and Sydney Water had robust asset management plans covering all asset groups and consistent with good practice. The Sydney Catchment Authority is making good progress towards a comprehensive asset management plan. Both Wyong and Gosford Councils have asset management frameworks in place but further work and time is needed to provide good quality plans. The quality of these asset management plans impacts on the robustness of the expenditure forecasts for the price control period.

Water Resources

The current drought is having a significant impact on available resources in Sydney and the Central Coast (Gosford and Wyong). The Metropolitan Water Plan for Sydney includes plans for further water resource development to address short term drought conditions and medium term enhancements to improve the reliability of supplies and to allow an increase in environmental flows. The Joint Gosford and Wyong Water Authority is implementing short term drought relief schemes to address the current situation and developing medium term plans for drought recovery and increased reliability. The agencies have included capital expenditure for these resource developments.

Retail agencies have introduced comprehensive demand management strategies to reduce customer and total demand. Some such initiatives can be controlled by agencies, for example, Sydney Water is proposing significant reductions in

leakage over the price control period; this is consistent with a proposed new measure in its Operating Licence⁶. The success of other measures that are based on influencing customer water use preferences is less certain and outside the direct control of the agencies. These demand management activities are funded by operating costs over the price control period.

Growth

All retail agencies are required to supply new properties in their supply areas. In the long run, new assets to supply customers should be self funding. Capital expenditure is offset by developer contributions over time. In the short term, and under current modelling, the net difference between capital expenditure and contributions within a price control period is funded by existing customers. We have therefore looked closely at the scope and timing of expenditure proposals. Sydney Water has large potential development areas where water and recycled water services are proposed. Following our challenge Sydney Water reassessed its likely programme of development and reprofiled its expenditure proposals. Hunter Water has also identified potential areas of new development which are planned within the price control period. Expenditure for growth is included in agencies' submissions.

New Mandatory Standards

Both Hunter Water and Sydney Water are required to meet new mandatory standards set by DEC in relation to dry and wet weather overflows from the existing sewerage networks.

DEC requires Sydney Water to eliminate dry weather overflows in the Bondi, Cronulla, Malabar and North Head catchments. Sydney Water considers that the least cost solution would be to rehabilitate private sewers by sealing cracks and joints to minimise infiltration. However, at this time legal issues are likely to preclude this solution. For this least cost option, to proceed, the Government would need to establish a policy to permit the agency to carry out work on private sewers.

Other Expenditure Drivers

Other expenditure drivers include Government priority sewerage schemes where the scope and timing of works is defined. Business efficiency expenditure is proposed by some agencies to enable efficiency savings.

2.3 Operating Expenditure

Submissions

The quality of operating expenditure submissions varied across agencies. One submission was well presented with all data reconciling with supporting information; other agencies used balancing items and rounding of some expenditure where it was difficult to reconcile with other data.

Processes

Agencies generally had budgeting systems in place derived from business plans and financial management systems; budgets were generally based on

⁶ Potential Leakage Requirements for Sydney Water Corporation, Atkins January 2005.

organisational units and subject to scrutiny by internal committees. The Gosford and Wyong agencies include significant Council-apportioned overhead charge which needs greater clarity in cost apportionment. Wyong has gone some way to address this although identification of corporate governance charges presents a challenge to both these agencies.

Full activity based costing (ABC) has been applied by Sydney Water to its whole business; this provides clarity of costs at a detailed level and allows the agency to report with confidence against the IPART information return. The other agencies use ABC to a limited extent and detail. The benefits of ABC are to identify the full cost of activities to a detailed level across the water, sewerage and corporate areas of each agency, and provide the opportunity to identify potential cost savings.

The SCA has implemented a new Financial Information system which links its works management system with financial systems and is consistent with current best practice. Other agencies have established financial systems in place although not to the same functionality as SCA. Wyong Council has also recently introduced a new financial management system; the agency would benefit from an enhanced works management system.

Financial systems and ABC rely on good quality input information. All agencies apply timesheets to a greater or lesser extent to record employee activities against specific codes. Best practice suggests that timesheets should be completed for all field and office employees with activity codes in sufficient detail but not over complex to be able to monitor costs and identify potential efficiencies.

Transfer pricing between agencies and non-regulated businesses is carried out and for some agencies is not a material issue to the price control. However, the basis of any transfers should be consistent with NSW Treasury or Local Authority guidelines as appropriate. The exceptions are Gosford and Wyong agencies, where their respective Councils have applied charges which are greater than the overhead activities they provide and are not appropriate. We discuss these charges in subsequent sections of the report.

Capitalisation policy has a material impact on the price control as it affects the balance between operating costs and capital expenditure. All agencies have established policies which vary in detail and content. For example, Sydney Water's approach depends on the extent of disaggregation of the Fixed Asset Register. Assumptions on the capitalisation of labour - field and office - costs vary. We have not sought to challenge the capitalisation policies of agencies as this is a matter for their financial auditors. We do point out however that any change in policy or disaggregation of asset registers is likely to have a material impact on operating costs in the price control period.

Cost Increases

Agencies identified operating cost increases in their submissions. All retail agencies reported increases in demand and drought management costs related to the current drought. Energy cost increases were identified by Hunter Water, Sydney Water and Sydney Catchment. In the case of Sydney Water the impact of the International Accounting Standards is projected to expense more maintenance costs than under previous standards. While for HWC the new standard means expensing Research and Development costs which would have been capitalised in the past. Other agencies appeared to be unaffected by the new standards. While we have not sought to challenge the capitalisation policies of agencies as this is a

matter for their financial auditors we have recommended agencies consider improved definition of assets and a tightening of capitalisation policy.

Labour costs increase for Hunter Water, Gosford City Council and Wyong Shire Council; conversely Sydney Water proposes a significant reduction in labour costs.

All agencies report increasing operating cost from completed capital schemes and some from the impact of growth.

For Gosford and Wyong councils, the appropriate level of overhead charge to be applied to each water and sewerage business is unclear.

2.4 Regulatory Issues

The study has identified some pricing issues for IPART to consider within the price control period.

Sydney Catchment Authority

The SCA is only able to recover average costs from Sydney Water, which does not recognise the higher marginal cost of pumping from the Shoalhaven River in times of drought. In 2004 this pumping cost the SCA an additional \$6M which was absorbed by the agency. In the short term pumping costs will increase to recover from the drought situation. In the long run the costs will increase with the implementation of the Shoalhaven augmentation scheme. The SCA could not continue to absorb these additional costs without a detrimental impact on other activities. Under the current arrangements no price signals are given to Sydney Water when demand requires additional pumping.

Growth

Agency submissions include significant expenditure in the price control period for growth. Under steady growth conditions this expenditure would be balanced by developer contributions. Current proposals require existing customers to fund substantial growth expenditure. While we have carried out some re-profiling of expenditure, the level of growth expenditure is still material for most agencies.

Sydney Water also includes significant expenditure for recycled water assets for which the greater part is to be recovered from developers and the same issue applies. Some other recycling schemes have been identified as being funded by others.

Stormwater Drainage

Both Wyong and Gosford have a similar financial approach for dealing with the need to fund a stormwater program. Both agencies allocate an “expense” to water supply and wastewater corporate and “other” costs to represent a “contribution” to the capital and operating costs of the stormwater program. This financial treatment leads to an over-statement of both water supply and wastewater operational costs (but not necessarily an over-statement of full costs).

We recommend that consideration should be given to the establishment of a stormwater pricing path, subject to WSC and GCC providing adequate data to support such a Determination.

Outputs

We have proposed allowable capital expenditure for each agency assuming that outputs in terms of water mains replaced, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for agencies to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved over time. We suggest some key measures in the agency reports.

3 Gosford City Council

Gosford City Council provides water and wastewater services to approximately 150,000 people on the New South Wales Central Coast. It operates one water treatment works, distribution systems, sewerage and two wastewater treatment works. The regulated business also makes a contribution to the provision of stormwater services in this area.

The water supply headworks system comprises assets that are owned by either Gosford City Council or Wyong Shire Council; the works are managed and operated by the Gosford and Wyong Councils' Joint Water Authority. Capital and operating costs relating to the joint headworks are shared between the two agencies.

The Central Coast is currently experiencing a long term drought. Water restrictions are in place, and the agency has invested significantly in demand management and investigations for future resource schemes in response to this drought. The drought is a key driver of increased expenditure to both Gosford and Wyong agencies in the price control period.

3.1 Asset Management

An asset management framework has been put in place. Strategies covering all asset groups are being developed. This will lead to an investment plan and inform future price controls. Gosford City Council has made progress but there is much to be done to achieve good practice asset management. It is likely to be some time before good quality activity cost data will be available and robust long term investment plans are in place.

Gosford City Council does not work to an Operating Licence. We suggest that standards relating to pressure, water restrictions, discontinuities, water quality and response to customer complaints and supply failures are established. Similarly for the sewerage system, measures should include availability, response to system faults, odour from sewage treatment works and effluent discharge. The linkage between maintaining these standards and capital expenditure needs to be established within the asset management plan.

From 2002 to 2004 the agency's average annual capital expenditure was around \$5M. This is increasing to a proposed \$23M in 2007. There is a significant risk to the delivery of this increased program to time and cost arising from the current structure and limited resources available within the agency. Gosford City Council has recognised the need for effective delivery of the drought related schemes; several consultants have been engaged for elements of the resource schemes, supported by temporary staff.

3.2 Water Balance

The potential for groundwater abstraction along the Central Coast is being actively pursued. Investigations have been successful and schemes have been identified to deliver 5.5GL per annum. The existing transfer from Hunter Water Corporation has recently been augmented to provide a marginal increase in supply. Also in the

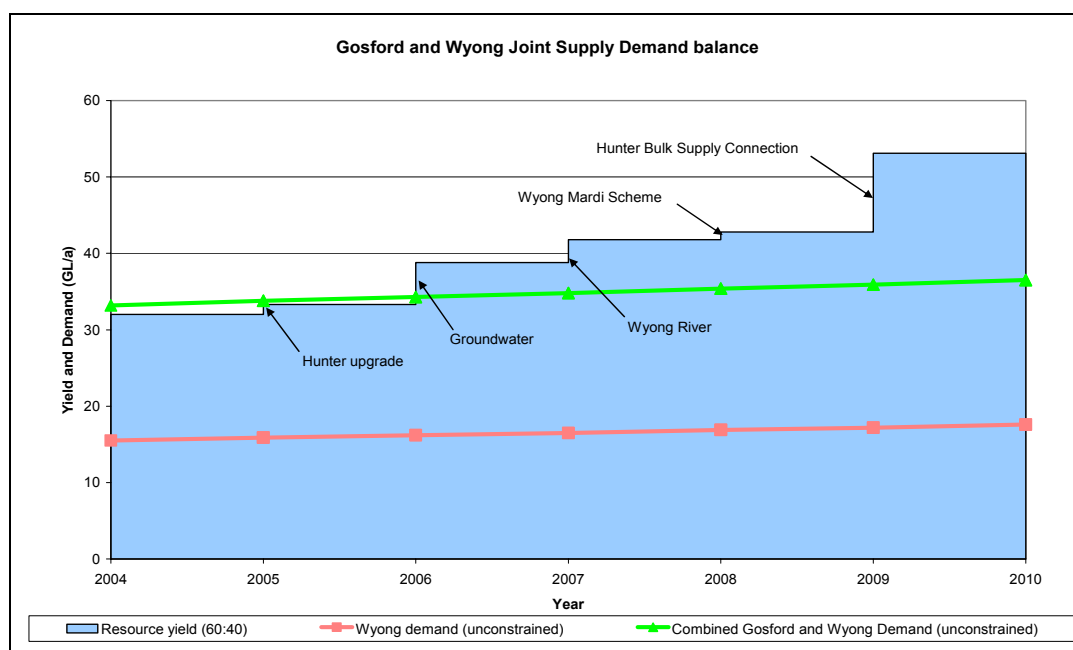
short term enhancement of the existing Wyong Mardi scheme is proposed. Medium term augmentation schemes being actively investigated include a bulk transfer from Hunter Water Corporation, possibly with some water banking arrangements to the benefit of both agencies, and a desalination plant.

From a long term perspective of water resource needs, our view is that a further development is not required within the price control period. This can be seen in Figure 2. However, given the current drought situation, a further increase in source yield would provide additional headroom while base resources are allowed to recover.

The Joint Water Authority is following an appropriate approach to resource development in a drought situation. Short term gains are being made through groundwater development; an additional 15 ML/d is being developed after recent investigations. Optimisation and enhancement of existing resources is being carried out with the Wyong River/ Mardi scheme. A bulk supply scheme from Hunter Water is being developed. A desalination option is also being considered although conventional resource development suggests that this should be promoted only when other options have been exhausted.

In our view the need for, and timing of, a desalination plant is not conclusive and that further work is needed to examine the costs and benefits of an increased bulk supply from Hunter Water for use in drought conditions.

Figure 2 Central Coast Supply Demand Balance



Sources: DoC reports, Gosford and Wyong Joint Water Authority documents, MMA and WSC SIR

Gosford City Council shows a significant variation in unaccounted for water over recent years, which is attributed to inaccurate observed annual metered demands. GCC has commenced an active leakage program and is planning other measures to reduce the total value of unaccounted for water from the current high 26%⁷.

There has been significant operating expenditure on demand management programs in recent years in response to the continued drought. Water restrictions

⁷ Gosford City Council Special Information Return

have produced noticeable reductions in demand. The agency has set challenging targets for the first year of the demand forecast, with total demand in 2005 expected to reduce from 14.43 GL per annum to 12.31 GL per annum.

3.3 Operating Expenditure and Efficiencies

The water supply, wastewater and stormwater services provided by Gosford City Council have a 2005 financial year opex budget of \$34M. The significant components of the budget are council overheads (38%), labour (28%), materials (15%) contribution to stormwater (9%), and energy (8%). Operating costs increased from \$30.9M in 2004 due mainly to demand management costs, an increase in labour costs and corporate charges. Gosford City Council forecasts that the 2005 base year operating costs are to reduce marginally to \$33.2M (\$04/05) in 2009.

Gosford City Council is progressing various process improvements which impact on the whole Council structure. These included an increased focus on asset management, improved access to information and more significant overhead allocation. We identified the need for process improvements to more clearly identify corporate overheads, use of activity based costing to identify the full cost of activities and use of timesheets across the agency to record costs against all activities.

Internal transfer pricing is material and relates to corporate overheads and stormwater charges.

An allocation of \$3M for stormwater capital expenditure is included in corporate opex, which is subsequently reflected as an overhead cost of water and wastewater activities. We do not regard this stormwater expenditure as an overhead for, or a direct cost of, either the water or wastewater business activities. We recommend that the \$3M contribution for stormwater capital expenditure is excluded from pricing determinations for water and wastewater opex. Consideration should be given to the establishment of a stormwater pricing path, subject to Gosford City Council providing adequate data to support such a Determination.

We are not confident that the methodology used for determination and allocation of corporate opex is sufficiently robust. No evidence was found for either the specification or pricing of corporate services provided for the regulated business activities. We also noted that corporate governance costs are included in the allocated overheads, which is contrary to NSW Government guidelines⁸. Until the agency can establish a corporate cost allocation system, and because we believe that there are inappropriate costs transferred to the regulated business, we recommend a reduction of \$0.5M to corporate expenditure. Gosford City Council needs to improve its definition and allocation of corporate costs for due consideration at the next price path review.

We have included additional costs for operating the new groundwater sources and for additional water purchases from Hunter Water Corporation. We have excluded both capital and operating expenditure for the desalination plant as in our view the need for and timing of this scheme is not clear at this time. The agency had not included any additional operating expenditure for the other Joint Authority schemes,

⁸ "Pricing & Costing for Council Businesses, A Guide to Competitive Neutrality", NSW Department of Local Government, July 1997 page 32

such as the new pump station on the Wyong River. The consultant's report identifies a total cost of \$1.M per annum for the operation of these schemes. We have assumed that Wyong will fund half of this cost, and have allowed for opex to be phased in after substantial completion in 2007.

We have proposed a 0.8% per annum continuing efficiency, consistent with other agencies. We have also applied a 0.5% per annum catch-up efficiency to reflect an expected improvement over time. Gosford City Council needs more than one price control period to gain these catch-up efficiencies. We have noted that the agency has included efficiencies in its submission and have offset our forecast efficiencies accordingly.

Service	Efficiency (%)			
	2006	2007	2008	2009
Water	0.8	1.6	2.4	3.2
Wastewater	0.4	0.9	1.4	1.8
Corporate	0.0	0.0	0.0	0.0

Table 2 Recommended Operating Efficiencies for Gosford City Council (% per annum cumulative)

We recommend that the operating expenditure shown in Table 3 be included in the price control period. The Gosford City Council proposed expenditure is shown for comparison.

Total Opex (\$M 04/05)	2006	2007	2008	2009
GCC Proposed Expenditure	33.7	32.8	33.5	33.2
Recommended Expenditure	30.6	29.6	29.3	28.9

Table 3 Recommended Gosford City Council Operating Expenditure (\$M 04/05)

3.4 Capital Expenditure and Efficiencies

Capital Efficiencies

The adjustments for catch-up capital efficiency that are applied to the proposed capital expenditure are based on our qualitative assessment of Gosford City Council's main processes for managing capital expenditure.

We have made a professional judgement of the impact of improved processes that could be achieved by 2008 and have assumed a gradual increase in efficiency over time. This gradual increase recognises that expenditure in 2006 is reasonably certain and that the confidence of estimates reduces over time. It also recognises that benefits resulting from the implementation of improved processes may take some time to eventuate. Our methodology is set out in Section 2.

The results of our analysis are shown in Table 4. In selecting a level of catch-up and continuing efficiency, we have left a challenge to the agency to outperform these targets.

	Efficiency (%)			
	2006	2007	2008	2009
Recommended Efficiency	2.5	5	8	11.0

Table 4 Recommended Capital Efficiencies for Gosford City Council (% per annum)

We have proposed allowable capital expenditure for each agency assuming that outputs in terms of water mains replaced, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for agencies to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved with time.

Capital Expenditure – 2003 to 2005

Water service scheme costs have increased significantly from the 2002 price path review and there has been slippage of many schemes in the program. We have inferred from our analysis that there is a shortfall in the outputs planned for delivery in 2004 and 2005.

Wastewater expenditure over the same period was 30% of that forecast at the 2003 price path review. Asset replacement/ mandatory standards and growth show similar in under-expenditure. We formed the view from the significant shortfall in expenditure that there was a corresponding shortfall in the delivery of outputs.

Notwithstanding this, we conclude that capital expenditure in the period 2003 to 2005 is prudent. We consider that all the capex expended during the current price control period may properly be rolled into the regulatory asset base.

Future Capital Expenditure – Water Service

Water service expenditure in the price control period is driven mainly by resource related schemes to meet the current drought situation and a forecast medium term increase in demand. Expenditure increases from \$8.3M in 2005 to \$22M in 2007 and then reduces to \$6.2M in 2009.

The schemes include groundwater sources which will provide 15ML/d, augmentation of the existing Wyong-Mardi scheme, and either a 20ML/d bulk transfer from Hunter Water or a desalination plant to provide a similar volume. In the worst case scenario, GCC advised us that both the bulk supply connection and the desalination plant would be required.

We recommend that the capital expenditure proposed by Gosford City Council over the period 2006 to 2009 should be adjusted to;

- ◆ Include the cost of additional groundwater development schemes. The \$17M cost of these schemes is shared with Wyong Shire Council;

- ◆ Include the capital cost of a bulk water connection from the Hunter Water Corporation as the next stage of drought relief schemes. The \$15M estimated cost of this scheme is shared with Wyong Shire Council;
- ◆ Defer expenditure for the desalination project as we found that the need for, the scope and timing of a desalination plant is not conclusive;
- ◆ Rephase some asset replacement expenditure over the price control period to reflect a realistic increase in activity;
- ◆ Allow half the expenditure for 'unallocated' new schemes following further information provided by the agency;
- ◆ Apply continuing and catch-up capital efficiencies to the program increasing from 2.5% per annum in 2006 to 11% in 2009.

GCC has allocated nearly all the resource development expenditure to the 'Growth funded by other' driver. The exception is the Mardi Tunnel and high lift scheme which is categorised as funded by developers. This is not consistent with Wyong Shire Council. We suggest that an equitable solution is for all customers to contribute to drought relief schemes and for new customers to contribute to medium term resource developments to meet increasing growth in demand. Our view is that, until a more detailed analysis becomes available, some 70% of costs for all resource development schemes should be funded by all customers and 30% by developers.

We recommend that the capital expenditure shown in Table 5 below should be allowed in the price control period. Expenditure, excluding resource development schemes, averages about \$2.3M per annum post efficiencies compared with historical expenditure of about \$1.9M per annum.

(\$M 04/05)	2006	2007	2008	2009
GCC Proposed	18.0	22.8	13.4	6.1
Recommended Expenditure	17.8	12.8	5.7	4.7

Table 5 Recommended Gosford City Council Capital Expenditure – Water Service (\$M 04/05)

Future Capital Expenditure – Wastewater Service

The program of work put forward by Gosford City Council is under two main headings; capital expenditure and schemes against specific drivers, and other expenditure for 'unallocated works'. The latter includes 'projected new works unallocated' and 'projected replacements unallocated'. Taken together these items comprise about 33% of the program from 2005 to 2009, mainly in the last two years. This sum is the output of the renewals expenditure model that the agency has developed and is a significant increase on current levels of expenditure. While we recognise that this model is a good first step towards an appropriate long term investment plan, this is an unexplained step increase on historical renewal trends. We saw no evidence to suggest that renewal expenditure should increase above the current level.

We recommend that the wastewater capital expenditure proposed by Gosford City Council in the period 2006 to 2009 should be adjusted to;

- ◆ Rephase expenditure on 'other asset renewal' to show an even trend over the price control period;
- ◆ Reduce and rephase expenditure for projected new works and replacement unallocated to provide an even total expenditure for the years 2008 and 2009;
- ◆ Apply continuing and catch-up capital efficiencies to the program increasing from 2.5% per annum in 2006 to 11% in 2009.

This results in an average expenditure of \$6.3M, excluding the specific PSP schemes, compared with \$5.8M in 2003 and 2004. This is before efficiency adjustments, which reduce average expenditure to a level similar to 2003 and 2004 when compared using the 04/05 price base. We consider these efficiencies can be achieved through improved asset planning and capital processes. Full implementation of asset planning processes should enable a robust investment plan to be prepared for future efficiency reviews.

We recommend that the wastewater capital expenditure shown in Table 6 below should be allowed in the price control period.

(\$M 04/05)	2006	2007	2008	2009
GCC Proposed	7.6	8.1	6.8	7.6
Recommended Expenditure	7.5	6.7	5.9	5.6

Table 6 Recommended Gosford City Council Capital Expenditure – Wastewater (\$M 04/05)

Future Capital Expenditure – Stormwater and Corporate

Gosford City Council has not reported any corporate capital expenditure in either the historical or future period under consideration. Any corporate capital expenditure is likely to be included in the operating cost overhead transferred from the general Council.

The agency has not included any stormwater expenditure in its SIR and we have therefore not forecast expenditure or efficiency projections.

At the time of the last determination Halcrow and IPART took the view that the \$3M operating expenditure transfer payment for stormwater from the water and wastewater businesses to the Council is not a proper operating expense of the regulated business. We concur with this view.

We recommend that a separate stormwater pricing path should be established subject to Gosford City Council providing adequate data to support such a determination. We agree with the agency's view that it would need to formalise the lease of assets from general Council operations so that asset ownership is more clearly defined. We also believe that the agency should prepare a robust asset management plan as the basis for separate stormwater pricing.

3.5 Recommendations

Operating Expenditure

We recommend that the operating expenditure shown in Table 3 be included in the price control period.

Total Opex (\$M 04/05)	2006	2007	2008	2009
GCC Proposed Expenditure	33.7	32.8	33.5	33.2
Recommended Expenditure	30.6	29.6	29.3	28.9

Table 7 Recommended Gosford City Council Operating Expenditure (\$M 04/05)

Capital Expenditure

We recommend that total capital expenditure of \$68.2 million be allowed in Gosford City Councils' Determination, as summarised in Table 8.

(\$M 04/05)	2006	2007	2008	2009
Water Service	17.8	12.8	5.7	4.7
Wastewater Service	7.5	6.7	5.9	5.6
Total	25.3	19.5	11.6	10.3

Table 8 Recommended Total Capital Expenditure for Gosford City Council (\$M 04/05)

Outputs

We have proposed allowable capital expenditure for each agency assuming that outputs in terms of water mains replaced, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for GCC to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved over time.

Stormwater

We recommend that the \$3M contribution for stormwater capital expenditure is excluded from pricing determinations for water and wastewater opex.

We recommend that a separate stormwater pricing path should be established subject to Gosford City Council providing adequate data to support such a determination. We agree with the agency's view that it would need to formalise the lease of assets from general Council operations so that asset ownership is more clearly defined. We also believe that the agency should prepare a robust asset management plan as the basis for separate stormwater pricing.

4 Hunter Water Corporation

Hunter Water Corporation provides water and wastewater services to around half a million people in the Lower Hunter region. Newcastle is the centre of operations for the agency, and the biggest urban area that it serves. The Lower Hunter region is otherwise characterised by local centres distributed along the coast and inland. This impacts on the agency in that there are some outlying communities that are relatively expensive to provide services to. It can also mean that critical trunk water main failures cause disruption to a large number of customers.

The current drought in NSW is having a significant impact on water agencies along the coast. Hunter Water is fortunate as its reservoirs are recovering and there are no current restrictions on water use. Nevertheless, the agency continues to promote water efficiency and has an active leakage management process in place.

4.1 Asset Management

Hunter Water Corporation is applying asset management practices across its business that is consistent with best practice.

Good quality information on asset stock, condition and performance is available or is being collected. Appropriate systems are in place with links between asset information, work planning and recording and financial information. Methodologies include detailed risk assessments to support the current replacement proposals. Asset strategies and models have been developed to project medium to long term replacement proposals. However, we noted the high ratio of reactive to planned maintenance, compared with other agencies, that has been adopted as Hunter Water's preferred approach to managing assets.

The asset plans and the investment plan represent the outcomes of extensive investigations and analyses. There is scope to review and update these plans, recalibrate models, review assumptions and reassess risk over the period of the price control.

HWC procures most projects using traditional separate design and construction processes. HWC's general approach is to develop a procurement strategy and consider a range of options. It has successfully trialled a design, build, operate and handover approach on two sewage treatment plants. Some projects have been packaged into period works contracts. However, the size of projects often limits the application of Build Own Operate Transfer (BOOT) or Alliance type contracts. With the significant increase in expenditure proposed in the submission, we consider that the opportunity to use innovative procurement processes provides a good basis to deliver efficiencies.

Documented processes are in place for managing project scope, quality, time and budget. Management of the capex program and of individual projects is well established. Internal resources are utilised for program and project management, supplemented by staff from the Department of Commerce (DoC) and other consultants as necessary. While these procedures are in place, we noted the significant slippage in expenditure for the wastewater program.

4.2 Water Balance

The 2004 water balance reports leakage as 22 ML/d, equivalent to 102 L/prop/d and 5m³/km/d. These values are similar to other agencies and English companies. Hunter Water is carrying out a range of active leakage control activities and investigations, including active leakage detection, metering trials and zone configuration to evaluate the costs and benefits of leakage control. Pressure management is being trialled in selected areas.

An economic level of leakage (ELL) assessment is needed to confirm whether HWC should carry out any enhanced leakage control work to achieve its ELL. HWC is developing an ELL analysis which should be progressed with due urgency to demonstrate whether it is operating at minimum cost.

4.3 Operating Expenditure and Efficiencies

The water supply, wastewater and stormwater services provided by Hunter Water Corporation have a 2005 financial year opex budget of \$68M. The significant components of this budget, as advised in the AIR, are labour and employee provisions (39%), hire and contract services (30%), materials (9%), “other” (9%) and energy (8%)

Operating costs increased from \$64.8M in 2004 due mainly to labour (\$1.4M), hired and contract services (\$0.5M), increases in capitalised opex of \$0.7M and increased energy costs of \$0.2M. Hunter Water forecasts that the 2005 base year operating costs are to increase by \$4M in real terms by 2009; these increases are spread across the water, wastewater and corporate services.

Hunter Water has identified specific operating cost increases relating to the application of International Accounting Standards. The impact is to reduce the extent of costs that can be capitalised, resulting in an increase in operating costs of about \$1M per annum.

Hunter Water has identified increases in energy costs from 2008 when existing contracts are due to be renewed. This is supported by a consultants’ report which suggested a range of cost increases depending on the proportion of total energy costs made up from energy charges. Hunter Water assumed the median of this range. The impact is to increase total energy costs by \$0.9M in 2008.

We found that there are opportunities to optimise maintenance expenditure and derive an economic level of capital maintenance. Hunter Water should develop an optimised maintenance strategy before the next price path review. This would have the benefits of reducing the risk of supply interruptions and demonstrating minimum cost solutions. Extension of the activity based costing system would be needed to achieve this.

Hunter Water Corporation has identified savings arising from a number of its wastewater capex schemes which confirms its innovative approach. There are opportunities for further such small-scale efficiencies to be made over the price control period.

Hunter Water Corporation has identified a range of specific ongoing efficiency improvements in all service areas. In addition to the substantial wastewater efficiencies identified by HWC our review identified a number of areas where improved opex efficiencies may be derived including consolidation of operations

full cost pricing of services to HWA. We have taken these into account within our assumptions of continuing and catch-up efficiencies. We have also assumed that 55% of water service and 75% of wastewater service costs are not controllable. Our recommended operating efficiencies, based on the methodology explained in Section 2, are shown in Table 9.

	Efficiency (%)			
	2006	2007	2008	2009
Water	0.4	1.4	2.2	3.3
Wastewater	0.0	0.0	0.5	1.8
Stormwater	0.0	0.0	0.0	0.0
Corporate	0.3	2.4	3.7	5.9

Table 9 Proposed Operating Efficiencies for Hunter Water Corporation (% per annum cumulative)

We recommend that the operating expenditure shown in Table 10 should be allowed in the price control period. Hunter Water Corporation's proposed operating expenditure is shown for comparison.

Total Opex (\$M 04/05)	2006	2007	2008	2009
HWC Proposed Expenditure	69.0	69.5	70.5	71.5
Recommended Expenditure	68.8	68.7	69.1	69.1

Table 10 Recommended Operating Expenditure for Hunter Water Corporation (\$M 04/05)

Transfer Pricing

Hunter Water Corporation has a fully owned subsidiary Hunter Water Australia which undertakes operational and laboratory services to Hunter Water Corporation and other agencies in Australia.

In 2004 Hunter Water Corporation engaged PricewaterhouseCoopers to report on whether, in its opinion, there was any inappropriate cross subsidisation occurring within and/or between the Hunter Water Group of companies. The overall conclusion by PricewaterhouseCoopers was that appropriate arrangements were in place for inter-company transactions and that they were currently operating at an acceptable level of control.

PWC identified some under-recovery of labour costs for HWC staff contracted to HWA; however as total consultancy fees amount to \$0.4M for the year we do not believe that this is material to the price control.

4.4 Capital Expenditure and Efficiencies

Capital Efficiencies

The adjustments for catch-up capital efficiency that are applied to the proposed capital expenditure are based on our qualitative assessment of Hunter Water Corporation's main processes for managing capital expenditure.

We have made a professional judgement of the impact of improved processes that could be achieved by 2008. We have assumed a gradual increase in efficiency

over time, recognising that expenditure in 2006 is reasonably certain and that the confidence of estimates reduces with time. It also recognises that benefits resulting from the implementation of improved processes may take some time to eventuate.

The results of our analysis are shown in Table 11. In selecting a level of catch-up and continuing efficiency, we have left a challenge to HWC to outperform these targets.

	Efficiency (%)			
	2006	2007	2008	2009
Recommended Efficiency	3.5	5.5	7.5	9.0

Table 11 Recommended Capital Efficiencies for Hunter Water Corporation (% per annum)

We have proposed allowable capital expenditure for each agency assuming that outputs in terms of water mains replaced, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for agencies to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved over time.

Capital Expenditure – 2003 to 2005

Hunter Water Corporation showed that the total 2004 capital program, across all services, was delivered \$3M below its internal budget due to scheme savings (-1.3M) and slippage of the Head Office building project (-\$8.3M) offset in part by increased Hunter Water Corporation management related costs (\$6.5M).

We conclude that both water and wastewater service capital expenditure in the period 2003 to 2005 was prudent. Our analysis of water service historical expenditure for this period showed that actual expenditure was greater than planned.

Our review of wastewater expenditure showed that in the last price control period there was a \$23M under-spend compared with planned expenditure and schemes had slipped. Hunter Water commented that the Cessnock scheme was delayed but a re-appraisal of the scheme resulted in significant efficiencies.

We conclude that capital expenditure on the stormwater service in the period 2003 to 2005 was prudent.

We conclude that corporate capital expenditure in the period 2003 to 2005 was prudent except for the land purchase at the Tillegra Dam site (\$0.6M). Our review of past expenditure has shown that expenditure on the Head Office Accommodation project has slipped to the end of the price control period and into 2006. Other expenditure was slightly higher than proposed, particularly on meter replacements and IT schemes.

Halcrow carried out a review of the agency's capital expenditure for IPART at the time of the 2002 price path review. It noted that the capital program was ambitious in size and it was not confident that HWC could deliver on all its proposed projects

within the pricing period. These concerns have been borne out over the last two years and we share these concerns.

Future Capital Expenditure – Water Service

Hunter Water proposes an increase in capital expenditure over the period 2006 to 2009. Average expenditure increases to \$25M per annum compared with \$18M per annum over the period 2003 to 2005.

An increase in asset replacement expenditure is proposed where two large trunk mains are to be renewed. These schemes are based on detailed asset management studies. Replacement of distribution mains is proposed to continue at a similar rate as recent activity. We concluded that Hunter Water Corporation's approach to distribution main renewal is consistent with good practice and demonstrates a minimum cost approach. The Operating Licence target of no more than 15,000 properties per year affected by an interruption greater than five hours is a challenging target and in the medium term could become the principal driver for replacement activity rather than minimum cost. In 2003 such a trunk main failure contributed to the agency failing the condition of its Operating Licence relating to supply interruptions.

Growth expenditure shows a significant increase over the price control period. While growth should be self-financing due to income from developers received over time, expenditure between 2006 and 2010 is significantly greater than the expected level of contributions. This results in growth expenditure being funded by existing customers in the short term. We asked Hunter Water Corporation to review the profile of growth expenditure but it advised that there was no scope for rephasing and that all the schemes will be needed to the timings shown in the SIR. Our view was that there was sufficient uncertainty in the timing of land releases, developer plans and other exogenous factors to suggest a rephasing of expenditure in later years that represents the more likely scenario.

We conclude that the capital expenditure proposed by HWC for the period 2006 to 2009 should be adjusted to;

- ◆ Rephase expenditure for water growth funded by developers from 2007 to reflect the timing uncertainties in land releases and developer plans;
- ◆ Reflect the impact of the International Accounting Standards where proposed expenditure is not capitalised;
- ◆ Reflect the capital efficiencies proposed in Table 11.

We recommend that the capital expenditure shown in Table 12 below should be allowed in the price control period.

\$M (04/05)	2006	2007	2008	2009
HWC Proposed	19.1	16.9	27.2	35.6
Recommended Expenditure	17.9	15.5	21.8	27.3

Table 12 Recommended Hunter Water Corporation Water Service Capital Expenditure (\$M 04/05)

Future Capital Expenditure – Wastewater Service

Hunter Water proposes an increase in capital expenditure over the period 2006 to 2009; average expenditure increases to \$44M per annum compared with \$26M per annum over the period 2003 to 2005.

Growth expenditure shows a significant increase over the price control period and is greater than the level of contributions. As with the water service, Hunter Water Corporation was of the view that there was no scope for rephasing and the schemes will be needed at the dates included in the submission. We consider that there is sufficient uncertainty in the timing of land releases, developer plans and other exogenous factors to suggest that a rephasing of expenditure in later years represents a more likely scenario.

The agency is proposing significant expenditure, peaking at nearly \$30M in 2007 for addressing dry and wet weather overflows in its sewerage system. Our discussions and correspondence with the member of staff who represents the Department of Environment and Conservation in dealing with quality standards in Hunter Water Corporation's area have indicated that the pollution reduction program has not yet been finalised and the works needed have not been totally defined. Various investigations, system operations management plans and environmental monitoring programs are scheduled for completion at dates between June 2005 and June 2008. Many of these studies will lead to capital works programs but the extent of the works needed will be dependent on the outcomes of the investigations.

We therefore suggest that the capital expenditure proposed by Hunter Water Corporation in the SIR for the period 2006 to 2009 should be adjusted to;

- ◆ Rephase expenditure for wastewater growth funded by developers from 2007 to reflect the timing uncertainties in proposed schemes related to land releases and developer plans not within the control of the agency;
- ◆ Rephase expenditure for new environmental standards set by the Department of Environment and Conservation to reflect the scope and timing uncertainties in proposed schemes which are not necessarily within the control of Hunter Water Corporation;
- ◆ Reflect the impact of the International Accounting Standards where some proposed expenditure is not capitalised; and
- ◆ Reflect the capital efficiencies proposed in Table 11.

We recommend that the capital expenditure shown in Table 13 below should be allowed in the price control period.

\$M (04/05)	2006	2007	2008	2009
HWC Proposed	53.0	66.8	54.9	39.7
Recommended Expenditure	44.2	51.0	51.3	41.7

Table 13 Recommended Hunter Water Corporation Wastewater Service Capital Expenditure (\$M 04/05)

Future Capital Expenditure – Stormwater Service

Our review of past expenditure has shown that only about 75% of the work was completed that had previously been forecast. No outputs were defined at the time of the previous price path review, but our analysis suggests that there has been some scheme slippage. A lower level of maintenance work has been carried out than forecast. We formed the view that detailed asset management planning was not practised for stormwater drainage.

The agency is proposing to increase capital expenditure on drainage works to a level double that of the past two years. It has explained to us that a NSW Government directive to consult with the community for the next stormwater management planning period has increased the amount of channel re-naturalisation required. We accept that these works are likely to be more costly than previous renewals. Whilst it is not clear to us that the timing of the proposed expenditure is confirmed at this stage, we consider the program achievable.

We therefore accept the capital expenditure proposed by Hunter Water for the period 2006 to 2009 subject to capital efficiency adjustments. We recommend that the capital expenditure shown in Table 14 below should be allowed in the price control period.

\$M (04/05)	2006	2007	2008	2009
HWC proposed	0.06	0.66	0.96	0.56
Recommended Expenditure (rounded)	0.1	0.6	0.9	0.5

Table 14 Recommended Hunter Water Corporation Stormwater Service Capital Expenditure (\$M 04/05)

As for the other services we recommend that output measures should be defined for each program or large scheme to allow the next review of prices to take a view of the efficiencies achieved over time.

Future Capital Expenditure – Corporate

Hunter Water has correctly allocated expenditure for Developer Servicing Plans to growth funded by developers. Other expenditure has been allocated to Business Efficiency. This appears generally appropriate, although we note that expenditure on fences and vehicles should be apportioned to 'maintaining existing standards'.

The agency is proposing a level of expenditure that is constant for most of the price control period and lower than the historical level of spend, excluding work on the new head office accommodation. We accept the capital expenditure proposed by Hunter Water for the period 2006 to 2009 subject to capital efficiency adjustments.

Whilst specific cost savings have been identified for some projects, such as the Head Office relocation, we assume that the other savings are accounted for in the ongoing efficiencies projected by the agency.

We recommend that the corporate capital expenditure shown in Table 15 below should be allowed in the price control period.

\$M (04/05)	2006	2007	2008	2009
HWC proposed	11.8	3.7	3.7	4.5
Recommended Expenditure	11.4	3.5	3.4	4.1

Table 15 Recommended Hunter Water Corporation Corporate Service Capital Expenditure (\$M 04/05)

As for the other services we recommend that output measures should be defined for each program or large scheme to allow the next review of prices to take a view of the efficiencies achieved over time.

4.5 Recommendations

Operating Expenditure

We recommend that the operating expenditure shown in Table 10 should be allowed in the price control period. Hunter Water Corporation's proposed operating expenditure is shown for comparison.

Total Opex (\$M 04/05)	2006	2007	2008	2009
HWC Proposed Expenditure	69.0	69.5	70.5	71.5
Recommended Expenditure	68.8	68.7	69.1	69.1

Table 16 Recommended Operating Expenditure for Hunter Water Corporation (\$M 04/05)

Capital Expenditure

We recommend that total capital expenditure of \$295 million be allowed in Hunter Water Corporation's Determination, as summarised in Table 17.

\$M (04/05)	2006	2007	2008	2009
Water	17.9	15.5	21.8	27.3
Wastewater	44.2	51.0	51.3	41.7
Stormwater	0.1	0.6	0.9	0.5
Corporate	11.4	3.5	3.4	4.1
TOTAL	73.6	70.6	77.4	73.6

Table 17 Total Recommended Hunter Water Corporation Capital Expenditure (\$M 04/05)

Output Measures

We have proposed allowable capital expenditure assuming that outputs in terms of water mains replaced, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for HWC to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved over time.

Growth Expenditure

Agency submissions include significant expenditure in the price control period for growth. Under steady growth conditions this expenditure would be balanced by developer contributions. Current proposals require existing customers to fund substantial growth expenditure. While we have carried out some re-profiling of expenditure, the level of growth expenditure is still material.

We recommend that IPART reviews its methodology to reduce the impact of growth expenditure on charges to existing customers.

5 Sydney Catchment Authority

The Sydney Catchment Authority was formed in 1999. Its two key functions are to provide untreated bulk water of a high standard to the four million inhabitants of Sydney and to manage and protect the city's drinking water catchments. The agency manages 21 impounding reservoirs, large diameter water mains and open channels.

Sydney is currently experiencing a long term drought, and has water restrictions in place. The drought is of considerable concern to the New South Wales (NSW) Government, who in October 2004 released a Metropolitan Water Plan providing guidance for the long term management of water in the Sydney region including supply augmentation and demand management measures. The drought and the Metropolitan Water Plan drive a considerable proportion of the capital and operating expenditure in the agency's submission.

5.1 Asset Management

The SCA has established a framework for asset management that is consistent with the NSW government total asset management guidelines. The key features of this framework are a Service Delivery Strategy, Asset Strategy, Operations and Maintenance Plan and Investment Plan.

The agency has good data management systems. The MAXIMO system records asset data and maintenance, and is linked to the financial system. These systems have been installed recently and their full potential remains to be realised. The SCA plans further updating and upgrading where necessary to meet best practice. We formed the view that the SCA is developing an appropriate framework for asset management to provide best practice in this area. The Asset Strategy and approach to risk are appropriate. However, the Strategy is being updated and the link from the Investment Plan through to the capital program is not yet complete.

The SCA has recently made significant improvements in procurement and contract management processes. These include innovative approaches to procurement through incentives and alternative contract packages. We formed the view that the impact of these new procurement processes should deliver material efficiencies in the capital expenditure proposals for the price control period.

The agency's historical performance in managing the capital program to time and cost has not been good. The SCA is implementing several processes to improve its program management capabilities. These improvements should deliver efficiencies in the medium term. It also intends to employ additional staff and consultants to assist it in delivering the proposed capital program.

5.2 Operating Expenditure and Efficiencies

The 2005 operating cost budget is \$79.2M. The significant components of this budget are labour (26%), hire and contract services (20%), grants and sponsorship (10%) and property services (7%). Total operating costs are forecast by SCA to increase to \$80.2M in 2009 (\$M 04/05) equivalent to a 1.3% real increase. An

increase in expenditure across all expense categories is offset in part by reductions in labour costs over the period.

The SCA has made significant progress in establishing the organisation and functions and promoting the bulk water supply and catchment management requirements of its licence. Over the period from 1999 no specific opex or capex efficiency targets were set.

At the time of the Mid Term Review, IPART and Halcrow concluded that the agency was reaching the end of its establishment phase. It is our view that the SCA has risen to the challenge of defining its core business activities and that it has developed processes and programs that allow it to achieve these. These will allow it to meet the efficiency targets we have proposed as it further matures and innovates.

The SCA is at the forefront of implementing scientifically based catchment management activities aimed at optimising the quality of surface water harvested for drinking water purposes. Current catchment activities include providing grants and subsidies for community schemes within the catchment. We consider that economic rationality should be applied to this area of expenditure to assess the costs and benefits of catchment management activities to derive an economic level of catchment management. A rigorous methodology should deliver efficiencies in the medium term.

We recommend that additional expenditure is allowed for increased activity to enhance catchment yield management processes. We estimate that this \$2M per annum will enable the SCA to carry out a number of additional monitoring, control and modelling activities including the operation of its own telemetry systems, an activity currently carried out by Sydney Water. It is our view that the understanding of the resource system that will result from this activity will enhance the agency's ability to optimise the yield of the available resources.

The SCA owns a large real estate portfolio including land and heritage buildings. We consider there is scope for operating cost savings through more effective management of the estates and, where appropriate, the recovery of some costs from third parties.

The SCA proposed operating cost increases from the Deep Storage scheme and environmental flow monitoring. We found that both of these scheme costs were based on preliminary estimates. We reduced the fixed operating cost estimate for the Deep Storage scheme. The scope of the environmental monitoring scheme was preliminary with little supporting data; we included a realistic estimate for these costs.

It is our view that the SCA should be able to structure its tariffs in a more cost-reflective manner, particularly to reflect the marginal costs of providing more expensive water from the Shoalhaven catchment in times of drought. This is an issue which IPART should consider in the design of the tariff structure.

We have derived proposed operating efficiencies presented in Table 18. In calculating these efficiencies we have taken due consideration of the SCA's own efficiency proposals.

	2006	2007	2008	2009
Net Efficiency (cumulative)	0.8	2.6	4.0	5.3

Table 18 Recommended Operating Efficiencies for Sydney Catchment Authority (%per annum cumulative)

These efficiencies have been applied to the operating cost forecasts to derive a recommended profile of operating costs. Table 19 outlines the proposed opex projection net of efficiency. This assumes that SCA is able to provide a business case to support additional expenditure of \$1M in 2006 and \$2M per annum in subsequent years for managing and maximising resource yield.

(\$M 04/05)	2006	2007	2008	2009
SCA Proposed	79.7	81.1	81.3	80.2
Recommended expenditure	80.1	80.5	79.0	76.9

Table 19 Recommended Sydney Catchment Authority Operating Expenditure (\$M 04/05)

Taking into account the efficiency proposals by SCA and the additional funding for maximising yield, operating costs including opex from capex schemes will reduce in real terms by 3% between 2006 and 2009.

5.3 Capital Expenditure and Efficiencies

Capital Expenditure 2003 - 2005

Our review of a representative sample of recent schemes has shown that costs have increased significantly from the 2002 Mid Term Review and that there has been slippage of many schemes in the program. We have inferred from our analysis that there is a shortfall in the outputs planned for delivery in 2004 and 2005.

We have identified expenditure that was on the non-regulatory business activities of work on cottages and electrification of barbeques and recommend that this is excluded from the regulatory asset base. Other than these identified schemes, the documents we inspected confirmed that schemes undertaken were prudent and related to the core business of the SCA. Table 20 below illustrates the historical expenditure proposed by the SCA and the level of prudent expenditure that we recommend.

Financial Year Ending	2003	2004	2005
Total SCA proposed capital expenditure (SIR Table 8.1)	13.1	18.8	73.4
Disallowed capital expenditure (SIR Table 2)	0.8	-0.1	0.5
Total allowed capital expenditure	12.2	18.9	72.9

Table 20 SCA Proposed and Recommended Allowed Historical Capital Expenditure (\$M 04/05)

Source: SCA SIR November 2004

Capital Efficiencies

The adjustments for catch-up capital efficiency that are applied to the proposed capital expenditure are based on our qualitative assessment of Sydney Catchment Authority's main processes for managing capital expenditure.

We have made a professional judgement of the impact of improved processes that could be achieved by 2009 and have assumed a gradual increase in efficiency over time. This gradual increase recognises that cost estimates for 2006 are reasonably certain and that the confidence of these estimates reduces going forwards. It also recognises that the benefits arising from improvements in process will take some time to be achieved. The review of recent historical expenditure and sample schemes also informed our judgement. Our methodology is outlined further in Section 2.

We summarise the results of our analysis in Table 21.

	Efficiency (%)			
	2006	2007	2008	2009
Recommended Efficiency	3.5	5.5	7.5	9.5

Table 21 Recommended Sydney Catchment Authority Capital Efficiencies (%)

Future Capital Expenditure

The SCA's capital expenditure program includes schemes presented in the Metropolitan Water Plan. These comprise the deep storage scheme, groundwater investigations, the Shoalhaven transfer scheme, enhancement of environmental flows and the Prospect pumping station. The deep storage scheme for the Warragamba and Avon dams forms a key element of the Plan. Similarly the cost of groundwater investigations is included. Work on the Prospect pumping station has slipped in time from the previous price control period and is a key proposal of the McClellan report.

The Shoalhaven Transfer Scheme is to enhance the yield of the resource system by pumping to the Avon reservoir when flows in the Shoalhaven catchment are high. The scheme comprises the installation of gates on the spillway at the Tallawa Dam, using the existing transfer system to lift water to the Burrawang Pumping Station, providing additional pumps at this station and constructing twin two metre diameter pipelines from Burrawang to the Avon Dam. This will allow the system to transfer water at times of high flow in the Shoalhaven River and to increase the potential for release of environmental flow into the Nepean catchment.

The Shoalhaven Transfer Scheme is the largest component of the SCA's proposed capital expenditure program. This major scheme has now to go through detailed technical studies, economic and environmental evaluations and community consultation. A detailed project program needs to be prepared. It is essential that any abstraction from the Shoalhaven scheme is sustainable and further environmental studies are needed to ascertain the safe level of such an abstraction; this in turn impacts on the scope of the phase 1 works. The outcome of these studies and consultations, and a decision on the method and staging of the scheme are not expected to conclude until part way through the upcoming price control period.

We have reviewed the information provided by SCA and taken into account the time needed to study the scope, timing and cost of this major scheme, consult with communities and environmental bodies, and prepare detailed construction plans. We have proposed a level of expenditure which assumes that studies are completed during 2007; and that construction starts in the latter part of 2007 (FY 2007/08) continuing through to the latter part of 2009 (FY 2009/10). These dates are generally consistent with the Metropolitan Water Plan. This recommendation results in expenditure on the preparation and construction of the scheme being spread over a slightly longer period than proposed by the SCA, with more of the expenditure falling into the years beyond the price control period. Should additional expenditure be needed during the price control period this can be considered at the next price path review.

A further scheme in the Metropolitan Water Plan allows the release of compensation water into the Upper Nepean River for environmental reasons and is an essential element for improving the health of the rivers. The scheme included by the SCA is generally dependent on completion of the Shoalhaven scheme in 2009 or 2010.

We suggest that any significant differences between the forecast and out turn continuing expenditure over the period 2006 to 2009 should be addressed at the next price path review.

We consider that the resulting capital program, as illustrated in Table 22 provides the basis for SCA to generate incentives and encourage innovation to undertake its business and functions.

(\$M 04/05)	2006	2007	2008	2009
SCA Proposed	165	126	137	85
Recommended expenditure	152.2	29.2	57.7	102.6

Table 22 Recommended Sydney Catchment Authority Capital Expenditure (\$M 04/05)

5.4 Recommendations

Operating Expenditure

In Table 19 outlines the recommended opex projection for SCA in net of efficiency. This assumes that SCA is able to provide a business case to support additional expenditure of \$1m in 2006 and \$2M per annum in subsequent years for managing and maximising resource yield.

(\$M 04/05)	2006	2007	2008	2009
SCA Proposed	79.7	81.1	81.3	80.2
Recommended expenditure	80.1	80.5	79.0	76.9

Table 23 Recommended Sydney Catchment Authority Operating Expenditure (\$M 04/05)

Capital Expenditure

Our recommended capital expenditure for the SCA the price control period is shown in Table 22.

(\$M 04/05)	2006	2007	2008	2009
SCA Proposed	165	126	137	85
Recommended expenditure	152.2	29.2	57.7	102.6

Table 24 Recommended Sydney Catchment Authority Capital Expenditure (\$M 04/05)

Output Measures

We recommended a level of allowable capital expenditure assuming that outputs in terms of additional resource yield, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for the SCA to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next review of prices to take a view of the efficiencies achieved over time.

Charging Arrangements between SCA and SWC

The SCA is only able to recover average costs from Sydney Water, which does not recognise the higher marginal cost of pumping from the Shoalhaven River in times of drought. In 2004 this pumping cost the SCA an additional \$6M which was absorbed by the agency. In the short term pumping costs will increase to recover from the drought situation. In the long run the costs will increase with the implementation of the Shoalhaven augmentation scheme. The SCA could not continue to absorb these additional costs without a detrimental impact on other activities. Under the current arrangements no price signals are given to Sydney Water when demand requires additional pumping. We recommend that a more cost reflective tariff be developed.

Bulk Water Management

We recommend that additional expenditure is allowed for increased activity to enhance catchment yield monitoring, modelling and operating processes. We estimate that this \$2M per annum will enable the SCA to carry out a number of additional monitoring, control and modelling activities. This is subject to a detailed business case being prepared by SCA. Sydney Water Corporation

6 Sydney Water Corporation

Sydney Water Corporation (SWC) provides water and wastewater services to some four million people in the greater Sydney area. It also provides stormwater services to some half a million properties. The agency purchases its bulk water from the Sydney Catchment Authority, which is also responsible for managing the region's water supply catchments.

Sydney is currently experiencing a long term drought, and the agency has introduced Level 2 water restrictions. The New South Wales Government is concerned by the ongoing drought and the implications thereof. In October it published the Metropolitan Water Plan, which is the driver of the expenditure and policies in relation to demand management set out in SWC's submission.

We have assumed that Sydney Water is a continuing water and wastewater business; IPART has not asked us to consider the impact of any competition issues on the SWC submission.

6.1 Asset Management

Sydney Water is applying asset management practices across its business that are consistent with best practice.

Good quality asset information on stock, condition and performance is available or being collected. Appropriate systems are in place with links between asset information, work planning and recording and financial information. Asset strategies have been developed in detail. Methodologies include modelling and risk assessments to support the replacement proposals. The asset strategies provide long term investment plans which have been used in the pricing submission.

Sydney Water has a comprehensive cost estimating manual in place. For larger projects cost estimates are prepared or reviewed by external quantity surveyors and risk based estimating is carried out. However, our scheme review identified significant capital cost variations and we found that the impact on operating costs was not fully explored. Sydney Water explained that operating cost impacts are now considered in an updated business case format, with estimates derived from the current cost base and agreed with the operations team. Our view is that there are efficiencies to be gained by the implementation of improvements to cost estimating that have been identified by Sydney Water.

Sydney Water has developed a new procurement strategy with the aim of being a 'smart buyer' working more closely with the private sector. We consider that the agency's new procurement practice is consistent with current best practice. This provides the opportunity to derive efficiencies from the capital expenditure proposals in the price control period.

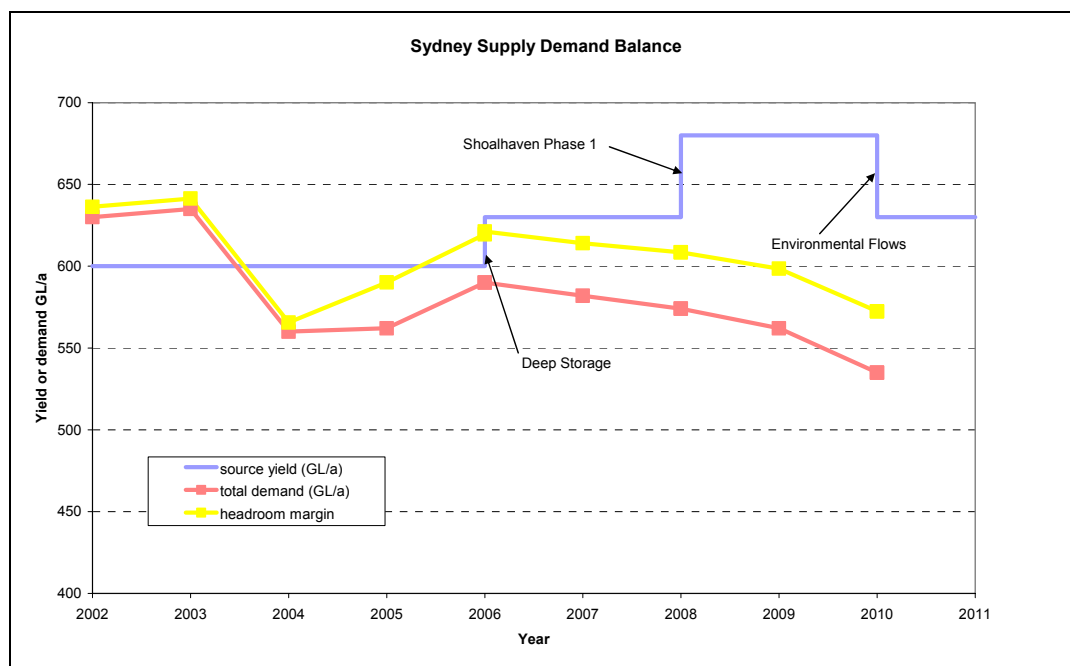
The capital program is managed through the established Capital Project Delivery Management System. From our review of historical water schemes, we noted significant slippage of capital maintenance schemes. We formed the view that there are opportunities to improve the program management to reduce slippage

and monitor the delivery of efficiencies. We believe that the agency has the resources to complete the proposed program, although we have in places challenged whether proposed step increases in expenditure are achievable.

6.2 Water Balance

Sydney Water purchases nearly all of its bulk supplies from the Sydney Catchment Authority through existing fixed and volumetric tariffs. The SCA works with Sydney Water on forward forecasting of demand. Decisions on resource development are made with DIPNR and other Government agencies and implemented by the SCA. Figure 3 shows the balance of supply from Sydney Catchment Authority and demand for Sydney Water, assuming the long term resource yield with demand constrained by restrictions and the impact of demand management measures. This assumes that additional yield from the deep storage schemes at Warragamba and Avon dams will be available in July 2006, from the first phase of the Shoalhaven augmentation scheme in 2008 and release of environmental flows in 2010. This is consistent with the NSW Government's Metropolitan Water Plan.

Figure 3 Sydney Supply Demand Balance



Source: SWC SIR, SCA SIR, MMA report.

It is normal resource planning practice to add some headroom to the demand forecast to reflect the uncertainties in supply and demand components.

The resource developments identified in the Metropolitan Water Plan are funded by the Sydney Catchment Authority and the costs will be recovered over time through charges to Sydney Water.

The Metropolitan Water Plan includes the deep storage schemes to allow abstraction from the lower levels of the Warragamba and Avon Reservoirs, and the enhancement of the Shoalhaven scheme. These schemes will provide a realistic level of headroom above current demand forecasts to recognise the uncertainties in the values of demand and supply components. There is merit in reviewing the assessment of headroom using risk analysis tools now available.

Demand

MMA has undertaken a review of Sydney Water's demand forecast and prepared a report 'Review of Consumption Forecasts – NSW Metropolitan Water Agencies'. The report concludes that Sydney Water's demand forecasts are reasonably based. We confirmed that there were no issues which would affect the level of operating and capital expenditure proposed in the Submission.

Leakage

Sydney Water has made good progress on leakage reduction over the last two years, from 182 ML/d in 2002 to 145 ML/d in 2004. Such gains are to be expected where areas have not previously been subject to active leakage control. Continuing this approach of covering the distribution system over a three year period is not likely to achieve the further gains needed to meet the identified target.

In its submission Sydney Water shows that when compared with other Australian agencies it is ranked 12th out of 15 in terms of leakage performance, although these comparisons do not reflect the operating environments of each agency. Sydney Water's performance is in a similar range of values similar sized English utilities with common operating environments.

Sydney Water has carried out an ELL assessment consistent with current best practice set out in Future Approaches to Leakage Target Setting (Ofwat 2002). It produced a discussion paper in September 2004 which set out its approach and initial results. A short run approach has been taken, based on marginal costs. The analysis is carried out for the whole network. Several assumptions are made relating to the policy minimum level of leakage, natural rate of leakage rise, marginal cost of water and environment and social costs. We discuss these assumptions in our report to IPART 'Potential Leakage Requirements for Sydney Water'.

In this report, we stated that Sydney Water should aim to minimise the total cost of leakage management by 2009. The target should be based on the ELL. The 105 ML/d target is consistent with Sydney Water's submission. Schemes for leakage detection and repair, installation and rehabilitation of bulk flowmeters and implementation of pressure control over a wide area of the distribution system are included in the submission. We consider that the agency has sufficient funding within its submission to meet this target. We have made no adjustments to this expenditure other than efficiencies applied to the whole program. The program will require some acceleration in bulk meter installation but this is not material to the price path review.

Demand Management

Sydney Water has included a range of demand management measures in operating costs. The costs and benefits of each activity have been estimated. We have reviewed these activities and many provide good value; the benefits of some initiatives such as rainwater tanks are marginal. Nevertheless we would expect Sydney Water to meet its demand management targets in full within the current expenditure proposals through targeting of initiatives and deriving an economic level of water efficiency (demand) management.

6.3 Operating Expenditure and Efficiencies

The 2005 operating cost budget for the water supply, wastewater and stormwater services is \$850M. The significant components of this budget are labour and employee provisions 33%, hire and contract services 15%, bulk water purchases 15%, BOO costs 12% and “other” costs of 12%. Total operating costs are forecast by SWC to increase to \$893M in 2009 (\$M 04/05) equivalent to a 1.3% per annum real increase above CPI.

Water service operating costs show a net increase of \$61M as a result of bulk water costs (\$53M), a Demand Management Fund (\$15M) and operational projects (\$8M), with these increases offset in part by reduction in the costs for asset management, water services and customer services (-\$16M).

Wastewater operating costs increase by \$11M over the period due to operational projects (\$11M), the SWSOOS (\$4M), opex from capex (\$5M) and incremental growth (\$1M), offset by savings in operational functions (\$10M). Corporate costs are forecast to reduce by \$30M.

SWC uses an activity based costing model to reconcile all costs to activities, allocate corporate overheads and to prepare values for the IPART expense categories. This is consistent with best practice and has allowed SWC to expose costs at a detailed activity level and identify the scope for efficiencies.

The application of SWC’s capitalisation policy has a material increase on future operating costs. While the current capitalisation policy assumes a low threshold, in practice the capitalisation criteria is dependent on the level at which assets are recorded on the fixed asset register. If an asset is identified on the fixed asset register it can be capitalised; if the asset is not identified, then it would be expensed. Sydney Water could influence the opex/ capex balance by using a more detailed fixed asset register.

SWC has identified that SCA charges could increase by up to \$53M per annum by 2009. Our efficiency proposals for SWC exclude the SCA charges as these form a separate Determination by IPART. In deriving efficiencies to be applied to SWC, we have assumed these costs to be not controllable. We have included the \$15M annual cost of the Demand Management Fund as an external Government requirement from 2006 although details of its timing and scope have yet to be defined.

Expenditure for water and wastewater operational projects shows a significant increase of \$20M per annum from 2006. We have re-phased the proposed increase in operational projects over 2006 and 2007 to reflect a more achievable and efficient program of expenditure.

We have noted that Sydney Water is likely to meet the current Determination efficiency targets within 2% by June 2005. It has identified a range of specific ongoing efficiency improvements in the water service, the wastewater service and corporate service. The efficiency targets that we derived for SWC closely matched those forecast by the agency.

We have estimated the overall impact of these as ongoing operating expenditure efficiencies equivalent to the values in Table 25. We have assumed that 32% of the agency’s water related opex is controllable and have therefore applied one third of the calculated efficiency target to this operating cost sector.

	Efficiency (%)			
	2006	2007	2008	2009
Water	0.0	0.0	0.1	0.6
Wastewater	0.0	0.0	0.1	0.7
Stormwater	0.0	0.0	0.0	0.0
Corporate	0.0	0.0	0.0	0.0

Table 25 Recommended Operating Efficiencies for Sydney Water Corporation (% per annum cumulative)

These efficiencies are applied to the operating cost forecasts to derive an allowable profile of operating costs. Table 26 outlines our recommended opex expenditure excluding SCA costs.

(\$M 04/05)	2006	2007	2008	2009
SWC Proposed	744.6	733.3	723.0	715.6
Recommended expenditure	733.8	725.7	717.8	705.1

Table 26 Recommended Operating Expenditure (\$M 04/05)

6.4 Capital Expenditure and Efficiencies

Capital Efficiencies

The adjustments for catch-up capital efficiency that are applied to the proposed capital expenditure are based on our qualitative assessment of SWC's main processes for managing capital expenditure.

We have made a professional judgement of the impact of improved processes that could be achieved by 2009 and have assumed a gradual increase in efficiency over time. This gradual increase recognises that expenditure in 2006 is reasonably certain and that the confidence of estimates reduces over time. It also recognises that benefits resulting from the implementation of improved processes may take some time to be realised. Our methodology is outlined further in Section 2. The results of our analysis are shown in Table 27. In selecting a level of catch-up and continuing efficiency, we have left a challenge to SWC to outperform these targets.

	Efficiency (%)			
	2006	2007	2008	2009
Recommended Efficiency	3.5	5.0	7.5	9.0

Table 27 Recommended Capital Expenditure Efficiencies for Sydney Water Corporation (% per annum)

Capital Expenditure – 2003 to 2005

We conclude that expenditure in the period 2003 to 2005 is prudent and that the water, wastewater, stormwater and corporate capital expenditure in the previous price control period can be properly rolled into the asset base.

Our review of this sample of schemes for the period 2003 to 2005 showed that there is clear evidence of under-expenditure against the planned program in the water service. Conversely, wastewater expenditure was 4% greater than planned. It was difficult to confirm whether the under or over-expenditure for asset renewal was as a result of scheme slippage, cost overruns or efficiency, as it is not possible to verify the actual outputs against those planned.

Future Capital Expenditure – Water Service

Sydney Water has proposed a significant increase in expenditure during the price control period, particularly in relation to growth and asset renewals.

Existing mandatory standards includes asset replacement and shows a significant increase over the price control period. This increase is based on detailed asset management studies and appropriate methods; the result is a renewal rate that is comparable with other agencies and companies with similar assets and operating environments. We support this increase in asset renewal activity as it provides a good basis for the long term stewardship of assets. We have two concerns on the effective and efficient delivery of this program. We have suggested a longer period is needed to prepare schemes for the enhanced replacement activity, and that there should be monitoring of outputs to ensure that the program is delivered on time and within the efficiency targets set.

In response to our challenges the agency has rephased its original proposals for expenditure on growth, with activity now peaking towards the end of the period. This reassessment was carried out at scheme level and addressed growth in established areas, in new areas and potential new works to be included in the next Developer Servicing Plan revision for established areas and new sectors. We have accepted this re-profiling but note that the high level of capital expenditure on growth still far exceeds the level of contributions within the price control period.

We recommend that the capital expenditure proposed by Sydney Water in the SIR for the period 2006 to 2009 should be adjusted to;

- ◆ Rephase critical and distribution mains replacement to reflect a more gradual increase in activity over the period;
- ◆ Rephase expenditure for water growth funded by developers to reflect the revised expenditure proposals provided by Sydney Water;
- ◆ Rephase expenditure for water recycling funded by developers to reflect the revised expenditure proposals provided by Sydney Water; and
- ◆ Include the proposed efficiency targets.

We recommend that the capital expenditure shown in Table 28 should be allowed in the price control period.

\$M (04/05)	2006	2007	2008	2009
SWC Proposed	202.7	244.4	229.3	192.6
Recommended expenditure	132.8	164.0	208.9	236.6

Table 28 Recommended Sydney Water Corporation Water Service Capital Expenditure (\$M 04/05)

We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved over time.

Future Capital Expenditure – Wastewater Service

The capital expenditure proposed by SWC for the wastewater service totals \$1.4 billion over the price control period. Expenditure increases to a peak of \$391M in 2007, reducing to \$296M a year by 2009. Average expenditure is about \$363M per year, which is less than out turn for 2003 and 2004.

Expenditure for existing mandatory standards includes asset replacement and shows an even trend over the price control period. Sydney Water has completed significant investigations to identify and determine the work that is needed for its major catchments; this is detailed in its asset plans. The rate of renewal is equivalent to about 0.4% of asset stock per annum. This is higher than nearly all other utilities in Australia and England except City West Water. SWC is performing at a level close to the Licence value for uncontrolled sewage overflows. The risk of exceeding this level of service value is high and we therefore support the level of renewal activity proposed but recommend there should be monitoring of outputs to ensure that the program is delivered on time and within efficiency targets set.

Expenditure that has been allocated to new mandatory standards relates to the Department of Environment and Conservation requirements for eliminating dry weather overflows in the agency's wastewater catchments: Bondi, Cronulla, Malabar and North Head. SWC considers that the least cost solution would be to rehabilitate private sewers by sealing cracks and joints to minimise infiltration. However, at this time legal issues are likely to preclude this solution. For this least cost option to proceed, the Government would need to establish a policy to permit the agency to carry out work on private sewers. The alternative, the use of storage systems and amplification of the sewers to prevent dry weather spills, has been estimated to cost in excess of \$2.5 billion.

SWC has included approximately \$165M during the price control period for meeting the requirement to eliminate dry weather overflows. At this time it is not clear which of the two options will be chosen, but to meet the new standards in time works will have to commence during the price control period. Expenditure therefore shows a steep increase after 2006. We consider it likely that either option will cost more than the sum included in the agency's submission.

Sydney Water reassessed its expenditure profile for growth funded by developers following our challenge to the scope and timing of the initial proposals. This reassessment was carried out at scheme level. We have accepted this re-profiling, which generally moves expenditure to later years in the price control period, but note that the high level of capital expenditure on growth still exceeds the level of contributions within the price control period.

We conclude that the wastewater capital expenditure proposed by Sydney Water in the SIR for the period 2006 to 2009 should be adjusted to;

- ◆ Rephase expenditure for growth funded by developers to reflect the revised expenditure proposals provided by Sydney Water.
- ◆ Include the proposed efficiency targets.

We recommend that the capital expenditure shown in Table 29 should be allowed in the price control period. We recommend that output measures are appended to each program or large scheme to allow the next price path review to take a view of the efficiencies achieved over time.

\$M (04/05)	2006	2007	2008	2009
SWC Proposed	383.4	391.1	381.3	295.5
Recommended Expenditure	357.5	360.1	346.7	281.1

Table 29 Recommended Sydney Water Corporation Wastewater Capital Expenditure (\$M 04/05)

Future Capital Expenditure – Stormwater Service

Future expenditure includes ongoing maintenance, specific schemes associated with the Stormwater Environmental Improvement Program and discretionary work on the Alexandra Canal that has been agreed with Department of Infrastructure Planning and Natural Resources.

We have not made any specific adjustments to the expenditure proposals of SWC but recommend that the program is revised to reflect the proposed efficiency targets as presented in Table 30.

(\$04/05 M with efficiencies included)	2006	2007	2008	2009
SWC Proposed	12.9	6.2	6.2	6.2
Recommended Expenditure	12.5	5.9	5.7	5.6

Table 30 Recommended Sydney Water Corporation Stormwater Capital Expenditure (\$M 04/05)

We recommend that SWC be requested to define the stormwater drainage outputs for its new program for the entire period of the price control period.

Future Capital Expenditure – Corporate Services

Our review of a sample of historical schemes did not identify any imprudent expenditure. Historical expenditure was above the sum allowed at the previous Determination. Half of the \$30M over-spend was due to the purchase of land at the new Parramatta head office site. A business case was presented that shows this expenditure to have been prudent and timely. We therefore consider it appropriate to include all corporate capital expenditure in the past price control period in the regulatory asset base.

Future expenditure is for the new head office and further rationalisation of offices and depots. It also includes the implementation of new IT projects and costs associated with borrowing to fund capital projects.

SWC included borrowing cost in the SIR. We have not included these costs in allowable capital expenditure as we understand that these costs are addressed separately within the pricing model.

We have not made any specific adjustments to the expenditure proposals of SWC but recommend that the program is revised to reflect the proposed efficiency targets as tabulated below.

(\$M 04/05)	2006	2007	2008	2009
SWC Proposed	52.7	49.5	33	33
Recommended Expenditure	50.9	47.0	30.5	30.0

Table 31 Recommended Sydney Water Corporation Corporate Capital Expenditure (\$M 04/05)

We recommend that SWC be requested to define corporate expenditure outputs as for the other services.

6.5 Recommendations

Operating Expenditure

Table 32 outlines our recommended operating expenditure for SWC excluding SCA costs.

(\$M 04/05)	2006	2007	2008	2009
SWC Proposed	744.5	733.3	723.0	715.5
Recommended expenditure	733.8	725.7	717.8	705.1

Table 32 Recommended Sydney Water Corporation Operating Expenditure (\$M 04/05)

Capital Expenditure

We recommend that total capital expenditure of \$2275M be allowed in Sydney Water's Determination, as summarised in Table 33.

(\$M 04/05)	2006	2007	2008	2009
Water	132.8	164.0	208.9	236.6
Wastewater	357.5	360.1	346.7	281.1
Stormwater	12.5	5.9	5.7	5.6
Corporate	50.9	47.0	30.5	30.0
Recommended Total Expenditure	553.7	577.0	591.8	553.3

Table 33 Recommended Total Sydney Water Corporation Capital Expenditure (\$M 04/05)

Output Measures

We recommended a level of allowable capital expenditure assuming that outputs in terms of additional resource yield, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for SWC to meet this

level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next review of prices to take a view of the efficiencies achieved over time.

Growth Expenditure

Agency submissions include significant expenditure in the price control period for growth. Under steady growth conditions this expenditure would be balanced by developer contributions. Current proposals require existing customers to fund substantial growth expenditure. While we have carried out some re-profiling of expenditure, the level of growth expenditure is still material. Sydney Water also includes significant expenditure for recycled water assets for which the greater part is to be recovered from developers and the same issue applies. Some other recycling schemes have been identified as being funded by others.

We recommend that IPART reviews its methodology to reduce the impact of growth expenditure on charges to existing customers.

7 Wyong Shire Council

Wyong Shire Council provides water and wastewater services to a population of approximately 140,000 people on the NSW Central Coast. It operates one water treatment works and six wastewater treatment works. It also provides stormwater services in this area.

The water supply headworks system is administered by the joint Gosford Wyong Water Authority and managed by the two Councils. Capital and operating costs relating to the joint headworks are shared between the two agencies.

The Central Coast is currently experiencing a drought. Water restrictions are in place, and the agency has invested significantly in demand management. Management input is currently focussed on implementation of drought relief measures and promoting medium term water resource enhancement schemes. The drought is a key driver of expenditure in the price control period.

7.1 Asset Management

At the previous price path review, Halcrow commented that a major shortcoming with Wyong Council's asset management planning was a lack of sound documentation demonstrating the problems with which to substantiate its proposals.

We found that Wyong Shire Council has made limited progress in implementing good practice asset management since then. While the strategic business plan and asset management documents are now in place, and additional engineers have been recruited to form an 'assets and planning team', there is more to be done to achieve good practice asset management. It is likely to be several years before good quality activity cost data will be available and robust long term investment plans are in place.

WSC has interpreted the definition of 'discretionary standards' to include asset replacement and rehabilitation expenditure as it has no Operating Licence and is seeking to maintain its own levels of service. We would normally interpret discretionary standards as enhancements to service levels rather than maintaining existing assets. The linkage between maintaining these standards and capital expenditure needs to be established within the asset management plan.

Program management within Wyong Shire Council consists of setting the annual budget using a rolling works program, looking at priorities and retaining the flexibility to amend works where it is deemed necessary. Procurement is usually by traditional design and construct methods although alternative routes are being considered for resource development schemes. The program management relies on making the best use of the experience and knowledge of the staff of WSC. The agency would benefit from the application of a formal project management system to deliver efficiencies.

7.2 Operating Expenditure and Efficiencies

The 2005 operating cost budget for water and sewerage is \$34M; the significant components are “Other” (40%), labour (30%), materials (10%) and energy (6%). “Other” expenditure includes Corporate (33% of total opex) and other water, wastewater and drainage expenditure. Drought measures account for about 9% of this budget.

Total operating costs increase to \$37M (04/05 price base) by 2009 as a result of increased labour costs across both services and drought related measures and schemes in the water service. The agency has identified significant growth in opex of around 1.8% to 1.9% per annum.

An allocation of \$6.4M for stormwater capital expenditure was included in corporate opex, which was subsequently reflected as an overhead cost of water and wastewater activities. We recommend that the \$6.4M contribution for stormwater capex is excluded from pricing Determinations for water and wastewater opex as it is not an appropriate charge to the water and sewerage business. We also recommend that a separate stormwater pricing path is agreed.

WSC uses an activity based costing system; appropriate cost drivers and methodologies were in place to effectively identify and cost corporate opex. The agency advised that an amount for corporate governance costs is included in allocated corporate overheads; we have made a nominal opex reduction of \$0.5M as these are inappropriate charges to the business.

We have proposed an increase in operating costs associated with groundwater systems, increased opex for additional purchases from HWC commencing in 2008 and 2009, and the deferral of opex for desalination.

We observed that wastewater operating cost projections are increasing in response to growth. We consider that the projections for sewerage are justified, subject to efficiency savings.

We have made a judgement in relation to the impact of improved processes that could be achieved by 2009 and have assumed a gradual increase in efficiency over time. This gradual increase recognises that expenditure in 2006 is reasonably certain but that the confidence of these estimates reduces over time.

WSC has included opex reductions due to a planned 1% per annum efficiency gain. We have recognised these efficiency assumptions in setting efficiency targets for the agency. The resulting efficiency target recommended for WSC is outlined in Table 34.

	Efficiency (%)			
	2006	2007	2008	2009
Water	0.3	0.6	0.9	1.2
Wastewater	0.3	0.6	0.9	1.2
Corporate	0.3	0.6	0.9	1.2
Stormwater	0.3	0.6	0.9	1.2

Table 34 Recommended Operating Efficiencies for Wyong Shire Council (% per annum cumulative)

These efficiencies are applied to the operating cost forecasts to derive an allowable profile of operating costs as outlined in Table 35.

Total Opex \$M 04/05	2006	2007	2008	2009
WSC Proposed	33.5	33.8	35.4	36.8
Recommended Expenditure	27.1	27.3	28.0	29.3

Table 35 Recommended Operating Expenditure Projections for Wyong Shire Council (\$M 04/05)

Capital Efficiencies

The adjustments for catch-up capital efficiency that are applied to the proposed capital expenditure are based on our qualitative assessment of WSC's main processes for managing capital expenditure.

We have made a professional judgement of the impact of improved processes that could be achieved by 2009 and have assumed a gradual increase in efficiency over time. This gradual increase recognises that expenditure in 2006 is reasonably certain and that the confidence of estimates reduces over time. It also recognises that benefits resulting from the implementation of improved processes may take some time to be realised.

The results of our analysis are shown in Table 36. In selecting a level of catch-up and continuing efficiency, which we discuss in Section 2, we have left a challenge to WSC to outperform these targets.

	Efficiency (%)			
	2006	2007	2008	2009
Recommended Efficiency	2.5	5	7.5	10.0

Table 36 Recommended Capital Efficiency Targets for Wyong Shire Council (% per annum)

Capital Expenditure - 2003 to 2005

For the water service, costs have increased significantly from the 2003 Determination and there has been slippage of many schemes in the program. We have inferred from our analysis that there is a shortfall in the outputs planned for delivery in 2004 and 2005. It was difficult to confirm whether the under-expenditure for asset renewal was as a result of scheme slippage or efficiency as it is not possible to verify actual outputs against planned.

Our review showed that actual wastewater expenditure for mandatory and discretionary standards was similar to planned. There was a significant under-expenditure for growth; while WSC is dependent on developers' building programs. It shows that growth was less than anticipated by the agency.

Actual expenditure for the stormwater service was similar to that planned. There was a significant under-expenditure for growth; while WSC is dependent on developers' building programs. It shows that growth was less than anticipated by the agency. The shortfall in growth expenditure was offset by an increase in expenditure on discretionary standards.

We consider that the historical expenditure on water and wastewater projects was justified and the work undertaken was needed. We think that all the capex expended during the current price control period may properly be rolled into the regulatory asset base.

Future Capital Expenditure – Water Service

The Joint Water Authority is proposing a number of significant capital schemes during the price control period to supplement the existing water resources in response to the current drought. These include groundwater sources which will provide 15ML/d, augmentation of the existing Wyong-Mardi scheme, and either a 20ML/d bulk transfer from Hunter Water or a desalination plant to provide a similar volume. In the worst case scenario, WSC advised us that both the bulk supply connection and the desalination plant would be required.

The Joint Water Authority is following an appropriate approach to resource development in a drought situation. Short term gains are being made through groundwater development; an additional 15 ML/d is being developed after recent investigations. Optimisation and enhancement of existing resources is being carried out with the Wyong River/Mardi scheme. A bulk supply scheme from Hunter Water is being developed. A desalination option is also being considered although conventional resource development suggests that this should be promoted only when other options have been exhausted.

The recent additional 15ML/d sourced from groundwater addresses both immediate drought requirements and in the medium term will allow the existing sources to recover. In the long run, where resources have recovered, demand forecasts suggest that the use of bulk supplies or desalination would only be to provide additional resource reliability.

We found that the need for and timing of a desalination plant is not conclusive. We support WSC in pursuing a bulk supply from HWC and have allowed what we consider to be an appropriate level of cost, shared between WSC and GCC, to fund a link scheme with HWC.

We recommend that the capital expenditure proposed by WSC over the period 2006 to 2009 should be adjusted to;

- ◆ Include the cost of additional groundwater development schemes. The \$17M cost of these schemes over 2005 and 2006 is shared with Gosford City Council.
- ◆ Include the capital cost of a bulk water connection from the Hunter Water Corporation as the next stage of drought relief schemes. The \$15M cost of this scheme is shared with Gosford City Council.
- ◆ Delete expenditure for the desalination project as we found that the need for, the scope and timing of a desalination plant is not conclusive.
- ◆ Rephase some growth expenditure over the price control period to reflect the outcome of historical expenditure.
- ◆ Allow half the expenditure for 'unallocated' schemes following further information provided by the agency.

- ◆ Apply continuing and catch-up capital efficiencies to the program increasing from 2.5% per annum in 2006 to 10% in 2009.

We recommend that the capital expenditure shown in Table 37 below should be allowed in the price control period.

There is insufficient information to set output targets against proposed expenditure to allow productivity to be monitored. Without these outputs it would be difficult to monitor efficiencies. Expenditure would be reduced to the revised capex price path and schemes could slip or activities be reduced.

(\$M 04/05)	2006	2007	2008	2009
WSC proposed	18.9	24.0	14.6	7.9
Recommended Expenditure	21.1	13.4	6.8	7.3

Table 37 Recommended Capital Expenditure Wyong Shire Council Water Service (\$M 04/05)

Future Capital Expenditure – Wastewater Service

The program of works put forward by Wyong Shire Council can be considered as two main parts; capital expenditure allocated to drivers, and other expenditure, for “unallocated works”. Most of the expenditure allocated to drivers is for defined works, but some is for general work programs for which the clear definition of projects will only take place when the funds have been allocated. The agency explained that the “unidentified works” is a contingency amount for any unforeseen works that may be identified over the price control period.

From our review of sample schemes we found that cost estimates have been developed by experienced engineer’s and manufacturer’s or consultant’s estimates generally to support a ‘statement of need’. We found that there is scope to improve the reliability of cost estimates to provide a more robust submission for the price review.

We recommend that the wastewater capital expenditure proposed by WSC in the period 2006 to 2009 should be adjusted to;

- ◆ Increase expenditure on asset renewal in the later part of the program through the reallocation from ‘unidentified’ works;
- ◆ Reduce expenditure reported as ‘unidentified works’ by half. Some expenditure is retained in response to WSC’s comments on our draft report;
- ◆ Rephase some growth expenditure over the price control period to reflect the outcome of historical expenditure;
- ◆ Apply continuing and catch-up capital efficiencies to the program increasing from 2.5% per annum in 2006 to 10% in 2009.

We recommend that the wastewater capital expenditure shown in Table 38 below should be allowed in the price control period.

(\$M 04/05)	2006	2007	2008	2009
WSC Proposed	8.9	11.3	8.7	8.8
Recommended Expenditure	7.3	8.6	7.7	8.0

Table 38 Recommended Wyong Shire Council Capital Expenditure – Wastewater Service (\$M 04/05)

As no corporate capital expenditure is included we assume this is provided by the Council under a service agreement.

Future Capital Expenditure - Stormwater

For the two years 2003 and 2004 the expenditure for the work actually carried out averaged \$4.5M each year. Wyong Shire Council is predicting there to be a substantial increase, averaging about 80%, in expenditure for stormwater drainage in the future when compared with the past. We have not seen the evidence to justify this step change in expenditure.

We therefore recommend that the stormwater capital expenditure proposed by WSC in the period 2006 to 2009 should be adjusted to:

- ◆ Reprofile the unidentified growth expenditure to reflect past expenditure plus an increasing profile to reflect likely growth in development; and
- ◆ Apply continuing and catch-up capital efficiencies to the program increasing from 2.5% per annum in 2006 to 10% in 2009.

We recommend that the stormwater capital expenditure shown in Table 39 below should be allowed in the price control period.

(\$M 2004/05)	2006	2007	2008	2009
WSC Proposed	8.8	7.8	7.8	7.7
Recommended Expenditure	6.8	6.5	6.8	6.8

Table 39 Recommended Wyong Shire Council Capital Expenditure – Stormwater Service (\$M 04/05)

7.3 Recommendations

Operating Expenditure

Table 40 shows our recommended operating expenditure projections for Wyong Shire Council.

Total Opex \$M 04/05	2006	2007	2008	2009
WSC Proposed	33.5	33.8	35.4	36.8
Recommended Expenditure	27.1	27.3	28.0	29.3

Table 40 Recommended Wyong Shire Council Opex Projections (\$M 04/05)

Capital Expenditure

We recommend that total capital expenditure of \$107.1M be allowed in Wyong Shire Councils' Determination, as summarised in Table 41.

(\$M 04/05)	2006	2007	2008	2009
Water Service	21.1	13.4	6.8	7.3
Wastewater Service	7.3	8.6	7.7	8.0
Stormwater Service	6.8	6.5	6.8	6.8
Total	35.2	28.5	21.3	22.1

Table 41 Recommended Wyong Shire Council Total Capital Expenditure (\$M 04/05)

Output Measures

We recommended a level of allowable capital expenditure assuming that outputs in terms of additional resource yield, change in asset condition and reduction of risk are delivered within the price control period. It would be easy for WSC to meet this level of expenditure but not achieve some of the outputs through cost increases and slippage. This approach would not deliver the level of efficiencies proposed within this report. We recommend that output measures are appended to each program or large scheme to allow the next review of prices to take a view of the efficiencies achieved over time.

Stormwater

We recommend that the \$6.4M contribution for stormwater capex is excluded from pricing Determinations for water and wastewater opex as it is not an appropriate charge to the water and sewerage business.


We further recommend that consideration should be given to the establishment of a separate stormwater pricing path, subject to WSC providing adequate data to support such a Determination.

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