

# **Halcrow Pacific Pty Ltd**

NSW Water Agencies Review  
Overview Report  
December 2002

Independent Pricing and  
Regulatory Tribunal

# Halcrow Pacific Pty Ltd

## NSW Water Agencies Review Overview Report December 2002

### Contents Amendment Record

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# 1

## Summary

In September 2002, Halcrow Management Sciences were appointed by the Tribunal to review capital expenditure, asset management and operating expenditure proposals in the five NSW metropolitan water agencies: Gosford City Council, Hunter Water Corporation, Sydney Catchment Authority, Sydney water Corporation and Wyong Shire Council. The review was undertaken over a period of 10 weeks between October and December 2002.

The review was based on best practice standards for efficient maintenance and utilisation of assets and covered the policy, procedures, practice and data underlying pricing submissions by the five agencies to the Tribunal. We worked from documents made available to us by the Tribunal and the agencies and extended discussion with senior management and relevant specialists.

The primary objectives were to assess:

- (i) the appropriateness of actual and proposed operating expenditure for the period from 2001-02 to 2005-06.
- (ii) the prudence of each agency's capital expenditure for the period from 1999-2000 to 2002-03.
- (iii) the appropriateness and efficiency of proposed capital expenditure for the period from 2003-2004 to 2006-2007.

Operating expenditure was reviewed from the baseline of actual operating expenditure in 2001-02. On the basis of our review, we have recommended efficiency gains that the agencies should adopt as targets.

Having considered the matters to be taken into account in our terms of reference, we concluded that a number of adjustments should be made to establish the level of operating expenditure that in our view is required to efficiently undertake each agency's functions. Some additional costs have been included, for example to allow for the effect on operating expenditure of new legal obligations and changes outside the agencies reasonable control. Other costs have not been allowed, for example where they fall outside the matters we were required to consider.

Our conclusions on operating expenditure are summarised below.

	Target efficiency		2003-04	2004-05	2005-06
			\$,000 2002-03		
Gosford City Council	1.0% to 1.5%	Original	28,943	28,293	27,998
		Proposed	26,542	26,274	26,008
Hunter Water Corporation	1.2% to 1.8%	Original	60,696	60,948	61,242
		Proposed	58,433	58,178	57,475
Sydney Catchment Authority	nil	Original	75,635	74,749	75,031
		Proposed	75,635	74,749	75,031
Sydney Water Corporation	1.5% to 2.0%	Original	775,048	776,703	770,814
		Proposed	770,667	760,283	750,061
Wyong Shire Council	2.5% to 3.0%	Original	20,734	21,091	21,362
		Proposed	20,216	20,307	20,305

The Tribunal intends to include in the regulatory asset base all capital expenditure that it considers prudent. As well as examples of over and under expenditure, we have concerns about the prudence of two items of capital expenditure. Hunter Water has bought land on a potential dam site that is not identified as required in its integrated water resource plan in the foreseeable future. We also have concerns regarding Sydney Water's new billing system that is the subject of an enquiry by the Auditor General; we suggest that a decision on its prudence should await the findings but in the meantime, it should not be included in the regulatory asset base

Active management of a capital programme is necessary. However there is a limit to what might be considered reasonable as active management of a programme at which point poor planning must be considered. We are concerned that the current approach may reduce the incentive for agencies to develop robust asset management procedures and deliver capital efficiencies and transfers to customers some of the risk that might more properly be borne by the owners of the businesses.

Our terms of reference with respect to future capital expenditure require us to report on a number of specific tasks relating to asset provision, utilisation, service standards and management. The results of these reviews are summarised in the agency specific chapters of this report.

Our findings form the basis for our response to the requirement to identify the capital expenditure programme that, in our opinion, is required to undertake the agency’s functions. We have made adjustments to the agencies proposals to take account of a number of factors.

Capital expenditure for growth is set out in development servicing plans. Under expenditure may occur where the plans show works to be required earlier than necessary; in these case slippage to invest on a “just in time” basis is appropriate. In other cases developers may have provided more assets than was identified in plans. Because of significant variances over the current price path, we have taken account of past actual expenditure in making adjustments.

We are of the view that, in other parts of the programme of some agencies, projections are optimistic and slippage is likely. In these cases, we have made an adjustment based on assumptions of the probability of future slippage.

Maintenance and renewal expenditure has historically been lower than we would anticipate given the older asset inheritance. Some agencies have recently increased expenditure and further increases are projected. While not always satisfied with the rationale for the proposed expenditure levels, we have generally taken the view that it should be allowed in full as a step to long term sustainable levels. We have suggested some physical output targets and milestones that the Tribunal might use pending until proper outcome measures are available.

Capital expenditure has largely been justified with respect to historic costs. In considering what capital efficiencies might be achievable by each agency, we have had regard for our general review of asset management planning as well as the review of past and future capital expenditure and the size and nature of the programme at each agency. We believe it is reasonable for the Tribunal to except capital efficiencies but, as this is to be a two year price path, they will be limited.

Our conclusions on the programme required by each agency to discharge its functions are summarised below.

		2003-04	2004-05	2005-06	2006-07
		\$,000 2002-03			
Gosford City Council	Original	14,306	13,955	6,379	12,860
	Proposed	12,232	14,056	7,521	12,986
Hunter Water Corporation	Original	63,388	71,013	53,790	37,589
	Proposed	60,720	67,523	51,692	36,557

## Summary

		2003-04	2004-05	2005-06	2006-07
				\$,000 2002-03	
Sydney Catchment Authority	Original	34,212	34,847	25,653	11,347
	Proposed	32,855	28,813	20,824	10,441
Sydney Water Corporation	Original	503,000	503,000	503,000	n.a.
	Proposed	480,600	479,300	464,595	n.a.
Wyong Shire Council	Original	20,811	25,465	23,005	35,378
	Proposed	16,635	23,051	21,360	30,282

We should like to record our thanks to the staff of the Tribunal and the agencies for their help and assistance with the review.

Halcrow Management Sciences

December 2002

## 2 Introduction

### 2.1 **Appointment**

In September 2002, Halcrow Management Sciences were appointed by the Independent Pricing and Regulatory Tribunal of New South Wales (the Tribunal) to review capital expenditure, asset management and operating expenditure proposals in the five NSW metropolitan water agencies. The review was based on best practice standards for efficient maintenance and utilisation of assets.

### 2.2 **Terms of reference**

The primary objectives of the consultancy were to assess across each agency's water business and across the retail agencies' sewerage and drainage businesses:

- (i) the appropriateness of actual and proposed operating expenditure for the period from 2001-02 to 2005-06.
- (ii) the prudence of each agency's capital expenditure for the period from 1999-2000 to 2002-03.
- (iii) the appropriateness and efficiency of proposed capital expenditure for the period from 2003-2004 to 2006-2007.

The full terms of reference are included as Annex A.

### 2.3 **Approach**

Our review covered the policy, procedures, practice and data underlying pricing submissions by the five agencies to the Tribunal. It was based on documents made available to us by the Tribunal and the agencies and extended discussion with senior management and relevant specialists. We are grateful for the co-operation of the staff of all the agencies in carrying out the review. As this was a review rather than an audit, we have formed our views based on what we have been told and the documents provided.

### 2.4 **Report**

This overview report sets out what we believe to be the key issues for the Tribunal arising from the review as well as the key findings for each agency and our view on future capital and operating expenditure requirements.

## 3 Key Issues for the Tribunal

### 3.1 ***Introduction***

In this section, we consider the key issues on operating expenditure and capital expenditure that emerged from our review.

### 3.2 ***Operating expenditure***

The Tribunal has indicated in its issues paper that it proposes to review operating expenditure from the baseline of actual operating expenditure in 2001-02. Our terms of reference reflected this and did not require us to undertake a retrospective review of operating expenditure but we did consider trends before the base year as part of the process of coming to a view on its appropriateness.

Delivery of the operating expenditure projections that were assumed by the Tribunal at the 2000 price determination has been variable. As the Tribunal has noted in its issues paper, there is a range of options for dealing with resulting over and under expenditure.

If the operating expenditure base is to be reset at every price determination to reflect actual costs, then incentives to drive in efficiencies will be diluted or lost. Sometimes agencies are faced with unexpected costs outside their control. The Tribunal will naturally take a sympathetic view about such expenditure. Where additional expenditure should have been reasonably foreseeable, then a different approach may be appropriate. We suggest that a rolling mechanism for identifying potentially allowable additional costs would be helpful, particularly in a three or four year price path

### 3.3 ***Demand management***

Both Sydney Water and Hunter Water are projecting substantial operating expenditure for demand management and Gosford and Wyong may also wish to proceed this way shortly. This raises an important question for the Tribunal.

The purpose of demand management is to free water resources, to supply new customers and, sometimes, to increase environmental flows in rivers. Infrastructure provided to service new development, including resource development where necessary, is largely recovered from to developers through charges set out in development servicing plans (DSP). It would appear illogical not to pass the demand management charge through in a similar way. Not doing so gives the wrong economic signal to developers, particularly where demand management is in total substitution for resource development.

On the other hand, subject to reservations about price elasticity, increasing charges to existing customers gives some incentive for them to constrain their use of water. It is also appropriate that the costs of demand management intended to increase environmental flows should be charged to existing customers.

We suggest that the proportion of demand management costs that should be passed on to existing customers through water charges and new customers through development servicing charges needs further consideration.

### **3.4**

#### ***Dividends***

Charges for the councils' water and sewerage businesses are set to allow them to make a proper rate of return on their assets but they cannot pay a dividend to their owners. This is likely to impact adversely on the incentives to drive for efficiency improvements on both capital expenditure and operating expenditure. We would strongly support any move to enable these councils to pay a normal dividend to their owners.

### **3.5**

#### ***Transfer of costs***

In accordance with our terms of reference, we have identified and analysed the transfer of costs between the regulated and unregulated parts of each agency where these are significant. While not required to give a view on the appropriateness of such transfers, we have some concerns.

We suggest that that Tribunal may wish to consider whether the risk: reward balance implicit in the transfer payments being made is consistent with its assumptions in determining the appropriate return on capital.

### **3.6**

#### ***Past capital expenditure***

#### **3.6.1**

##### ***Introduction***

We have identified issues of both over and under expenditure in our retrospective review of capital expenditure.

Some agencies have clearly set out to actively manage some or all of the functional programmes within the capital expenditure assumed necessary by the Tribunal. However we have noted significant variations from the projected programme of work set out following the previous determination of prices in 2000 and a lack of rigour in tracking expenditure back directly to the determination.

The future is not certain and the only certain thing about forecasts is that they will be wrong. Active management of a capital programme is therefore necessary. However there is a limit to what should be considered reasonable active

management of a programme at which point poor planning must be considered. We suggest that it would be helpful if the Tribunal were to explore the acceptable boundary point between active management and poor planning, possibly with reference to examples that we have identified in our review.

### 3.6.2

#### *Over and under expenditure*

The Tribunal indicated in its issues paper that it proposes to include in the regulatory asset base all capital expenditure that it considers prudent<sup>1</sup>. We suggest that this approach may reduce the incentive for agencies to develop robust asset management procedures and deliver capital efficiencies.

If all capital expenditure that passes a test of prudence is rolled forward automatically into the regulated asset base, then the penalty for overspending, including failing to deliver expected capital efficiencies, is largely the cash flow difference during the price path. The shorter the price path, the less the incentive. Where over expenditure is for reasons that should have been foreseeable, then the penalty is the same.

The benefits of exceeding expectations on capital efficiency are similarly short term and give little incentive to outperform the determination.

Under expenditure may result from active management or unplanned slippage; we have seen examples of both. Investing on a “just in time” basis should not be discouraged but unplanned slippage is an issue to be addressed. There is a need to strike the right balance in dealing with under expenditure but excessive or unreasonable underspend should not be rewarded.

### 3.6.3

#### *Customer and shareholder risk*

If all prudent over expenditure is to be added directly to the regulatory asset base and remunerated and the cash flow benefits from under expenditure that agencies have enjoyed left untouched, then the customer is bearing the risk and the shareholder taking the rewards from variances. This implies that the risk: reward balance is weighted in favour of the shareholder and, if not already done so, needs to be taken into account in determining the appropriate rate of return on capital.

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<sup>1</sup> “Discrete or cautious in managing ones activities; practical and careful in providing for the future and exercising good judgement”; Collins Concise Dictionary; 2<sup>nd</sup> Australian Edition 1990.

### **3.7 Future capital expenditure**

#### *3.7.1 Capital efficiency*

From consideration of the final 2000 programmes for the price path period, it appears to us that the agencies' responses to the targets that were set at the 2000 price review was largely to reorder the programme and squeeze out projects that were either discretionary or premature. Where projects have been delivered at less cost, this has seldom been the result of identifiable management action. With several important exceptions, we have seen no sign of the agencies having achieved real efficiency gains during the past three years.

If there is to be an incentive to deliver capital efficiencies, then the agencies should be set challenging but realistic targets and allowed to retain the benefits of out-performance for a reasonable period. While some mechanism for identifying and quantifying capital efficiency gains could be developed, this would need careful consideration and might therefore be more appropriately deferred to a later date.

#### *3.7.2 Investment for growth*

The DSP prepared in accordance with the Tribunal's methodology is the basis of investment for growth. Assets can be categorised as follows:

- Assets not identified in DSPs basically on site infrastructure provided by the developer at his cost and gifted to the agency free of charge.
- Assets identified in DSPs that are provided by the agency for which a contribution is obtained from the developer.
- Assets identified in DSPs that are provided by the developer for which a credit is given against the contribution due.

In their submissions, agencies have taken varying approaches to the identified assets ranging from including them all to excluding those which are expected to be provided by developers. It is clearly important that the forecast income from charges is consistent with the approach taken. While this is outside our terms of reference, a number of issues have emerged:

- There have been examples of inconsistency in the current price path between the actual expenditure in the various categories, the original proposals and expected income.

- The capital allocated for growth may be viewed as one that can and should be used for other purposes if developers construct more than anticipated.
- One agency has faced significant unfunded expenditure because two projects came in over budget due to DSP charges that were too low; it appears that customers will carry the consequence.
- We consider that capital efficiencies should be expected on growth expenditure; it may be appropriate to review this when development servicing charges are next set.

We suggest that the Tribunal should review these issues and their interaction with both the financial model for price setting and the development servicing charge methodology.

### 3.7.3

#### *Investment for environmental standards*

In NSW, it is the EPA that has the duty for setting and enforcing environmental standards. We have found examples of agencies constructing and operating works to tighter limits. If this practice is acceptable to the Tribunal, then the corollary is either higher costs to customers than necessary or, because capital is finite, priorities being determined by agencies not the EPA. The practice has been justified to us on grounds of a need to respond to customers' preferences but it appears that, except in the case of councils, these are determined at local rather than whole agency level.

Outputs required by the Environment Protection Authority (EPA) are better defined now than at the time of the last price review 2000 but it has still proved troublesome for us to establish what the EPA is expecting each agency to deliver in the price path period. The Tribunal can only hold the agency to financial account if there is clarity in the requirements.

The Tribunal may wish to consider these issues with the EPA, the agencies and other stakeholders.

### 3.7.4

#### *Investment for maintenance and renewals*

The agencies are at varying stages in development of their maintenance and renewal strategies. In general, cost projections currently rely more on past reactive maintenance requirements than on assessed future needs.

Establishing a comprehensive asset maintenance and renewal strategy is a major challenge and one where significant developments are taking place. In the short term, it is not possible to demonstrate through simple indicators that the right strategy has been adopted as random variability coupled with external influences such as weather obscure the picture. Thus while customer service standards lie behind asset maintenance and renewal, they seldom drive it in isolation. The key factors are:

- Asset condition and performance or service history.
- Asset serviceability or its capability to deliver the required service in the future.
- Risk measured on a probability: consequence basis.

Condition based policies start from current condition and forecast time to ultimate failure but this is difficult to establish and frequently underestimated as the serviceability of the asset is ignored. Using indicators of past performance rather than current condition introduces the concept of consequence but these are often closely correlated.

With risk and serviceability based planning, the aim is to establish a plan in which the overall balance of risk, serviceability and costs are acceptable to the business, its customers and regulators. Such methodologies have often been applied to major assets such as critical sewers. We have suggested that, where they are not already doing so, agencies should consider moving towards determining future expenditure needs on the basis of assessed future risk and serviceability.

### 3.7.5

#### *Investment for future efficiency improvement*

In the special information request (SIR) the Tribunal has asked agencies to identify capital expenditure for efficiency purposes. Some significant proposals have been made although in some cases we do not agree with the classification. In other cases, particularly with some IT investment, expenditure that we regard as in whole or part for efficiency has been classified in other ways.

Agencies need to have some incentive to invest for efficiency. The logical answer to this is that they should be able to retain some of the benefits for a period until they are transferred to customers, replicating so far as is practical a commercial market. In theory, the necessary incentive can be provided when determining the appropriate times when investment should be included in the capital base and the consequent savings passed to customers.

In practice, although the investment is usually quantifiable, it is difficult to identify the relevant efficiency gains robustly. We suggest that the benefits of encouraging and rewarding efficiency investment and the appropriateness methodology need to be debated.

### 3.7.6

#### *Investment in non-core activities*

Various items of discretionary expenditure not fundamental to the core business have been identified by the agencies and by this review.

Some investment under consideration might be considered an unregulated activity. Particular examples are hydro-generation and co-generation from biosolids treatment. This raises two questions:

- who should bear the risk and take the reward of such activities, customers or shareholder?
- how can it be assured that the activity is not to the detriment of the regulated business, for example operating a water resource to maximise generation revenue?

The Tribunal may feel it appropriate to consider the point at which investment for efficiency should be considered as an unregulated activity.

In the case of the councils it is the same residents as customers for water and sewerage or council ratepayers who bear the risk and share the reward. The question then becomes one of whether the risks should be borne by the regulated or unregulated parts of the council.

### 3.7.7

#### *Output measures*

It has been difficult for us to determine with clarity the deliverables from each agency over the present price path beyond the licence system performance standards. If the deliverables are uncertain, then the agency has considerable investment freedom and cannot be readily held accountable. It is therefore hardly surprising that, with some honourable exceptions, agencies have been reluctant to declare their intended outputs to the Tribunal through the SIR or otherwise.

In carrying out our review, we have identified two ways forward that we put forward for consideration by the Tribunal.

In some areas we have been able to form a view on appropriate physical output and/or performance measures and have suggested targets to give incentives for output lead efficiency. In other cases, data is currently not robust enough to set targets and we have suggested indicators for development over the price path. We have suggested targets and development indicators particularly in the key area of underground asset renewal. Such physical targets should be viewed as an interim step as they are an input measure rather than a true outcome measure. As soon as agencies are able to identify appropriate risk and outcome measures with which to justify programmes, then the Tribunal might consider using these for target setting in future price determinations.

We have also identified some deficiencies in current asset management planning that give us concern as to the robustness of projected expenditure that we believe should be addressed before the next price determination due in 2005, that could be for four years. We have suggested that the Tribunal set milestone expectations for the next price submission in a number of areas.

### **3.8**

#### ***Variation in practice and procedure***

Our review has highlighted insufficient rigour in allocation of costs and some differences between the agencies in their accounting practises. While we do not believe it appropriate that uniform policies be imposed, the wide diversity of policies gives rise to concern. The differences we have identified include:

(a) Asset renewal and maintenance

There are potential differences in interpretation of capital. For example one agency capitalises water mains repairs above a materiality threshold and then depreciates the expenditure as if it were a new main .

(b) Mandatory standards and growth

A stricter cost allocation approach should be applied by the agencies. Using a prime purpose allocation, one agency has allocated more expenditure to mandatory standards than the EPA will accept and the corollary is insufficient allocated to growth. Cost allocation, particularly for new mandatory standards should clearly define the cost consequences of regulatory decisions so that there can be a transparent debate and decisions acceptable to all stakeholders.

(c) Accounting asset lives

There are differences in the standard accounting lives used by the agencies that can impact on the level of depreciation shown in accounts and the net values of their

assets. For example one agency uses a 30 year life for sewage treatment mechanical and electrical equipment whereas another uses the NSW Public Works Department standard life of 20 years.

(d) Capitalisation of support costs

The agencies use different methods of charging relevant operating costs to capital that complicates operating expenditure comparisons but more significantly, they often lead to major swings in the amount capitalised distorting the base position. There would be advantage for both the Tribunal and agencies if acceptable methods of reducing such swings could be identified.

## 4 Future expenditure proposals

### 4.1 **Introduction**

Our terms of reference require us to give a view on the level of operating expenditure that is required to enable each agency to efficiently perform its functions and also the capital expenditure programme that is required

In this section, we describe the approach used in response to these requirements.

### 4.2 **Operating expenditure**

#### 4.2.1 *Introduction*

While we have taken a common approach to operating expenditure, we have dealt with each agency in the light of its individual circumstances.

The Tribunal indicated in its issues paper that it proposed to review operating expenditure from the baseline of actual operating expenditure in 2001-02; we have therefore followed this approach.

#### 4.2.2 *Target efficiency gains*

Our terms of reference require us to recommend efficiency gains that the agencies should adopt as targets on the basis of a review a number of areas and identification of reasons for costs higher than normal commercial levels. We are also required to consider a range of background issues. Our recommendations are made having considered all these matters as required.

We have also considered carefully the representations made and discussion at the meetings held to discuss our draft reports and the written responses.

#### 4.2.3 *Adjustments to operating expenditure*

Having made recommendations for the efficiency gains that agencies should adopt as targets, we are required to identify for each year between 2003-04 to 2005-06 the level of operating expenditure that in our view is required to efficiently undertake each agency's functions.

The principal initial data source was explanations of changes given in the SIR opex to the current year and projected expenditure for the years to 2005-06. We have

considered these in the light of our discussions with the agencies and additional information that they have provided.

Having considered the matters to be taken into account in our terms of reference, we concluded that a number of adjustments should be made to the baseline. The general principle has been to exclude:

- Ongoing functions that should be within the agencies control
- Increases that do not relate directly to operating expenditure.

We have allowed reasonable claimed cost increases where these result from:

- new legal obligations
- changes outside the agencies reasonable control.

While we have been able to deal with most projected increases using these principles, we have considered a number of particular issues on their own merits.

### 4.2.4

#### *Other factors*

While we have had regard for agencies' projections of future operating expenditure efficiencies in considering target efficiencies, we have not included them in our projections of future efficiency gains to avoid double counting

We have considered and taken account of expected growth and agencies own forecasts of the implications. Generally we would consider that around 10% to 20% of costs would be truly variable, related to volume of water delivered, and perhaps a smaller figure related to property numbers to allow for dealing with customer issues.

We have also considered, and made appropriate allowance for, real wage inflation taking account of agencies own forecasts of its implications. While some agencies have made projections of its impact, others have shown this as being absorbed in projected efficiencies. In the latter case, we have exercised our own judgement in determining what allowance should be included.

### **4.3 Capital expenditure projections**

#### *4.3.1 Basis of proposed allowable expenditure*

Our terms of reference with respect to capital expenditure require us to report on a number of specific tasks relating to asset provision, utilisation, service standards and management having considered a various background issues. We are also required to assess the reasonableness of agency's cost estimates.

The results of these reviews and the background issues we identified are summarised in the agency specific chapters of this report. Our findings form the basis for our response to the requirement to identify the capital expenditure programme that, in our opinion, is required to undertake the agency's functions.

#### *4.3.2 Asset management planning*

We have carried out a review of each agency's approach to asset management planning. The results that are summarised in the agency chapters of this report are mixed but there are examples of good practice. Most of the agencies had identified the benefits of improvement and some have already made valuable progress.

In addition to reviewing asset management planning in theory, our review of the current price path programme and future proposals has shown its strengths and weaknesses in practice. In our view, sound planning is likely to lead to robust programmes. Our view on the appropriate capital expenditure takes account of the planning procedures, both in theory and practice, behind them.

#### *4.3.3 Slippage*

We have noted that some outputs expected from the 2000 determination are unlikely to be delivered in the present price path and some have been postponed indefinitely. Where growth projects are concerned, the objective should be to deliver them on a just in time basis and it will therefore sometimes be appropriate to deliberately slip projects.

In bigger organisations, we consider that, it should be largely controllable. Where slippage occurs in circumstances beyond the control of the business, then it should be ready to reschedule others to ensure it delivers the whole programme in total on time.

Slippage is a bigger problem for smaller organisations with a few major projects superimposed on routine base load work. We have made assumptions on the

likelihood of the smaller organisations keeping to programme on the basis of their track record and nature of the future programme.

#### 4.3.4

##### *Maintenance and renewal*

We have concerns regarding the maintenance and renewal element of some elements of the agencies' programmes. In many cases, projected expenditure is at the bottom end of the range we would consider prudent and not robustly justified. We believe agencies are correct to start to ramp up expenditure but it needs to be on the basis of better understanding of the long term needs. In these circumstances, we are reluctant to suggest a programme in line with what we believe to have been justified.

Our suggestion is that the Tribunal should mostly allow the amounts in agencies projections in full but subject to conditions. In all cases we consider that the capital expenditure should be conditional on the agencies agreeing to bring forward improved justification of their programmes for the next price determination, for example through risk and serviceability based asset management planning methodology. We have outlined what we mean by this in paragraph 3.7.4

In some cases we have also been able to establish physical output measures and suggest targets that should be expected over the price path; hopefully these can be replaced by true outcome measures in the future.

#### 4.3.5

##### *Growth*

We have concerns regarding the allocations to growth in some submissions. The submissions are said to be based on development servicing plans (DSP) but we have seen inconsistency in the expected relationship between reported growth rates, expenditure, contributions received and free assets.

Ensuring that all such projections are appropriate and consistent is an audit task beyond the scope of our review. We have therefore decided to allow for growth expenditure on the basis of past actual expenditure taking account of any known special factors. This means we have made judgements about the likelihood of slippage

We are also concerned that allocation to growth in the SIR has not always been sufficiently rigorous; for example, much expenditure has been included on a prime purpose basis.

4.3.6

*Efficiency*

Some agencies have included expenditure allocated to efficiency. Others have included expenditure elsewhere that in part should deliver efficiencies. We suggested previously that the Tribunal may wish to consider alternate approaches to funding such expenditure and passing the consequent savings through to customers. We have sought to identify expenditure primarily intended to deliver efficiency benefits and give a view on its true purpose such that the Tribunal can implement any decision appropriately.

4.3.7

*Capital efficiencies*

In considering what capital efficiencies might be achievable by each agency, we have had regard for our review of asset management planning as well as the review of past and future capital expenditure and the size and nature of the programme. We have also considered carefully the representations made and discussion at the meetings held to discuss our draft reports and the written responses. The capital efficiencies we have assumed are set out in the agency specific sections of this report.

The Tribunal has already decided that it will determine prices for two years only, 2003-04 and 2004-05. The short term of the price path diminishes the capital efficiencies that can be expected of agencies. With large projects and some ongoing projects subject to framework agreements, design is likely to be well advanced and/or contractual commitments may have already been made. Opportunities to reassess and re-engineer programmes to achieve the same outputs in more efficient ways are limited if projects are to be delivered on time.

On the other hand, agencies should be aware that the Tribunal expects efficient capital investment from them. Therefore whilst costs have generally been estimated from historic data, they should be working towards delivering capital efficiencies; efficient businesses continuously strive to drive costs downwards.

We have considered carefully whether capital efficiencies should be expected with respect to growth expenditure given the methodology in place for setting developer charges. On balance, we think that it is appropriate as existing customers are funding a proportion of the growth capital expenditure and future customers and developers have also a reasonable expectation that agencies will improve.

We acknowledge that it will be difficult to establish that capital efficiencies have been achieved with respect to growth projects that are included in the block allocations.

## 5 Gosford City Council

### 5.1 **Introduction**

The City of Gosford covers an area of 1,028 km<sup>2</sup> of the Central Coast region of NSW. Gosford City Council provides services to a permanent population of approximately 150,000. Around 60,000 properties receive a water and sewerage supply; there are around 2000 connected only to the water system.

Between 1986 and 1995, the population increased by 3.5% p.a. Growth has now slowed and around 1% p. a. is forecast for the short term in line with current experience falling to ¼ % in the about 2007 reflecting council policy.

Gosford City Council has recently been restructured. Previously there were three directorates with water and sewerage part of the Engineering directorate. The new structure has seven directorates with water and sewerage reporting directly to the Chief executive. We consider that this should be a positive development, increasing the profile of the water and sewerage activities.

### 5.2 **Operating expenditure**

#### 5.2.1 *Budget process*

Gosford has an original Annual Budget process through which a robust understanding of the linkages between costs and levels of service has been evolved.

For each section of the department, typically five key performance indicators (KPIs) have been identified. Within the annual budget process, resource implications and costs of delivering alternate levels of service against each KPI are identified and, subject to a top down driver on costs, decisions are made on the appropriate targets. We consider the approach creditable, even though done at a high level.

#### 5.2.2 *Base operating expenditure*

Total operating expenditure and percentage changes over the current price path are shown in Table 1.

*Table 1: Operating expenditure 1999-00 to 2002-03*

	1998-99	1999-00	2000-01	2001-02	2002-03
Inflation	1.2%	1.9%	3.0%	0%	3.0%
			\$,000 nominal		
Total	20,479	20,338	24,250	24,978	28,800
		-0.7%	19.2%	3.0%	15.3%

The operating expenditure trends are obscured by changes in transfer payments to other council departments dealt with in more detail in paragraph 5.2.3. Excluding these payments, the underlying water and sewerage expenditure trends are shown in Table 2.

*Table 2: Underlying operating expenditure 1999-00 to 2002-03*

	1998-99	1999-00	2000-01	2001-02	2002-03
Inflation	1.2%	1.9%	3.0%	0%	3.0%
			\$,000 nominal		
Water	6,535	6,747	7,216	7,225	7,142
		3.2%	7.0%	0.1%	-1.1%
Wastewater	8,105	7,847	8,272	8,509	9,016
		-3.2%	5.4%	2.9%	6.0%
<b>Total</b>	<b>14,640</b>	<b>14,594</b>	<b>15,488</b>	<b>15,734</b>	<b>16,158</b>
		-0.3%	6.1%	1.6%	2.7%

Water and sewerage 2001-02 base operating expenditure are elevated by \$27k and \$18k respectively due to a decision by Council to purchase 6% green energy; further increases of similar amounts are forecasts in the current year. Sewerage operating expenditure has increased in the current year due to an obligation under the Protection of the Environment (Operations) Act requiring odour control. On the other hand, it is depressed by around \$350k because of a reduced amount of sludge disposed of during the year due to exceptional factors.

Apart from decisions by Council impacting on all its functions, we consider that the water and sewerage business has made genuine efforts to contain costs during the price path. However, the agency must be considered not to have achieved the target overall.

It is noted that Gosford operates its sewage treatment plants to internal standards well within the EPA licence limits. Gosford said that its standards were based on the designed operation of the works.

## 5.2.3

*Transfer of costs*

There are a number of transfer payments with other departments Council. The most significant are a general overhead charge and a drainage service charge.

The Council's general governance, finance, human resources and other similar costs are shared simplistically in the ratio of 50%:25%:25% to the general fund, the water fund and the sewerage fund respectively. The charges include cost elements not related to the provision of water and sewerage services but on the other hand, no charges are made for office space and other accommodation. Despite the appearance of being arbitrary, we concluded from a limited analysis that the charges were of the right order of magnitude.

In the current year, there is a transfer of \$1.5m from both the water account and sewerage account to the general fund for drainage services. Our investigations lead us to conclude that this was not a proper operating expense of the water and sewerage business and amounts to a transfer payment to the Council's general fund.

## 5.2.4

*Balance between operating and capital costs*

We found that investment decisions, but not forward planning, were generally based on NPV analysis of options to achieve an optimal balance between capital and operating costs.

## 5.2.5

*Future operating expenditure*

Future operating expenditure projections excluding the drainage transfer payment are shown in Table 3.

*Table 3: Operating expenditure 2001-02 to 2005-06 (excluding drainage transfer payment)*

	2001-02	2002-03	2003-04	2004-05	2005-06
Assumed inflation		3.0%	3.0%	3.0%	3.0%
		\$,000 nominal			
<b>Water business</b>					
Total functional expenditure	7,225	7,142	7,321	7,587	7,860
		-1.1%	2.5%	3.6%	3.6%
allocated proportion of Corporate	4,620	4,821	5,129	4,938	4,925
		4.4%	6.4%	-3.7%	-0.3%
<b>Total operating expenditure</b>	<b>11,845</b>	<b>11,963</b>	<b>12,450</b>	<b>12,525</b>	<b>12,785</b>
		1.0%	4.1%	0.6%	2.1%

	2001-02	2002-03	2003-04	2004-05	2005-06
Assumed inflation		3.0%	3.0%	3.0%	3.0%
		\$,000 nominal			
<b>Sewerage</b>					
Total functional expenditure	8,509	9,016	9,277	9,652	10,016
		+6.0%	+2.9%	+4.0%	+3.7%
allocated proportion of Corporate	4,621	4,821	5,129	4,938	4,925
		4.4%	6.4%	-3.7%	-0.3%
<b>Total operating expenditure</b>	<b>13,130</b>	<b>13,837</b>	<b>14,406</b>	<b>14,580</b>	<b>14,941</b>
		+5.4%	+4.1%	+1.2%	+2.5%

Movements in operating expenditure are affected by the reorganisation in progress that will result in a reduction of direct costs and increase in the corporate overhead.

#### 5.2.6

##### *Assessment of proposed operating expenditure*

We conclude that the drainage transfer payment is not a proper operating expenditure of the water and sewerage business and should not be allowed.

Including the drainage transfer payment, which is shown in the AIR as constant in nominal terms, operating expenditure is expected to rise closely in line with CPI. Excluding the drainage transfer payment and adjusting for the exceptional low base year expenditure on sludge disposal, Gosford is showing operating expenditure rising at a rate between 2.5% and 4.0%, i.e. generally at a rate up to 1.0% above the assumed inflation of 3.0%.

We have not been given any justification for the rise of underlying operating expenditure above CPI. Growth of around 1% p.a. will increase costs marginally but the effect has not been specifically identified. Gosford argues that its costs are already low end restricting potential gains.

#### 5.2.7

##### *Potential for cost reduction*

As well eliminating the cross subsidy implied by the new drainage transfer payment, we have identified a number of things in hand and potential initiatives that that should deliver gains in productivity. They include:

- Delivery of the intended benefits from the enterprise agreement
- Optimising the trade off between costs and levels of service

- Exploiting the potential for outsourcing
- Implementing the savings identified from benchmarking
- Optimising the opex: capex balance in forecasts
- Co-generation from biosolids digestion.

### 5.2.8

#### *Conclusion*

The Tribunal indicated in its issues paper that it proposed to review operating expenditure from the baseline of actual operating expenditure in 2001-02; we have therefore followed this approach.

Our terms of reference require us to recommend efficiency gains that the agencies should adopt as targets based on background issues and our review. Having considered all these matters as required, we consider that Gosford should adopt a target efficiency gain in the range of 1.0% to 1.5% p.a. We have adopted 1.2% p.a.

Having made recommendations for the efficiency gains that agencies should adopt as targets, we are required to identify for each year between 2003-04 to 2005-06 the level of operating expenditure that in our view is required to efficiently undertake each agency's functions. Having considered the matters to be taken into account in our terms of reference we have concluded that some additional operating costs should be allowed others disallowed, in particular transfer payments to the council's drainage business of \$3.0m p.a.

Our proposals for allowable operating expenditure including allowable additional costs and net of the target efficiency gains are shown in Table 4.

*Table 4: proposed allowable operating expenditure*

	2003-04	2004-05	2005-06
		\$,000 2002-03	
<b>Water</b>			
Proposed by Gosford in AIR	8,565	8,566	8,566
Proposed	7,423	7,356	7,290
<b>Wastewater</b>			
Proposed by Gosford in AIR	10,419	10,418	10,418
Proposed	9,770	9,680	9,591

	2003-04	2004-05 \$,000 2002-03	2005-06
<b>Corporate</b>			
Proposed by Gosford in AIR	9,959	9,309	9,014
Proposed	9,350	9,237	9,126
<b>Totals</b>			
Proposed by Gosford in AIR	28,943	28,293	27,998
Proposed	26,542	26,274	26,008

### 5.3 **Asset management planning**

#### 5.3.1 *Introduction*

We reviewed asset management planning against a checklist consisting of eight primary factors and 54 dimensions with a key question for each. We have given our judgement against each key question indicating what we believe are the main strengths and weaknesses elsewhere.

#### 5.3.2 *Objectives*

There is a lack of clear linkages between the Council's objectives and current asset management plans and some inconsistencies between the objectives with regard to efficiency and effectiveness. There is a firm target to complete a detailed water and sewerage asset management plan within two years.

#### 5.3.3 *Forecasting*

Records are reasonable and forecasts reflect relevant plans. Given the intention to constrain growth, prediction methodology is simple but reasonable. There is no climate correction model; this would be important if demand management is adopted as part of a water resource strategy.

#### 5.3.4 *Asset knowledge*

Underground asset records are still being transferred from paper to GIS but above ground data is held on stand alone data base. Some condition and performance data exists in paper records but has not been systematically assessed. Maintenance decisions but not planning decisions are taken on a whole life cost basis.

5.3.5

*Service standards*

The self imposed service standards are not demanding but they are accompanied by a range of indicators with internal targets that are used for prioritisation purposes. There are no linkages with customer needs and expectations; this council wide deficiency was a factor in the recent reorganisation.

5.3.6

*Cost base and efficiencies*

The current asset management plan is based largely on unit costs from the water and sewerage businesses' annual framework contracts. There is no drive for increased efficiency evident in the cost base. Consultant estimates are behind the major joint water supply works.

5.3.7

*Planning for growth and higher standards*

Development servicing plans are optimised at the time works proceed. Projected outputs are not well documented at present and there is no drive for efficiency improvements evident. The opex: capex balance is routinely considered when making investment decision but not in forward projections. Least cost planning principles appear to lie behind the review of water resource options.

We recommend that the Tribunal makes clear that it expects to see an appropriate standard for drought security to substantiate any programme for demand or supply side measures at the next price review.

5.3.8

*Planning asset maintenance*

Risk management principles are being used for prioritisation but not for planning purposes at present. There is no assessment of future deterioration rates but the assets are mostly young. The opex capex balance is routinely considered when making investment decision but not in forward projections.

5.3.9

*Procurement strategy*

There is a reasonable balance between in house and contract work and a range of contract types. There is no real market testing as the enterprise agreement has all but excluded the possibility of outsourcing but day labour is exposed to comparison with contract rates for new work. Some other benchmarking has been undertaken.

5.3.10

*Programme management*

A performance based contract is in place for septicity control in sewers but otherwise we found no evidence of contract risk management. Post project reviews are conducted on a few of the more significant projects but otherwise feedback is informal through team meetings.

5.3.11

*Conclusion*

While Gosford's asset management planning has some significant deficiencies, some elements are relatively sophisticated, particularly given the size of the organisation. We consider it to be a sound base for the development of a robust plan that it proposes within the next two years.

**5.4**

***Water capital expenditure***

5.4.1

*Retrospective review 2000-01 to 2002-03*

Actual capital expenditure during the price path was \$8.6m compared with projected expenditure of \$13.2m, an under spend of \$4.6m. The principal reason for the under spend was that the postponement of the Gosford-Wyong joint water supply works (\$6.4m) that remained in its forecast for the price path after the 2000 price determination; Wyong postponed the projects out of the price path period. This under spend is offset by additional maintenance expenditure (\$1.2m) and some miscellaneous work (\$0.6m).

We are generally satisfied that the miscellaneous expenditure can be considered as prudent, reasonable and not reasonably foreseeable. It can be deemed within the proper bounds of active programme management.

A 44% overspend on maintenance is beyond the bounds of active programme management, even allowing for the fact that \$0.2m was due to carry over of work from the previous price path. There have been decisions to proceed with major renewals projects partly offset by under spend on general plant replacement. We believe that this is probably linked with the deficiencies in above ground asset management planning.

5.4.2

*Proposed capital expenditure 2003-04 to 2004-05*

Our proposed allowable capital expenditure as compared with that shown in the Gosford's SIR capex is set out in Table 5. Because of the nature of the programme, in the case of Gosford we have concluded that it would be inappropriate to assume an efficiency saving.

Table 5: Proposed water capital expenditure

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Gosford SIR</b>				
Growth	897	797	674	619
Renewals and maintenance	936	810	809	735
Joint works	3,574	5,899	2,297	8,912
Other	215	209	202	197
<b>Total</b>	<b>5622</b>	<b>7,715</b>	<b>3,982</b>	<b>10,463</b>
<b>Proposed allowable capital expenditure</b>				
Growth	897	797	674	619
Renewals and maintenance	936	810	809	735
Joint works	1,500	6,000	3,302	8,885
Other	215	209	202	197
<b>Total</b>	<b>3,548</b>	<b>7,816</b>	<b>4,987</b>	<b>10,436</b>

## (a) Maintenance and renewals

Following some elevated renewals expenditure in the current price path, Gosford is indicating capital expenditure returning to previous levels.

We consider the underground asset renewals levels are modest and should be allowed in full. The Tribunal should review lengths renewed and the criticality score distribution (using Gosford's current methodology) at the next price review expecting to see renewals in excess of 1300 metres and a similar criticality distribution. Gosford should be expected to start gathering systematic data on condition and performance with a view to developing projections on a more robust basis as soon as the criticality distribution indicates significant asset deterioration.

With respect to above ground assets, we consider again that Gosford should be expected to gather systematic data on condition and performance. A risk and serviceability based programme should be expected at the next price review

## (b) Growth

Gosford has a good track record of forecasting routine growth requirements and this should be allowed in full.

(c) Joint works

Dam safety requirement drive new outlet arrangements at the Mardi dam; Wyong has allowed \$6.5m compared with \$7.14m at Gosford. The works have been planned for some years and should go ahead shortly although we suspect that the expenditure profile shown is optimistic.

The Mardi high lift pump station (\$3.0m) is another long standing project; Wyong has allowed \$3.0m compared with \$2.01m at Gosford. Given the concept is based on a 1990 report and the joint water supply study in progress, we consider that a major review should be undertaken to ensure that it remains the best option for increasing supplies to Warnervale as well as managing risk for both parties. Again given the history, we see the probability of slippage.

These joint works have been included in the programme on the basis of lower of the costs estimates provided. Because of the stage of the investigation, there are unlikely to be major opportunities for efficiency gains and also there is no real incentive to deliver improvements in a two year price path; we have therefore allowed the amount in full but reflected the probability of slippage in our proposals.

Notional expenditure is included for major augmentation of water resources being required as a result of the investigations currently underway. These works have not been justified as yet; we suggest that they are left in the programme on the basis of Gosford's submission (\$11.2m compared with Wyong's \$12.5m) without prejudice to future decisions.

(d) Other

Other expenditure is largely for meter replacement. We consider it should be allowed in full subject to a full business case for an optimal replacement programme being prepared before the next price review.

## 5.5

### ***Sewerage capital expenditure***

#### 5.5.1

##### *Retrospective review 2000-01 to 2002-03*

Actual capital expenditure during the price path was \$12.1m compared with projected expenditure of \$13.7m, an under spend of \$1.6m. The principal reason for the under spend was slippage of the Terrigal/North Avoca project (\$5.6m); we were lead to believe that this was due to poor performance of the consultant responsible.

17 new projects totalling \$2.5m partly offset this, the largest being for odour control (\$0.7m) and purchase of a buffer zone at Kincumber (\$0.5m). In addition, there was overspend (\$1.5m total) on other projects in hand, the largest being slippage of SCADA from the previous price path (\$0.7m) and increases on block allocations for plant renewals (\$0.3m), SPS renewals (\$0.5m) and sewer extensions (\$0.3m).

Slippage on the Terrigal/North Avoca project was within Gosford's control. Additional expenditure on odour control was due to a new obligation under the Protection of the Environment (Operations) Act and is prudent and reasonable. The additional expenditure on renewals is indicative of concerns regarding asset management planning.

### 5.5.2

#### *Proposed capital expenditure 2003-04 to 2004-05*

Capital expenditure forecast from Gosford's SIR and our proposals are shown in Table 6. Because of the nature of the programme, in the case of Gosford we have concluded that it would be inappropriate to assume an efficiency saving.

*Table 6: Proposed sewerage capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Gosford SIR</b>				
Growth	7,009	4,882	933	749
Renewals and maintenance	1,665	1,357	1,463	1,647
Mandatory standards	0	0	0	0
Discretionary standards	1	1	1	1
Efficiency	9	0	0	0
<b>Total</b>	<b>8,684</b>	<b>6,240</b>	<b>2,397</b>	<b>2,397</b>
<b>Proposed allowable capital expenditure</b>				
Growth	7,009	4,882	933	749
Renewals and maintenance	1,665	1,357	1,600	1,800
Mandatory standards	0	0	0	0
Discretionary standards	1	1	1	1
Efficiency	9	0	0	0
<b>Total</b>	<b>8,684</b>	<b>6,240</b>	<b>2,534</b>	<b>2,550</b>

(a) Asset maintenance and discretionary standards

The expenditure allocated to asset maintenance and discretionary standards is not material.

(b) Renewal and replacement

There are no signs of major problems with the underground assets at the moment. There is a programme of inspecting 'critical' sewers so the 'at risk' sewers should be identified. The draft EPA licence will also require investigations on the capacity of the system.

The level of above ground maintenance appears low at approximately 3% (in four years) of the depreciated asset value and Gosford overspent in the current price path. As for water, we consider again that Gosford should be expected to gather systematic data on condition and serviceability of above ground assets. A risk and serviceability based programme should be expected at the next price review

(c) Mandatory standards

There is a single project for odour control. The interpretation of the Protection of the Environment (Operations) Act is conservative but the EPA has confirmed that its bottom line is no odour complaints, particularly for sewerage pumping stations within the network because of their proximity to housing.

(d) Growth

This forms the major part of the future programme and will need to be managed against the actual rate of growth. Gosford has a good record of planning and delivering growth projects and its programme has therefore been accepted.

**5.6**

***Stormwater capital expenditure***

No stormwater capital expenditure has been included in Gosford's submission to the Tribunal.

Gosford City Council is responsible for all stormwater drainage within its area. Stormwater drainage is normally designed to provide protection against internal flooding of buildings up to a 1 in 100 year return period. Studies covering around 50% of the catchments in the area have identified a capital expenditure requirement of \$144m to provide the required level of protection in areas most at risk. Capital expenditure, currently running at \$5.5m-\$6m p.a., is directed towards upgrading the capacity of piped systems in the urban areas of the city.

Capital expenditure is financed from revenue rather than borrowings. There is a normal drainage levy (currently \$2.42m), transfer payments from the water and sewerage businesses (currently \$2.54m but budgeted for \$3.0m in 2002-03) and State grants (currently \$0.4m).

As set out previously, it is our view that the drainage transfer payment from the water and sewerage businesses are a direct cross subsidy of an unregulated business and cannot be regarded as proper operating expenditure.

At present, the normal drainage levy and state grants are allocated in advance to fund specific works; it could be said that the water and sewerage transfer payment is used to fund the balance. If the Tribunal is minded to allow water and sewerage charges to include such a revenue transfer payment, then it would be preferable to hypothecate the revenue to fund specific capital works within a prioritised programme in the same way as for the other revenue sources.

## **5.7**

### ***Corporate capital expenditure***

No corporate level capital expenditure has been included in Gosford's submission to the Tribunal.

## 6 Hunter Water Corporation

### 6.1 **Introduction**

Hunter Water Corporation serves a population of some 500 000 in an area of 5365 km<sup>2</sup> covering Newcastle City, Lake Macquarie, Port Stephens and the Hunter Valley. Hunter Water has forecast population will grow by around 0.75% p.a. for the foreseeable future. The area continues to compete vigorously for new industrial development.

Hunter Water is an organisation that has been stable in terms of size and structure for some years. It is structured in three groups: core group, service providers and customer services. The structure is aimed at effective exposure of service delivery to competition whilst ensuring appropriate consumer and environmental protection.

In 2002, there were some 426 employees, 5% lower than in 1999. In addition there were 95 employees in its subsidiary, Hunter Water Australia.

### 6.2 **Operating expenditure**

#### 6.2.1 *Budget process*

Hunter Water's budgeting starts as a bottom up process based on business wide assumptions; top down constraints are then applied. While we were told that there was no overt cap, our discussions lead us to conclude that there was an underlying aim to achieve a 1% p.a. real reduction year on year.

#### 6.2.2 *Operating cost trends*

Operating expenditure and percentage changes over the current price path are shown in Table 7.

*Table 7: Operating expenditure 1999-00 to 2002-03 (including corporate allocation)*

	1999-00	2000-01	2001-02	2002-03
Inflation	2.4%	3.7%	2.8%	2.5%
	\$,000 nominal			
Water	26,626	29,177	28,700	30,807
	-10.1%	9.6%	-1.6%	7.3%
Sewerage	26,351	25,226	26,077	27,725
	19.5%	-4.3%	3.4%	6.3%

	1999-00	2000-01	2001-02	2002-03
Inflation	2.4%	3.7%	2.8%	2.5%
		\$,000 nominal		
Stormwater	689	784	1,300	1,548
	-22.2%	13.7%	65.8%	19.1%
<b>Total</b>	<b>53,666</b>	<b>55,187</b>	<b>56,077</b>	<b>60,079</b>
	2.1%	2.8%	1.6%	7.1%
Corporate (included above)	0		13,246	13,605
				2.7%

### 6.2.3

#### *Water operating expenditure*

Water operating expenditure has shown significant variations year on year over the price path. There were some exceptional factors in the base year, 2001-02, elevating costs by about \$200k.

Generally, there is a rigorous approach to optimising the opex: capex balance in making investment decisions. We found no major physical explanatory factors that would lead to costs significantly above normal.

Projected water operating expenditure is shown in Table 8.

*Table 8: Changes in water operating expenditure*

	2001-02	2002-03	2003-04	2004-05	2005-06
Assumed inflation		2.5%	2.5%	2.5%	2.5%
		\$,000 nominal			
Total functional expenditure	21,650	23,566	24,403	25,118	25,869
		8.8%	3.6%	2.9%	3.0%
allocated proportion of Corporate	7,050	7,241	7,498	7,717	7,948
		2.7%	3.6%	2.9%	3.0%
<b>Total operating expenditure</b>	<b>28,700</b>	<b>30,807</b>	<b>31,901</b>	<b>32,835</b>	<b>33,817</b>
	(1.6%)	7.3%	3.6%	2.9%	3.0%

There have been substantial changes in the operating expenditure projections for the current year, 2002-03. We were told that principal reasons for this change included accounting processes (\$633k), reduced capitalised operating expenditure (\$322k), increased consolidation of HWA costs (\$275k) and miscellaneous increased costs (\$251k). There is an offsetting saving for reduced water supplied to customers (\$90k) and other efficiencies.

The principal changes in future years are an increase due to demand management of \$400k but reducing in 2005-06 to \$245k and efficiency savings rising from \$134k to \$360k above the base year.

There are a number of areas potential for cost reduction.

There will be benefits in identifying and achieving the economic level of leakage but in the meantime, more active leakage control should show benefits. Demand management expenditure has been included but income is not netted off.

Above ground asset maintenance and replacement has been carried out on the basis of rolling condition assessment on the basis of whole life costs; a significant increase in expenditure is forecast. The Tribunal can therefore expect to see an efficiency dividend on operating costs.

Protected contracts with HWA are due to be retendered shortly; experience elsewhere indicates that if done on a full arms length basis, then savings can be achieved.

#### 6.2.4

##### *Sewerage operating expenditure*

The main factors in the increase to base expenditure were said to be that the biosolids disposal contract costs rose \$1m p.a., odour control costs rose \$0.5m p.a. Decommissioning of various WWTWs lead to increased dosing to control septicity in the new transfer sewers and commissioning of the new WWTWs lead to increased costs for the new processes.

Hunter Water has provided an analysis of operating expenditure changes. Asset renewal and replacement, mandatory standards and growth are driving costs at WWTPs upwards by around \$500k p.a. Identified efficiency savings increasing from \$420k to \$550k are containing the increase.

There have been substantial changes in the projections for the current year, 2002-03. There are miscellaneous increases of \$1,200k to \$1,400 p.a. The principal reasons for these increases included and electricity costs (\$187k), accounting processes (\$322k), reduced capitalised operating expenditure (\$48k), increased consolidation of HWA costs (\$196k).

As well as matters common to the water service referred to above, Hunter Water has recognised that there are efficiencies to be achieved e.g. biosolids disposal and has included projected savings within its operating expenditure projection.

6.2.5

*Stormwater operating expenditure*

The reported expenditure is appropriate and acceptably efficient considering that the work is labour-intensive. In terms of cost per km. of channel maintained, Hunter Water's costs are consistent with those found elsewhere. Administration of Hunter Water's stormwater functions employs 1.5 full time equivalent staff.

Hunter Water has identified non capital related net operating expenditure increases averaging 22% (\$230,000 p.a.) over the period 2003-2007. Apart from small identified efficiencies and costs relating to non-mandatory standard, most of the increase relates to increased maintenance requirements identified in the course of asset condition assessments.

There is general potential for operating expenditure reduction in relation to the stormwater business in accordance with good business practice. The work is unlikely to be greatly affected by technological innovation and further upward pressure must be expected as a result of the implementation of the stormwater environmental improvement plans to meet EPA stormwater quality aspirations.

6.2.6

*Corporate operating expenditure*

Our assessment of base ox was made using the costs allocated to the water and sewerage businesses for a broadly-based package of shared services. The analysis demonstrates that these services, taken as a package, were delivered at reasonable cost to customers. The cost of the package for 2001-02 amounted to \$69 per water customer and represented 26% of total core business operating costs.

Hunter Water has forecast operating expenditure efficiency streams associated with capital investment in head office accommodation and the implementation of the proposed new customer service systems. These have been taken into account in preparing the business cases for the projects concerned.

We suggest that there is further potential for cost reductions through outsourcing of some corporate functions and/or reducing the staffing ratio towards best practice levels and further process reviews.

6.2.7

*Conclusions*

The Tribunal indicated in its issues paper that it proposed to review operating expenditure from the baseline of actual operating expenditure in 2001-02; we have therefore followed this approach.

Our terms of reference require us to recommend efficiency gains that the agencies should adopt as targets based on background issues and our review. Having considered all these matters as required, we consider that Hunter Water should adopt a target efficiency gain in the range of 1.2% to 1.8% p.a. We have adopted 1.5%.

Having made recommendations for the efficiency gains that agencies should adopt as targets, we are required to identify for each year between 2003-04 to 2005-06 the level of operating expenditure that in our view is required to efficiently undertake each agency's functions. Having considered the matters to be taken into account in our terms of reference we have concluded that some additional operating costs should be allowed.

Our proposals for allowable operating expenditure are shown in Table 9.

*Table 9: Proposed allowable operating expenditure*

	2003-04	2004-05	2005-06
	\$,000 2002-03		
<b>Water</b>			
Proposed by Hunter Water in AIR	23,808	23,907	24,022
Proposed	23,147	23,013	22,586
<b>Wastewater</b>			
Proposed by Hunter Water in AIR	22,103	22,194	22,301
Proposed	21,474	21,434	21,363
<b>Stormwater</b>			
Proposed by Hunter Water in AIR	1,041	1,045	1,051
Proposed	832	828	815
<b>Corporate</b>			
Proposed by Hunter Water in AIR	13,744	13,802	13,868
Proposed	12,980	12,904	12,711
<b>Total</b>			
Proposed by Hunter Water in AIR	60,696	60,948	61,242
Proposed	58,433	58,178	57,475

## 6.3

### ***Asset management planning***

#### 6.3.1

##### *Introduction*

We reviewed asset management planning against a checklist consisting of eight primary factors and 54 dimensions with a key question for each. We have given

our judgement against each key question indicating what we believe are the main strengths and weaknesses elsewhere.

6.3.2

*Forecasting*

Water usage forecasting techniques are unsophisticated for an organisation of Hunter Water's size. A better understanding of the components of demand and trends would be advantageous. The climate correction model is not yet fit for purpose.

On the sewerage side, there is concern about accuracy of some data but forecasts are generally satisfactory.

6.3.3

*Asset knowledge*

Asset knowledge is good with sound condition and serviceability data for underground assets. Above ground asset data is also good but no systematic condition or performance data is available.

6.3.4

*Service standards*

The new licence system performance standards and indicators are still being assessed and not yet driving asset management planning. These need to be worked through and appropriate targets established.

6.3.5

*Cost base and efficiencies*

Hunter Water has a new manual for estimating but the accuracy has not been established in practice; we suspect that it may bias high. There is high level tracking to the determination but not at the unit cost level. No efficiency drivers are built in.

6.3.6

*Planning for higher standards and growth*

The draft integrated water resource plan approach is in line with best practice although there are deficiencies to be worked through. Appropriate options are considered and decisions taken on whole life cost grounds. There is no indication of a drive for efficiency improvement. Outputs measures are not assessed and documented but this should be remedied as the new licence elements are worked through.

6.3.7

*Planning asset maintenance*

Asset maintenance for both underground and above ground assets is largely reactive and only when it can be justified economically using a least whole life cost model. Some critical underground water assets have been identified subjectively but factors influencing deterioration are not properly understood to enable predictive modelling of the whole system. Sewerage assets are subject to frequent CCTV condition surveys so in the short term, requirements should be properly identified. Condition of above ground assets is routinely assessed but not graded. There is no systematic medium or long term appreciation of future risks or potential maintenance requirements.

6.3.8

*Procurement strategy*

Procurement is largely conventional with separate contracts for design and construction. Other more innovative methods are employed from time to time for example the use of a design, construct operate and transfer contract for the Morpeth STP. 'Panel' contractors are used for some work.

There are examples of less traditional procurement. Packaging has been tried but there are concerns that it results in delays that may negate any efficiency gains. Some minor, schedule of rates, term contracts for specific operations are in place. There is a performance contract for odour control at STP's. Water treatment operation and maintenance and mechanical and electrical maintenance are outsourced with incentives for out-performance to an associate, Hunter Water Australia.

6.3.9

*Programme management*

The overall programme was managed to budgets. Projects did have timelines which included time margins to allow for slippage. Sound financial controls are in place. Projects with formal external deadlines had their commissioning dates tracked.

Items costing \$250k, or more, are separated from the block items. Projects greater than \$1m are subject to post completion reviews including comparison of out turn cost to estimate. There is no direct attempt to track individual project or asset unit costs back to the submissions made to the Tribunal's or its determination other than through the global impact on financial performance.

6.3.10

*Conclusion*

Hunter Water asset management planning methodology has strong points, for example its attention to whole life costs. However it also has weaknesses, some of which we have touched on in this brief summary.

**6.4**

***Water capital expenditure***

6.4.1

*Retrospective review 2000-01 to 2002-03*

There have been substantial changes to Hunter Water's water capital expenditure programme that, compared with the Tribunal's determination, is forecast to be around \$5.m overspent for the period. It should be noted that the projection is above the amount allowed by the Tribunal in its 2000 determination. Principal reasons for increased expenditure and our concerns are:

- Additional work to meet an unexpected peak demand problem (\$4.9m) that should have been foreseeable.
- Work to facilitate Grahamstown reservoir augmentation has been advanced (\$3.7m) prejudging the integrated water resource plan.
- Previously identified dam safety work at Chichester dam is needed earlier than forecast (\$5m).
- Overspend on the Tomago to Tomaree pipeline (\$2m) indicates poor estimating.
- Overspend on block allocations (\$3m) that is partly due to highway work outside Hunter Water's control.

In order to contain the over spend, work to the value of some \$10m has been postponed to the next period or indefinitely.

We are content that all of the works would have been needed at some point and are to that extent prudent. Variations are to be expected in delivering a large capital programme but not of the scale that has occurred compared to the size of Hunter Water's three year capital expenditure programme. The variances reinforce concerns regarding parts of Hunter Water's asset management procedures.

We are also concerned that we have not seen evidence of hard capital efficiencies having been achieved during the period although there have been major savings on the Chichester dam spillway project that was initially not included in the price path programme. We suspect that Hunter Water's initial response to the challenge to

deliver capital efficiencies was largely to reorder its programme and reduce planned work and outputs that were not fully quantified.

6.4.2

*Proposed capital expenditure 2003-04 to 2006-07*

Capital expenditure forecast from Hunter Water's SIR and our proposals are shown in Table 10.

*Table 10: Proposed water capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Hunter water's SIR</b>				
Renewal and replacement	5,453	4,369	4,180	8,666
Mandatory standards	2,978	476	197	116
Discretionary standards	537	267	7	4
Growth	3,872	17,389	11,366	2,997
Efficiency	459	61	25	15
<b>Total</b>	<b>13,299</b>	<b>22,561</b>	<b>15,775</b>	<b>11,798</b>
<b>Proposed allowable capital expenditure</b>				
Renewal and replacement	5,453	4,369	4,180	8,666
Mandatory standards	2,829	452	187	110
Discretionary standards	510	253	7	4
Growth	3,352	15,644	10,485	2,754
Efficiency	436	58	24	14
<b>Total</b>	<b>12,579</b>	<b>20,776</b>	<b>14,883</b>	<b>11,548</b>

(a) Asset renewal and replacement

Hunter Water forecasts its expenditure for asset renewal and replacement partly by block allocation for projects up to \$1,000,000 and partly by specific larger projects as shown in Table 10.

*Table 10: Block allocations for renewals and replacement*

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	Actual \$,000 nominal			Forecast \$,000; 2002-02			
Block allocations	1,617	2,134	4,081	4,803	4,144	4,180	4,216
Specific projects	5	263	1,389	650	225	0	4,450
<b>Total</b>	<b>1,622</b>	<b>2,397</b>	<b>5,470</b>	<b>5,453</b>	<b>4,369</b>	<b>4,180</b>	<b>8,666</b>

Water main replacement to date has been largely on the basis of reactive renewal subject to the budget limit. Above ground renewals are on the basis of rolling condition assessment and whole life costs; a significant increase in expenditure is forecast. The Tribunal should therefore expect to see an efficiency dividend on operating costs.

We recommend that the Tribunal include the amount in full subject to a target length of main renewed of 14.5km and services renewed of 100km and conditional on Hunter Water bringing risk and serviceability based asset management proposals for above and below ground assets at the next price determination.

(b) Mandatory standards

Some \$7.3m is allocated to mandatory standards comprising three projects and a small part of a block allocation. The Chichester Dam remedial works (\$5.0m) are necessary under dam safety requirements to increase the ability to pass the probable maximum flood. We understand that the current estimate is substantially below initial estimates, efficiency gains having already been achieved through negotiation of the required scope of the work.

\$1.7m is included in a block allocation in response to the new operating licence pressure standard. We have not reviewed the reasons for this unexpected expenditure.

(c) Discretionary standards

\$1.4m is allowed in two projects for dealing with remaining problems caused by the unexpected increase in peak demand. As some customers are currently at risk of not receiving any water at peak periods, we accept that the work is justified.

(d) Growth

There are 32 projects including one that is partly renewal and part of a block allocation. The overall programme is summarised in Table 11. We found that some of the growth projects are being advanced from the current development servicing plans (DSP) timings because of the peak demand problems. In effect, Hunter Water is saying that existing customers are using a greater proportion of the current spare capacity than previously identified.

Table 11: Proposed programme for growth 2002-2007

Resources	Treatment	Distribution pipelines \$,000 2002-03	Distribution non pipelines	Total
20,118	4,255	17,849	10,214	52,436

(e) Integrated water resource plan (IWRP)

The IWRP drives the resources expenditure shown in Table 11. By adopting a new resource reliability standard of a maximum of 5% of the time in restrictions, Hunter Water has estimated that at present, demand is broadly in balance with supply. The proposed standard has not been substantiated with reference to customer needs and expectations although we consider it reasonable. The need for augmentation would be postponed by adopting a target of, say, 10% allowing more time for demand management measures to be implemented.

Hunter Water has been proceeding with expenditure at Grahamstown on the assumption that its proposals will be accepted.

**6.5**

***Sewerage capital expenditure***

6.5.1

*Retrospective review 2000-01 to 2002-03*

Expenditure on the sewerage capital expenditure programme at \$95.6m is slightly below the determination level but the programme is significantly different to that proposed. Work to the value of \$12.8m has been postponed beyond the price path to compensate for overspend of \$6.6m on work completed, \$2.2m on block allocations and \$4.1m in new projects.

Principal projects postponed are the Newcastle wet weather PS (\$6.0m), the Burwood Beach WWTW additional treatment (\$1.9m) and a 22 other smaller projects.

Reasons for over expenditure on existing projects are a combination of faster delivery than anticipated and higher costs. Over spend on block allocations is partly due to carrying out more sewer rehabilitation work and more work on shafts and branches, that are not owned by Hunter Water, than planned. The principal new projects are sewer rehabilitation in Newcastle and Lake Macquarie and upgrading of the Belmont WWTP inlet works.

The switch to address the Lake Macquarie and Newcastle area management plans is understood and accepted. In terms of regulation there should be a firmer programme of work for the regulatory period. The area management plans have come up relatively early in the period and should have been foreseen. The future programme appears to recognise the priorities of the EPA but this must be formally confirmed so as to avoid the kind of shift that has taken place in this period.

6.5.2

*Proposed sewerage capital expenditure 2003-04 to 2006-07*

Capital expenditure forecast from Hunter Water's SIR and our proposals are shown in Table 12.

*Table 12: Proposed sewerage capital expenditure*

	2003-04	2004-05	2005-06	2006-07
		\$,000 2002-03		
<b>Capital expenditure in Hunter Water SIR</b>				
Growth	17,713	22,457	18,344	10,878
Renewals and maintenance	10,916	13,958	13,833	10,091
Mandatory standards	4,886	5,405	941	1,000
Discretionary standards	0	0	0	0
Efficiency	24	41	37	62
Total	33,539	41,861	33,155	22,031
<b>Proposed allowable capital expenditure</b>				
Growth	16,827	21,334	17,427	10,334
Renewals and maintenance	10,916	13,958	13,833	10,091
Mandatory standards	4,642	5,135	894	950
Discretionary standards	0	0	0	0
Efficiency	23	39	35	59
Total	32,408	40,466	32,189	21,434

Hunter Water's proposed programme is summarised by purpose in Table 13. Proportional allocation has been used so projects may appear in more than one category.

The wastewater capital programme is projected to fall to \$34m next year followed by an increase to \$42m the following year we have some concern that the programme might be optimistic. The programme over the last three years has shifted substantially as a result of switching resources to the area management

plans for Newcastle and Lake Macquarie. The future programme needs to be firmer and should be formally agreed with the EPA.

*Table 13: Proposed sewerage programme by purpose 2003-2007*

	Sewage transport sewers	Sewage transport non sewers	Sewage treatment and disposal	Sludge treatment and disposal	Other	Total
Asset renewal	62,042	7,539	17,899	-	87,480	174,960
Mandatory standards	1,700	4,964	11,714	-	2,322	20,700
Growth	45,457	28,941	42,162	-	116,560	233,120
Efficiency					293	293
Total	109,199	41,444	71,775	0	206,655	429,073

(a) Asset renewal and replacement

We have concerns that the level of capital maintenance on above ground assets outside the major projects for mandatory standards may be too low. The forward planning of this work needs to be improved.

The Newcastle wet weather PS (\$12.1m), the Lake Maquarie area management plans (\$13.5m) and sewer main rehabilitation (\$9.4m) dominate expenditure on sewers. There are 11 WWTW upgrades, the three biggest are Cessnock (\$7.6m) Kurri (\$4.9m) and Burwood Beach (\$3.2m)

The work on critical sewers which is of a planned nature should be separated from that on non-critical sewers. Targets for the length of critical sewer renovation need to be set as soon as practicable.

(b) Mandatory standards (environmental programme)

There are 13 pumping station projects, nine WWTP projects and two sewer projects that are considered as mandatory. Apart from one block allocation (\$1.2m) there are only four projects exceeding \$1.0m, the Cessnock (\$6.1m) and Kurri (\$3.0m) WWTW's, the Lake Macquarie rehabilitation scheme (\$1.9m) and the Fern Bay backlog sewerage scheme.

The Lake Macquarie and Newcastle area management plans are in the final stages of confirmation with the EPA. Targets need to be set on either the overflows to be improved or the projects to be carried out.

The EPA licences include dates for completion of the Cessnock and Kurri WWTWs that may be considered as measurable outcomes by the Tribunal.

(c) growth

119 projects are allocated in whole or part to growth. Most of the major projects listed in (a) and (b) above also have a growth component.

(d) Conclusion

The Lake Macquarie and Newcastle area management plans are going to involve a much greater amount of work on the sewerage systems than carried out recently. There are a number of questions on which we have not been able to satisfy ourselves:

- Can the work be carried out to the timescale envisaged?
- Has the work been planned so as to control disruption to the community?
- Can the work be procured at an efficient price?
- Has Hunter Water got appropriate project management resources?

Because the nature of the obligations it is inappropriate to make allowance for potential slippage. The programme needs to be considered in detail before final agreement with the EPA; targets could then be set based on the final agreement

## **6.6**

### ***Stormwater capital expenditure***

#### *6.6.1*

#### *Retrospective review 2000-01 to 2002-03*

The planned Throsby Creek embankment repairs were carried out within budget.

The \$227,000 over spend in the planned capital expenditure for 2000-01 and 2001-02 resulted from unplanned structural repairs to channel linings identified in the course of condition surveys. This expenditure was prudent in that it related to an identified backlog of capital maintenance. The work was awarded to contractors on the basis of open tenders.

6.6.2

*Proposed capital expenditure 2003-04 to 2006-07*

Capital expenditure forecasts from Hunter Water’s SIR and our proposals are shown in Table 14.

*Table 14: Proposed stormwater capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Hunter Water’s SIR</b>				
Renewal and replacement	200	400	60	60
<b>Proposed allowable capital expenditure</b>				
Renewal and replacement	200	400	60	60

All forecast work included in the SIR relates to structural repairs to channel linings. Work relating to the identified backlog is forecast to be complete by 2004-05. Additional investment of \$104,000 is planned for 2002-03 to provide a gross pollutant trap in accordance with the stormwater management improvement plan.

Total capital maintenance over the eight-year period 2000-01 to 2007-08 averages \$170,000, 0.17% of the reported asset value; this cannot be considered excessive.

**6.7**

***Corporate capital expenditure***

6.7.1

*Retrospective review 2000-01 to 2002-03*

Apart from some security upgrades, corporate level programme was largely consistent with the 2000 determination up to 2001-02.

The corporate programme was overspent by \$4.4m. Principal items included customer meters (\$0.9m), land purchase at Tillegra dam site (\$0.84m), safety equipment (\$0.4m).

Total expenditure (\$1.7m) on replacement of customer meters over two years is not excessive given an asset base containing in excess of 185,000 units. Higher average replacement rates will probably be required in future years to maintain serviceability and will be cost effective leading to increase revenue.

Considering that the Tillegra dam does not feature in Hunter Water’s integrated water resource plan in then foreseeable future, we cannot consider it to be prudent expenditure. Hunter Water has said that it was the purchaser of last resort because it is earmarked for a future dam.

We comment on further significant overspend on the corporate headquarters and IT in the current year in paragraph 6.7.2.

6.7.2

*Proposed capital expenditure 2003-04 to 2004-05*

Capital expenditure forecast from Hunter Water's SIR and our proposals are shown in Table 15.

*Table 15: Proposed corporate capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Hunter Water's SIR</b>				
Asset renewal / replacement	15,630	3,791	3,240	2,800
Efficiency	720	2,400	1,560	900
<b>Total</b>	<b>16,350</b>	<b>6,191</b>	<b>4,800</b>	<b>3,700</b>
<b>Proposed allowable capital expenditure</b>				
Asset renewal / replacement	14,849	3,601	3,078	2,660
Efficiency	684	2,280	1,482	855
<b>Total</b>	<b>15,533</b>	<b>5,881</b>	<b>4,560</b>	<b>3,515</b>

From Hunter Water's future programme, we reviewed number of areas in detail.

(a) Vehicles

We accept that Hunter Water's vehicle policy is appropriate but note that it believed there may be advantages in moving to leasing. If justified, this could bring savings in the next price path.

(b) IT development

Hunter Water's principal business and IT platform is at the end of its useful life and staged replacement is planned.

The customer services system (CSS; \$5.0m) is the first element with completion planned for 2004-05. It is slightly below cost neutral in NPV terms without taking intangibles in to account.

The management and financial information system (MIMS; \$1.5m) will be replaced next in 2004-05. This is likely to be justified as a consequence of upgrading the CSS as Hunter Water doubts whether it will lead to deliverable efficiencies.

The final element is replacement of the SCADA system (\$3.0m) in 2006-07. Hunter Water believes that this will be justifiable in terms of future efficiencies.

We are satisfied that the projects are adequately defined for present purposes.

(c) Head office

Hunter Water has been considering the future of its head office due to concerns regarding the current condition. An external report concluded that the best option was to move and an estimated cost of \$15.4m has been included in the submission. The anticipated proceeds of sale of the existing site have not been allowed and this should be expected in the submission for the next price path. HWA will occupy some 20% of the building but the full anticipated cost has been submitted.

We are satisfied that the proposed accommodation is efficient and fit for purpose.

## 7 Sydney Catchment Authority

### 7.1 **Introduction**

Sydney Catchment Authority (SCA) is responsible for a total catchment area of around 15,700 sq. km. to the south and west of the Sydney Basin.

The population currently served (4.03m) is, for practical purposes, that served by Sydney Water Corporation (Sydney Water) and the expected growth in customer numbers is dominated by that forecast for Sydney Water. SCA has a policy of discouraging potential new direct supply customers and the non-Sydney Water population served is expected to remain essentially unchanged over the period of the review and beyond.

SCA is organised in seven operating divisions, two of which (bulk water supply and catchment operations and new projects) are responsible for executing the SCA's licensed activities. The remaining five divisions carry out planning and support functions.

### 7.2 **Obligations**

#### 7.2.1 *Water resource planning*

SCA currently estimates the safe yield of its reservoir storage at 600,000 ML/year (1644 ML/d) under its current operating rules and licence performance criteria. Given recent demand levels in excess of the current safe yield estimate, SCA is in the process of awarding a contract for a further expert review of the base assumptions and analysis used in the estimate.

Sydney Water plans to reduce its demand for bulk supplies from SCA, under normal operating conditions, by means of demand management measures. If successful, this would bring total demand below the current estimate of safe yield by 2004-05 but with a higher risk of supply interruptions than is currently allowed by SCA's operating licence.

Decisions on long term planning strategy will be needed prior to the next price determination given the long lead times for the implementation of some options.

#### 7.2.2 *Catchment management*

Catchment management is another obligation on the SCA but one that is not well defined in its act or operating licence. It is still in the process of developing

appropriate tools and methodologies to discharge this function and the volume of externally generated work has yet to stabilise in some areas. Processing development applications and assistance in the field of catchment research are areas where current resources may be inadequate.

### **7.3** *Current and future requirements*

#### *7.3.1* *Mandatory standards*

Work to comply with dam safety legislation has been ascribed to mandatory standards. Around 43% of the forecast expenditure in this category relates to outstanding work on the Warragamba spillway project.

#### *7.3.2* *Discretionary standards*

Discretionary expenditure contains the largest allocation (47%) in the SIR breakdown by purpose. In most cases, the investment is in support of SCA's duties under the Sydney Water Catchment Management (SWCM) Act or to enhance its ability to meet performance standards defined in the operating licence, for example providing benefits in terms of enhancing security of supply.

### **7.4** *Operating expenditure*

#### *7.4.1* *Budget process*

Divisional budgets are built up from submissions prepared by operational sub-divisions. In these, staff and other costs are allocated to "actions" defined in the divisional work plans. Operating expenditure is categorised as salaries and overheads, committed expenditure and "discretionary" expenditure. Expenditure within these categories is allocated to "action" defined in the divisional work plans. SCA's budgeting process does not provide intrinsically for incorporating operating expenditure efficiency targets but this should be addressed shortly.

Expenditure monitoring is based on monthly reports issued for each organisational division and sub-division, broken down by "action".

#### *7.4.2* *Base operating expenditure*

Operating expenditure and percentage changes over the current price path are shown in Table 16.

Actual operating expenditure for 2001-02 has now exceeded both the Tribunal's assumed level at the 2000 determination by 15.8% and SCA's estimate in 2000 of \$68.5m by 7.4%.

Table 16: Operating expenditure 1999-00 to 2002-03

	1999-00	2000-01	2001-02	2002-03
	Actual	Actual	Actual	Budget
Inflation	1.9%	2.9%	2.9%	2.6%
	\$,000 nominal			
All operating expenditure	45,053	57,777	73,549	75,601
% increase from previous year		+28.2%	+27.3%	+2.8%
IPART estimate October 2000		60,000	63,500	67,300
% increase from previous year			+5.8%	+5.9%

SCA has benchmarked its bulk water transfer and storage functions and reports that this shows a satisfactory position. Our analysis of corporate level expenditure indicates adequately efficient operation in the context of the other agencies covered by this review. These activities accounting for about two thirds of total operating expenditure.

We were unable to form a view about the catchment management activities as outcomes from these activities are not readily quantifiable. We did not encounter obvious signs of inefficiency and the two divisions involved had clearly-defined work plans and budgets, and were professionally managed.

SCA's level of outsourcing is significantly higher than that for the other agencies covered by the review. This is likely to mean greater exposure to market forces and more efficient expenditure.

While getting established, efficiency targets have not been warranted but this now needs to be addressed as part of the budgetary process. It is easier to contain growth than to cut back an established organisation. A significant proportion of costs are outsourced; this should help maintain operating expenditure at commercial levels

#### 7.4.3

##### *Proposed operating expenditure*

Operating expenditure is forecast to remain essentially constant for review period. Upward pressure on some operating costs, for example from wage inflation, will need to be offset by operating expenditure efficiencies if the forecast is to be achieved.

7.4.4

*Proposed operating expenditure*

The Tribunal indicated in its issues paper that it proposed to review operating expenditure from the baseline of actual operating expenditure in 2001-02; we have therefore followed this approach.

Our terms of reference require us to recommend efficiency gains that the agencies should adopt as targets based on background issues and our review; we have also taken into account that SCA is only just coming to the end of its establishment phase.

Having considered all these matters as required, we consider that at the current point in time, the most important objective is to control costs to current levels. There is a tendency for new organisations to overshoot the efficient level of operating expenditure in the establishment phase and leading to painful reductions later.

We therefore suggest that SCA should be required to keep within its SIR opex forecast for the remainder of the price path, implementing whatever efficiencies are required to enable them to do this.

Because of our concerns that catchment management may become an elastic obligation, quantified outcomes should be developed to supplement the operating licence performance criteria before the end of the present price path.

*Table 17: Proposed operating expenditure*

	SIR			Proposed		
	2003-04	2004-05	2005-06	2003-04	2004-05	2005-06
All operating expenditure	75,635	74,749	75,031	75,635	74,749	75,031

7.5

**Asset management planning**

7.5.1

*Forecasting*

While SCA has adopted Sydney Water’s demand forecasts for the submission, it has prepared alternative forecasts based on a range of assumptions.

- 7.5.2 *Asset Knowledge*  
SCA uses a MAXIMO database to maintain its asset records and has been working to improve the range and accuracy of the asset data stored. In addition to holding the infrastructure asset register, it contains maintenance details, asset history and incident management planning. The database contains detailed information on asset condition and performance. Criticality of assets is assessed against stated grading criteria.
- 7.5.3 *Service standards*  
SCA's service standards, as set out in its operating licence, relate to reliability, robustness and security of supply. Quality standards are set out in SCA's Bulk Water Supply Agreement with SWC. There are no service standards or indicators for catchment management activities
- 7.5.4 *Cost base and efficiencies*  
SCA maintains a costing database, updated using contract out-turn costs but there are indications that the accuracy of estimating might need improvement. Procedures make no specific reference or provision for the incorporation of capital efficiencies at project level, rather the SCA expects the process to deliver an efficient outcome.
- 7.5.5 *Planning for higher growth*  
As noted in paragraph 7.5.1 above, provision for growth does not feature in SCA's SIR forecasts.
- 7.5.6 *Planning for higher standards*  
SCA's planning of capital work to meet higher (discretionary) standards has been carried out on an ad hoc basis determined by the wide range of issues addressed and the nature of the solutions adopted.
- 7.5.7 *Planning asset maintenance*  
SCA has issued a catchment infrastructure asset maintenance management manual (August 2002). This sets out guidelines and criteria for determining asset maintenance strategy in particular cases. Whole life cost is taken into account.
- This manual is comprehensive and should provide a sound basis for SCA's future asset maintenance activity. Although stemming from strategy established in 2000,

SCA's asset management planning systems have only recently been completed and it is too early to assess their implementation.

7.5.8

*Procurement strategy*

SCA has not, to date, itself used framework contracts or packaged work of a similar nature to gain economies of scale although its use of Government purchasing arrangements might be considered in this way. Neither has it used partnering arrangements or target price contracts.

7.5.9

*Programme management*

SCA's overall capital programme is not managed to budgets and reporting is concentrated at individual project level. Financial controls are in place and Board approvals are required for project cost variations. Progress is measured against project milestones.

In order to facilitate programme management, SCA is increasingly using the services of DPWS, the NSW Roads and Traffic Authority and AWT to procure and manage contracts under professional service agreements.

In accordance with SCA's asset creation manual, post-commissioning reviews are required for all projects.

7.5.10

*Conclusion*

SCA's asset management planning procedures as described above are generally comprehensive and in many respects are at or close to best practice. They have been developed very recently and are not the same as those used to prepare the capital expenditure forecasts contained in its submission. When fully worked through, they should form the basis of a robust submission for the next price path. However capital efficiencies are not being targeted and overall programme management has weaknesses.

**7.6**

***Capital expenditure***

7.6.1

*Retrospective review 2000-01 to 2002-03*

The Warragamba spillway dominates SCA's capital expenditure programme. This project, which is substantially complete albeit late, is now thought likely to cost around \$27m less than expected at the time of the original price determination. Thus the main determination outcome has been delivered. Whether the overspend is due to good project management as SCA contend or overestimating is debatable.

Other significant projects behind schedule include refurbishment works to the Upper Canal, Prospect Reservoir scour upgrades and Warragamba pipeline access platforms but these are expected to be complete within the price path period.

Land purchases appear to have amounted to about 25% of what was planned. Other projects inherited from SWC have been postponed pending re-assessment of their justification and detailed feasibility studies. While we accept that this is prudent and has contributed to some delays, we cannot rule out the possibility of inappropriate slippage.

The SIR indicates that actual capital expenditure amounted to only 52% of that planned in the two years 2000-01 and 2001-02. However, 93% of the actual expenditure was on projects for which expenditure had been planned. This tends to confirm the view that the variance stems largely from delays to planned work. Planned projects with an estimated value of \$5.5m have been removed from the capital expenditure programme or deferred. \$4.2m of work (8.7% of the total) has been carried out which was not foreseen in 1999.

Given that SCA is still mid way through its price path, we believe that the variations can be ascribed to active programme management.

#### 7.6.2

##### *Proposed capital expenditure 2003-04 to 2006-07*

Proposed capital expenditure is summarised in Table 18. Projects have been allocated to purpose categories by prime purpose. SCA has indicated that only currently identifiable expenditure is shown for 2005-06 and 2006-07 and additional projects are likely to come forward before the next price review.

Table 18: Proposed capital expenditure 2002-03 to 2006-07

Project	2003-04	2004-05	2005-06	2006-07
	Forecast \$,000 (2002-02)			
<b>Capital expenditure in SCA SIR</b>				
Maintenance and renewal	4,020	4,682	4,063	1,522
Mandatory standards	19,023	12,660	4,086	272
Discretionary standards	10,982	17,324	17,365	9,417
Efficiency	187	181	139	136
<b>Total</b>	<b>34,212</b>	<b>34,847</b>	<b>25,653</b>	<b>11,347</b>
<b>Proposed allowable capital expenditure</b>				
Maintenance and renewal	4,020	4,682	4,063	1,522
Mandatory standards	19,023	12,660	4,086	272
Discretionary standards	9,665	11,328	12,536	8,511
Efficiency	147	143	139	136
<b>Total</b>	<b>32,855</b>	<b>28,813</b>	<b>20,824</b>	<b>10,441</b>

(a) Maintenance and renewal

Total asset maintenance represents 0.62% of the net asset value of SCA's asset base. Given the nature of the assets, the proposed expenditure is acceptable for the period of the forecast but may need to increase in the long term.

(b) Mandatory standards

Dam safety (55%) and occupational health and safety requirements (32%) dominate investment for mandatory standards. A further 11% relates to meeting environmental flow and fishery requirements. Expenditure on maintaining existing water quality standards is not material.

Around 43% of the forecast expenditure in this category relates to outstanding work on the Warragamba spillway project. There is a potential need for major expenditure in relation to dam safety at Wingecarribee (\$13m), the majority in the next price path period.

7.6.3

*Discretionary standards*

About 15% of the forecast expenditure relates to land acquisition. SCA is close to finalising a draft policy on land acquisition for water quality protection purposes, considering its priorities and whether acquisition is the best option. There is an ongoing \$2m p.a. budget for land acquisition. We believe that SCA's policy should

link land purchases with specific measurable outcomes and that the policy should be in place prior to the approval of future land acquisitions.

A further 38% (\$23m) of forecast discretionary investment relates to the proposed Prospect Reservoir raw water pumping station, implementing a recommendation of the McClellan Report. We consider that this is close to being a mandatory obligation and unavoidable.

Proposed expenditure of around \$13m (22% of the total) relates to mini hydro generation. For the present, we have excluded this expenditure but there are arguments that it should be included so that, if necessary, inappropriate behaviour can be regulated.

#### 7.6.4

##### *Efficiency*

Of the four projects with a total forecast investment of \$.26m for efficiency, two small projects provide for upgrading dam cottages. As these provide non-regulated rental revenues, we believe that this investment should be excluded.

## 8 Sydney Water Corporation

### 8.1

#### ***Introduction***

Sydney is the largest urban conurbation (4.2 m people) in Australia and is continuing to grow at over 1% p.a. The increasing population requires the water and sewerage infrastructure to be expanded and puts increasing pressure on existing infrastructure and quality and service standards.

Sydney Water is taking a co-ordinated approach on long term water and wastewater through its Water Plan 21 and takes great care in understanding and meeting the requirements of its customers.

Sydney Water has gone through significant reorganisation in recent years so as to achieve a reduction in directly controllable operating costs per property of 23 %. The current staff totals 3556. The regulated business is now organised in eight divisions aimed at clear definition of roles and responsibilities.

### 8.2

#### ***Operating expenditure***

#### 8.2.1

##### *Budgetary process*

There is an annual budget setting exercise managed by the finance division. Budgets are set by division and include 'base' costs, which are deemed fixed, plus discretionary 'projects'. The base has been set following the major restructuring two years ago. The base assumption behind the budget is that all direct operating expenses except licence fees and BOO and SCA charges will increase in line with CPI. Any increases in costs above CPI have to be covered by saving elsewhere.

Budgets are tracked monthly against trend lines for the year so that early action can be taken to deal with problems.

#### 8.2.2

##### *Operating cost trends*

Operating expenditure, excluding redistributed corporate costs, and percentage changes over the current price path are shown in Table 19.

Although not apparent from the data as it is obscured by issues surrounding the establishment of Sydney Catchment Authority, Sydney Water says it has met its target at the last price determination of reducing controllable casts by 23% by 2002.

Table 19: Operating expenditure 1999-00 to 2002-03

	1999-00	2000-01	2001-02	2002-03
Inflation	1.9%	6.3%	2.8%	3.0%
	\$,000 nominal			
Water	352,727	360,227	385,410	383,439
	11.5%	2.1%	7.0%	-0.5%
Wastewater	268,497	255,171	274,201	274,111
	-22.7%	-5.0%	7.5%	0.0%
Stormwater	12,032	9,067	12,299	11,383
	3.0%	-24.6%	35.6%	-7.4%
Corporate	141,655	139,688	150,302	116,747
		-1.4%	7.6%	-22.3%
<b>Total</b>	<b>774,911</b>	<b>764,153</b>	<b>822,212</b>	<b>785,679</b>
	14.8%	-1.4%	7.6%	-4.4%

The main reason for a reduction in operating expenditure between 2001-02 and 2002-03 is a \$64.7m reduction in superannuation provision. The superannuation adjustment is an accounting charge rather than an operating cost; it does not affect business cash flow within the price path.

### 8.2.3

#### *Water operating expenditure*

##### (a) Base operating expenditure

We have reviewed a number of factors that influence the efficiency of base operating expenditure.

The water balance is a tool in which all treated water put into supply is accounted for as the basis for managing the controllable elements of usage. We are concerned at the implications of the absence of forecasts of the water balance

The economic level of leakage is the point at which the marginal value of water saved equals the additional costs of further leakage reduction activity. Sydney Water is currently unable to identify its economic level of leakage. Because the value of deferred capital expenditure for water resource development will lead to a low economic level of leakage, the probability is that current leakage is above the economic level.

The efficient level of operating expenditure is dependent on establishing the optimum balance between capital and operating expenditure. Although positive



In a recent detailed review of Sydney Water's demand management strategy<sup>2</sup>, the consultant suggested that some of the proposed savings were ambitious. Our conclusion is that there is risk of underachievement on the savings but do not believe that it is appropriate to suggest an alternative figure on the basis of the extent of our review.

(ii) Purchase of bulk water and BOO costs

There are three 25 year BOO agreements relating to water treatment plants with around 20 years to run. All risks excepting interest rate risks are borne by the contractor. Total charges in 2002-03 are forecast at \$95m. There is no material financing risk at present as interest rates for most of the debt has been fixed for the next three years. Approximately 35% of the BOO charges and 50% of the SCA charges are variable.

(iii) Asset management division

We were told that the division's goal was to contain operating costs, absorb system increases and costs driven by higher standards. This will require efficiency gains to be delivered

There has been no process benchmarking for some five years; opportunities identified in the last exercise have been implemented. Some use is made of comparative performance data gathered through the WSAA and the Ofwat June return process. No market testing has been carried out or is proposed other than for services already contracted out. We were told that there were no services that it was appropriate to contract out given current institutional constraints.

The Division's written objectives include providing integrated information systems to leverage new ways of working and to improve efficiencies. However what we were told lead us to conclude that that there is a view in the division that either its goal and objective are unattainable or that opportunities should not be revealed to the Tribunal.

(iv) Water services division

The water services division is the internal provider of civil and mechanical and electrical maintenance as well as construction services. There is an excess of work

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<sup>2</sup> Ipart: Mid term review of Sydney Water's demand management strategy; Montgomery Watson Harza; July 2002

requested over time and resources available by asset management division that has to be managed by strict prioritisation.

The division is well aware that it is not operating at open market efficiency levels and is ready with opportunities and ideas that would bring improvement, even without any outsourcing. The constraint is largely related to industrial relations but we were told that investment for productivity gains was difficult to obtain, presumably linked to the workforce's reluctance to adopt new technology.

Despite these difficulties, productivity improvements are being delivered, for example by reducing the level of sickness absence and maximising billable hours. A target of 3% p. a. productivity gains for the civil and mechanical and electrical maintenance sections has been established. The construction section is believed to be competitive with market rates and no target has been set.

These comments also apply to the sewerage business.

(c) Potential for cost reduction

Our investigations suggest that specific opportunities for operating cost reductions exist as follows:

- Improved productivity in the asset management and water services division
- Optimisation of the opex: capex balance in the maintenance area
- Identifying and working to achieve the economic level of leakage

8.2.4

*Sewerage operating expenditure*

(a) Base operating expenditure

We have reviewed a number of factors that influence the efficiency of base operating expenditure. We have already commented in paragraph 8.2.3(b)(iv) above on factors relating to the water services division.

Sydney Water is constructing, and operating, sewage treatment plants to tighter discharge standards than set by the EPA and incurring higher operating expenditure as a result. For example, the additional cost for the South Creek STPs was estimated at \$170k p.a. The Rouse Hill STP and West Camden STP have been constructed, or are planned, with additional tertiary clarification stages so as to achieve phosphorus levels tighter than required by the EPA. There will be

additional operating costs for these stages. However, the impact of working to the tighter standards is small in relation to the overall operating expenditure budget.

We have seen evidence elsewhere that as well as incurring additional cost, this may create a regulatory spiral in which standards are tightened to reflect achievement such that additional capital expenditure is required to give sufficient headroom.

(b) Benchmarking against the other agencies

As shown in Table 21, Sydney Water has the highest sewerage operating expenditure (not including corporate costs) cost per property of the agencies reviewed.

Table 21: Agency sewerage operating expenditure (excluding corporate costs)

	Properties No.	Opex 2001-2 \$k	Cost per property \$
Sydney Water	1,561,833	274,201	175.6
Hunter Water	197,594	26,077	132.0
Gosford	61,467	8,509	138.4
Wyong	54,117	7,736	142.9

The underlying operational factors need to be considered not just the cost. The following table shows the main operational factors identified in the AIR and the review.

Table 22: Sewerage explanatory factors

	sewer length m/property	Flow by treatment type (%)			Chokes per 100 km	% Flow pumped
		primary	secondary	tertiary		
Sydney Water	14.3	78	5	17	68	92
Hunter Water	21.2	0	97	3	70 <sup>3</sup>	50
Gosford	22.5	0	100	0	<45	100
Wyong	20.4	0	100	0	?	100

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<sup>3</sup> Based on overflows and opex budget tasks

None of the operational factors support Sydney having the highest cost. In fact there are factors such as the length of sewer per property and percentage of flow receiving primary treatment that would suggest that Sydney Water should have a low cost per property. It is recognised that labour costs will be higher but they do not explain the margin that exists.

(c) Future sewerage operating expenditure

Projected sewerage operating expenditure from the base year of 2001-02 is shown in Table 23.

*Table 23: Changes in sewerage operating expenditure*

	2001-02	2002-03	2003-04	2004-05	2005-06
Assumed inflation	2.8%	3.0%	3.0%	3.0%	3.0%
			\$,000 nominal		
Functional operating expenditure	274,201	274,111	282,000	287,038	292,687
		-0.03%	2.88%	1.79%	1.97%
Allocated proportion of Corporate	88,678	68,881	69,030	71,092	73,216
		-22.33%	0.22%	2.99%	2.99%
Total operating expenditure	362,879	342,992	351,030	358,130	365,903
		-5.48%	2.34%	2.02%	2.17%

Sydney Water has identified that there will be some \$13m p.a. additional operating expenditure resulting from the impact of the capital expenditure in the current year but has made no projection for future years. There will be additional impacts in future years e.g. in 2003-4 the Gerringong/Gerroa and Northern Towns Illawarra priority sewerage projects come into operation. The implication is that Sydney Water will accommodate the increased costs through undeclared efficiencies.

Two programs are targeted at reducing the numbers of overflows and chokes being experienced. Sydney Water has set an internal target of halving sewer chokes to 30 per 100 km, tighter than the average of 50 per 100km required by the EPA but has not currently allowed sufficient funds to achieve it. The balance between operating expenditure to avoid chokes, the capital expenditure to reduce the risk of chokes and the environmental/social impact of chokes has not been demonstrated. It is recommended that the Tribunal expects Sydney Water to achieve the EPA requirement during the price path.

(d) Potential for cost reduction

In addition to the opportunities already identified through benchmarking, we believe a review of support activities as well as operation and maintenance activities would yield potential savings. We also see potential gains from:

- Co-generation of power from biosolids digestion
- Biosolids disposal
- Reduced choke interventions once the Sewerfix programme has reduced frequencies

8.2.5

*Stormwater drainage operating expenditure*

(a) Base operating expenditure

Stormwater drainage operating expenditure provides for routine land maintenance (mowing and weed control), routine removal of silt and clearing of trash from screens. Most of the work is carried out under contracts awarded on the basis of open tender. The Water Services Division of Sydney Water, however, does some of this work. Land maintenance is carried out, in accordance with planned schedules, under two-year term contracts which can be extended for one or two years by agreement.

(b) Future operating expenditure

A reduction of \$0.9m in 2002-03 is forecast as a result of consolidation of most of AWT's operations within Sydney Water, not specific efficiencies in carrying out stormwater functions. Operating expenditure is then expected to grow by around \$1m over the next few years.

Sydney Water has predicted increasing operating expenditure attributable to the need to service the increasing number of gross pollutant traps being installed to meet stormwater quality programmes agreed with the EPA. Also it is incurring additional maintenance costs from ownership of land liable to flooding in the Rouse Hill area. Reactive expenditure in response to customer complaints is also increasing.

(c) Potential for cost reduction

Apart from outsourcing, we identified no specific opportunities beyond the general potential in all well managed businesses for operating expenditure reduction. Further upward pressure must be expected as a result of implementation of the Stormwater Environmental Improvement Plans

8.2.6

*Corporate operating expenditure*

(a) Base operating expenditure

The overall level of expenditure at around \$130 per customer (excluding extraordinary adjustments) is high and, in the absence of compelling explanatory factors, we are lead to the conclusion that Sydney Water does not provide good value for money in all areas of corporate activity. Planned efficiency savings do not form an integral part of the budgeting process in the corporate areas of activity.

As well as discussing corporate level expenditure with Sydney Water, we analysed the costs allocated to the water and sewerage businesses for a broadly based package of shared services, excluding exceptional items. The cost of the package for 2001-02 amounted to \$102 per water customer, 23% of total core business operating costs is high compared to the review group; IT services at \$31 per customer is a particularly concern.

Agency labour costs represent about half of total labour costs for IT services. While the problems of recruiting necessary skills in a rapidly evolving market are recognised, present utilisation of agency staff suggests that they are being used to fulfil base-load needs.

(b) Future operating expenditure

Sydney Water has forecast no operating expenditure change associated with corporate level capital investment. This is inconsistent with the allocation of around \$100m of corporate expenditure post 2002 to efficiency in the SIR analysis by purpose. It has forecast an on-going, non-capital related reduction relating to the re-integration of AWT within Sydney Water.

(c) Potential for cost reduction

We consider that there is significant potential for operating expenditure reductions in the following areas:

- customer services and IT services; labour represents 50% of the costs in both areas
- exploiting the full potential of contestability through outsourcing
- reducing reliance on contract labour to fulfil base load needs

8.2.7

*Proposed operating expenditure*

The Tribunal indicated in its issues paper that it proposed to review operating expenditure from the baseline of actual operating expenditure in 2001-02; we have therefore followed this approach.

Our terms of reference require us to recommend efficiency gains that the agencies should adopt as targets based on background issues and our review. Having considered all these matters as required, we consider that Sydney Water should adopt a target efficiency gain in the range of 1.5% to 2.0% p.a. We have adopted 1.8%.

Having made recommendations for the efficiency gains that agencies should adopt as targets, we are required to identify for each year between 2003-04 to 2005-06 the level of operating expenditure that in our view is required to efficiently undertake each agency's functions. Having considered the matters to be taken into account in our terms of reference we have concluded that some additional operating costs should be allowed.

Our proposals for allowable operating expenditure are shown in Table 24.

*Table 24: Proposed allowable operating expenditure*

	2003-04	2004-05	2005-06
		\$,000	2002-03
<b>Water</b>			
Proposed by Sydney Water in AIR	376,408	377,538	372,597
Total proposed	375,556	371,413	367,336
<b>Wastewater</b>			
Proposed by Sydney Water in AIR	273,786	273,213	273,379
Proposed	266,954	262,734	258,572
<b>Stormwater</b>			
Proposed by Sydney Water in AIR	11,262	11,260	11,263
Proposed	10,973	10,782	10,598

	2003-04	2004-05 \$,000 2002-03	2005-06
<b>Corporate</b>			
Proposed by Sydney Water in AIR	113,592	114,692	113,575
Proposed	117,183	115,354	113,555
<b>Totals</b>			
Proposed by Sydney Water in AIR	775,048	776,703	770,814
Total proposed	770,667	760,283	750,061

### 8.3 **Asset management planning**

#### 8.3.1 *Introduction*

We reviewed asset management planning against a checklist consisting of eight primary factors and 54 dimensions with a key question for each. We have given our judgement against each key question indicating what we believe are the main strengths and weaknesses elsewhere.

Sydney Water is in a process of major revision of its asset management processes in response to general concerns of the NSW government. The core of the new framework are the plans for major asset classes that are co-ordinated through the area plans. With some at final draft stage, asset plans are more advanced than area plans. In addition, thematic plans are intended to reflect and implement policy on major issues such as water quality as well as driving solutions to new issues.

#### 8.3.2 *Objectives*

Appropriate corporate objectives have been adopted and are being actively pursued through divisional plan. Linkages through to the asset management plans are less explicit, but stronger on the sewerage side where there is a drive for major improvement than on the water side where the goal is essentially to maintain existing service levels.

#### 8.3.3 *Forecasting*

Forecasting methodologies are generally adequate or better. On the water side, peak demand and climate correction are areas of weakness. While the appropriate plans are considered, Sydney Water uses its own local area forecasts that can be significantly different and could lead to over provision.

8.3.4

*Asset knowledge*

There is satisfactory data on underground assets in the GIS; condition and serviceability data is also maintained with CCTV surveys of critical sewers.

Asset data is held at the second level<sup>4</sup> for above ground assets whereas condition assessment has been done at the first level. Serviceability is monitored but not comprehensively recorded. We have concerns about the subjectivity of the asset grading definitions used.

8.3.5

*Service standards*

Mandatory service standards established in the operating licence are supplemented by a range of reportable indicators. While the indicators are not currently used to drive water asset management, they are starting to be used as part of a risk assessment process for prioritisation. Internal targets for indicators are being set in the sewerage business are above the minimum required by the EPA and may need review.

8.3.6

*Cost base and efficiency*

Sydney Water uses a cost estimating manual to produce scheme estimates at the notional stage. At the scheme definition stage estimates are checked with the asset solutions division. Estimating accuracy for each scheme development stage was quoted and financial controls were in place to report on scheme costs against approved costs at each development stage.

No overview of the determination programme estimate accuracy was maintained and no trail of unit costs from the determination was being maintained. Target efficiencies were not built into the determination programme and there is no direct focus on reducing asset procurement unit costs.

8.3.7

*Planning for Growth and Higher Standards*

Planning for growth is currently centred on the development servicing plans (DSP). The concept plans on which these are based are reviewed and amended approximately every 18 months. A more substantial revision including option analysis is undertaken every five years in preparation for the revision of

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<sup>4</sup> first level is location, for example pumping station; second level is the asset group, for example control panel; third level is elemental asset, for example starter

development servicing charges or when major activity is imminent. It is intended that the proposed area plans will in future become the principal vehicle for growth planning in the distribution system in due course.

Allocation of costs to the various purpose categories in the SIR demonstrates a lack of understanding of the contribution of capital expenditure to the various categories. Marginal costing to multiple purposes should be adopted as the prime purpose analysis is misleading.

### 8.3.8

#### *Planning asset renewals and maintenance*

A global model for of prioritisation of renewals is being developed and was piloted at the last budget round. It is a risk based approach with intangibles being ranked on a score rather than cash equivalent basis. We were told that improvements were needed not least because applied crudely, it would mean no allocation to water renewals.

A sound, partly risk based, methodology for determining renewal requirements for underground assets is emerging but not yet fully developed. Above ground asset management is largely planned on the basis of anticipated asset life although investment decisions are taken on a whole life cost basis.

The draft prioritisation approach for the programme is considered excessively consequence driven without a view of likelihood to establish the true risk. There is a danger that this will lead to a firefighting approach to asset maintenance and renewal.

### 8.3.9

#### *Procurement strategy*

Procurement is through a mix of term, framework and conventional contracts. Alliancing is being used increasingly in some areas but there is reluctance to adopt it too widely; we consider its full potential is yet to be exploited.

Direct labour is used for minor construction activity totalling \$33m p.a., and can be benchmarked against contract rates for similar work.

### 8.3.10

#### *Programme management*

Elements of the programme are managed against ceiling targets. The drive is to meet internal approvals and not necessarily to meet the efficiency targets in the determination. Risk management is not routinely applied but is inherent in the

alliance contracts now being used. Prioritisation methodology is biased towards consequence rather than likelihood that may lead to firefighting.

Appropriate approval and financial processes are in place.

8.3.11

*Conclusion*

Sydney Water's asset management processes are reasonable and developing fast. There are some areas such as asset grading definitions, marginal purpose analysis and prioritisation that need to be improved. We believe that if these are addressed and progress is maintained, then the Tribunal can expect to see soundly based expenditure projections at the 2005 review.

**8.4**

***Water capital expenditure***

8.4.1

*Introduction*

The water capital expenditure programme is submitted as ten project packages of work of which two will be complete by 2002-03, one complete in 2003-04; seven are ongoing block allocations. For each project, we review historic and future expenditure in the same section.

Capital expenditure forecast from Sydney Water's SIR and our proposals are shown in Table 25.

*Table 25: Proposed water capital expenditure*

	2003-04	2004-05	2005-06	2006-07 <sup>s</sup>
	\$,000 2002-03			
<b>Capital expenditure in Sydney Water's SIR</b>				
W1 maintain water supply	52,500	51,000	60,000	
W2 Critical water main programme	6,000	6,000	10,000	
W3 Meet NHMRC water quality guidelines	2,500			
W4 meter replacement programme	7,000	7,000	7,000	
W5 maintain reliability programme	7,000	7,000	10,000	
W8: maintenance plant renewals	5,000	5,000	5,000	
W9 Provide for system growth	6,000	7,500	11,000	
W10 Urban development	4,000	4,000	4,000	
<b>Total</b>	<b>90,000</b>	<b>87,500</b>	<b>107,000</b>	

<sup>s</sup> no data for 2006-07 provided by Sydney Water.

**Proposed allowable capital expenditure**

W1 maintain water supply	52,500	51,000	60,000
W2 Critical water main programme	6,000	6,000	10,000
W3 Meet NHMRC water quality guidelines	2,400		
W4 meter replacement programme	6,720	6,720	6,720
W5 maintain reliability programme	6,000	6,000	8,500
W8: maintenance plant renewals	4,000	4,000	4,000
W9 Provide for system growth	4,300	4,300	4,300
W10 Urban development	4,000	4,000	4,000
<b>Total</b>	<b>85,920</b>	<b>82,020</b>	<b>97,520</b>

8.4.2

*Project W1: maintain water supply*

Expenditure on the “maintain water supply” package has been substantially in excess of that forecast at June 2000 as shown in Table 26.

*Table 26: W1 Maintain water supply expenditure*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	34,800	39,200	35,700	109,700	52,500	51,000	60,000
Actual	48,000	53,822	57,500	159,322			

Sydney Water cannot readily identify the actual length of renewals but told us that the length reported against a KPI for 2001-02 was 78.4 km broadly in line with expectations. We have doubts regarding the accuracy of this figure.

A risk based asset management programme is being developed that in many respects should be close to best practice. We endorse Sydney Water’s approach; our judgement is that this programme is reasonable for the next two years pending full substantiation of continuing at this rate or some more appropriate level.

The proposed expenditure is the product of lengths and a rate (\$500 per metre) using its cost estimating manual based on historic costs. No efficiency gains are assumed. We also found that Sydney Water had made significant efficiency savings in the renewal of reticulation size water mains in recent years with the unit rate reducing from \$340 per metre in 2000-01 to \$265 per metre in 2002-03. Even allowing for project management costs of 5.9%, the estimating rate appears unduly conservative. We therefore suggest that a target output of 140 km a year is reasonable, allowing for a range of sizes, project management costs and difficult conditions.

As well as tracking lengths renewed and system performance standards, there are other performance related alternatives. Broadly, after making proper allowance for better knowledge, we suggest that the Tribunal should expect to see no deterioration in the following indicators:

- Breaks per 100km per year
- Repeat unplanned interruptions
- Length exceeding Sydney Water’s serviceability trigger of three bursts in one year or five bursts in two years for consideration of renewal.

8.4.3

*W2: critical waster mains*

As shown in Table 27 there has been little work allocated to this package during the price path pending the development of a satisfactory risk assessment procedure and expenditure has in effect, been reallocated to W1, maintain water supply package.

*Table 27: W2 Critical water main programme*

	2000-01	2001-02	2002-03	<i>total</i>	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	1,000	3,000	5,000	<i>9,000</i>	6,000	6,000	10,000
Actual	400	231	2,000	<i>2,631</i>			

Current risk assessment suggest that around 5% of all mains are in the critical high probability, high consequence category. While this figure is as a broad estimate, it gives a scale to the problem and a potential output measure for this programme. Sydney Water estimates that on average, it will cost \$2000 per metre to replace trunk mains 375mm and above. At \$6m p.a., the output should be 3000 metres a year. We believe that efficiencies can and should be delivered.

In return for funding the programme in full, the outputs we would expect by the end of the next price path are:

- Length renewed of 3500m
- a robust probability and consequence methodologies and a well substantiated length of main in this sector of the risk matrix

- actual condition assessment of all such mains
- a detailed programme for managing the critical assets together with performance based deliverable outputs.

8.4.4

*W3: Meet NHMRC water quality guidelines and W6: Water treatment plant updates*  
 These two packages are inter-linked and we consider them together. Actual and projected expenditure is shown in Table 28 and Table 29. In total they are expected to out turn at around 60% of the 1999 projected cost. Sydney Water has indicated that the savings have resulted from changed requirements by the regulator rather than efficiency improvements resulting from management action.

*Table 28: W3 Meet NHMRC water quality guidelines*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	1,700	1,700	1,500	4,900	2,500		
Actual	3,900	3,966	1,500	9,366			

*Table 29: W6 Water treatment plant updates*

	2000-01	2001-02	2002-03	Total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	1,100	7,500	3,600	12,200			
Actual	500	596		1,096			

8.4.5

*W4: meter replacement programme*  
 As shown in Table 30, the programme for meter replacement has progressed closely in line with the projected expenditure.

*Table 30: W4 meter replacement programme*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	7,000	7,000	7,000	21,000	7,000	7,000	7,000
Actual	7,000	6,444	7,000	20,444			

While the programme is shown as for renewals, we found that it also includes for meters at new properties; \$1.60m p.a. should be should be considered as growth. The deliverables are:

- 73,000 20mm meters replaced p.a.
- 8000 25mm, 32mm, 40mm and 50mm light duty meters replaced each year having reached their economic life.
- replacement of all meters that are removed before the end of their economic life currently running at around 25,000 p.a.
- meters for all new properties currently running 25,000 p.a.

8.4.6

*W5: maintain reliability programme and W8: maintenance plant renewals*

In 2000, Sydney Water was expecting to substantially increase expenditure on package W5, maintain reliability. In the event, as shown in Table 31, it has spent only \$11.3m, less than 30% of what was forecast. However it introduced an additional package, W6, maintenance plant renewals on which it has spent an unbudgeted \$8.0m. Viewed together, it has spent \$19.4m or 60% of the projected total.

*Table 31: W5 Maintain reliability programme*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	800	8,600	22,600	32,000	7,000	7,000	10,000
Actual	400	4,449	6,500	11,349			

*Table 32: W8: Maintenance plant renewals*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	nil	nil	nil		5,000	5,000	5,000
Actual	nil	4,525	3,500	8,025			

Sydney Water has been developing a 30 year maintenance strategy for above ground assets. The strategy is an effort to put more rigour into planning for renewals and maintenance that we endorse as necessary. The submission to the Tribunal broadly follows the resulting maintenance schedules. The strategy is not based on risk management principles although individual decisions may well be taken on least cost basis taking account of condition and serviceability.

We believe that the proposed programme is not properly substantiated and that there is a risk that the needs are either overstated or it will not be able to efficiently spend the projected amount. The probability is that it will be seen by some as an opportunity to capitalise maintenance that should more properly be expensed.

We consider that Sydney Water should evolve its current approach into a risk and serviceability based maintenance strategy similar to that being developed for water mains. Performance indicators for reliability are also needed to be able to demonstrate that assets are being properly maintained and serviceability to customers sustained. In the meantime we consider that allowing \$6.0 (W7) and \$4.0m (W8) would be a reasonable reflection of its ability to spend efficiently pending development of a robust risk and serviceability based maintenance and renewal programme; this should be an agreed deliverable from Sydney Water.

8.4.7

*W7: Potts Hill reservoir remedial works*

The Potts Hill reservoir remedial work has been completed at a cost 30% above that projected as shown in Table 33. The additional expenditure was a consequence of obligations under the Heritage Act 1977

*Table 33: W7 Potts Hill reservoir remedial work*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	2,500			2,500			
Actual	3,255			3,255			

8.4.8

*W9: Provide for system growth – water and W10: Urban development -water*

We consider these two projects together because, as shown in Table 34 and Table 35, the proposed costs for the current price path are identical indicating that the split is notional.

*Table 34: W9 Provide for system growth*

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	5,375	6,750	11,950	24,075	6,000	7,500	11,000
Actual	4,000	4,450	6,000	14,450			

Table 35: W10 Urban development

	2000-01	2001-02	2002-03	total	2003-04	2004-05	2005-06
	\$,000 nominal				\$,000 2002-03		
Proposed	5,375	6,750	11,950	24,075	4,000	4,000	4,000
Actual	3,850	4,170	3,500	11,520			

The amount proposed for the current price path has been substantially under spent; that projections for both capital contributions and free assets have been exceeded at the same time is inconsistent. We therefore have concerns about the consistency of the data in the AIR, SIR and DSP's.

Substantiation of the proposed figure from DSP's was not readily available giving rise to doubts about the robustness of the figures.

#### 8.4.9

##### *Conclusions*

Sydney Water has managed its water supply programme for the price path close to the determination. There have been some changes as is to be expected but we view them as within the bounds of proper active management of the programme. The key variances are that underspend on above ground asset management, water quality and growth has been transferred to below ground asset management, an area where Sydney Water has established that it under provided in 2000. Overall, we regard it as a good outcome.

For the next price path, Sydney Water is proposing to maintain the current level of expenditure on below ground asset management while it refines its asset management strategy; this is likely to justify the acceleration shown for the price path to start in 2005. Expenditure on above ground asset management is also shown as accelerating. Asset management planning for above ground assets is not so advanced as for underground assets and we have doubts as to Sydney Water's ability to spend efficiently in the next price path at the levels it projects. We expect that development of risk and serviceability based planning will leads to an expanded programme being justified at some stage.

System growth expenditure has been projected on the basis of DSPs but no audit trail was readily available and this method has proved unreliable in the past. We see the possibility of variances in the next price path.

## **8.5**

### ***Sewerage capital expenditure***

#### *8.5.1*

##### *Retrospective review 2000-01 to 2002-03*

Sydney Water has overspent by \$106.8m in the price path period. In total, there has been overspend on work completed (\$85m), annual block allocations (\$89m) and new projects (\$86m) have also been carried out. Savings have come from delayed work (\$137m).

There have been significant variances in the programme leading to the view that the programme needs to be firmer and subject to tighter management. The major causes of the variance (>\$10m) have been:

- The decision to use conventional procurement rather than a BOO contract for the Gerringong- Gerroa project (\$62.1 m).
- Overspend on the Northside storage tunnel (\$34m) due to adverse ground conditions.
- Increased scope of work on the Hawkesbury Nepean STP's (\$15.1m).
- Overspend on Bondi STP reliability project (\$ 14.6m) due to increased scope of work.
- Overspend on the biosolids project (\$12.9m) due to additional work and high prices.
- Underspend on servicing growth (\$22m) in various areas.
- Underspend at Illawarra STP (\$42.5m) due to planning delays.
- Underspend at Vaucluse/Diamond Bay (\$22.3m) due to a strategy review.

The EPA licence requirements have largely driven the capital programme . There is some concern about the timetable imposed by the licences that has meant significant investment on pump stations and to a lesser extent on sewers is taking place without full system modelling being possible. There is some risk that optimum value might not have been obtained.

The planned funding for growth has not been utilised although population growth has been said to have exceeded expectations. Comments on reasons for under expenditure for growth in the water business may be relevant although this was not investigated in detail

There are some examples of Sydney Water working to tighter standards than required by the EPA, for example at Rouse Hill STP, the sewer chokes internal target and the biosolids treatment. Sydney Water considers that it is working towards the best long term environmental solution.

There is no indication that capital efficiencies have been targeted although Sydney Water has improved its procurement approach.

8.5.2

*Proposed capital expenditure 2003-04 to 2005-06*

Capital expenditure forecast from Sydney Water's SIR and our proposals are shown in Table 36. Sydney Water only provided a projection to 2005-06. It should also be noted that we reviewed and modified the SIR purpose analysis following discussions with the EPA and Sydney Water. This was to reflect what the EPA saw as mandatory expenditure and what was more truly growth. The following analysis is based on our modifications. It is still basically a prime purpose analysis and a true marginal costing approach would be better.

*Table 36: Proposed sewerage capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Sydney Water SIR (as amended)</b>				
Growth	93,000	117,500	118,500	-
Renewals and maintenance	77,000	70,000	95,000	-
Mandatory standards	192,500	184,000	142,500	-
Discretionary standards	1,500	0	0	-
Efficiency	15,000	8,000	4,000	-
<b>Total</b>	<b>379,000</b>	<b>379,500</b>	<b>360,000</b>	-
<b>Proposed allowable capital expenditure</b>				
Growth	87,400	111,400	106,875	-
Renewals and maintenance	74,000	67,000	85,000	-
Mandatory standards	184,800	176,640	136,800	-
Discretionary standards	1,440	0	0	-
Efficiency	14,400	7,680	3,840	-
<b>Total</b>	<b>362,040</b>	<b>36,2720</b>	<b>332,515</b>	-

(a) Asset maintenance

Two projects are proposed totalling \$79m over the period. They are aimed at improving sewer and SPS reliability.

(b) Asset renewal

Four projects are proposed totalling \$223m over the period. All are overflow risk reduction schemes.

(c) Mandatory standards

There are 10 projects coded to mandatory standards totalling \$734m over the period. These include two STP projects, five priority sewerage schemes and the two SewerFix programs (one for sewers and one for SPSs) related to EPA licences. A general reuse project has been included as mandatory but is not related to a specific EPA licence.

(d) Discretionary standards

There is one project coded to discretionary standards costing \$7.5m for managing and marketing residuals (biosolids). Sydney Water carries out improvements on private sewers as part of its sewer maintenance programs; this could be considered to be discretionary.

Sydney Water intends to upgrade all the ocean outfall sewage treatment plants by 2010 which is outside the capital programme that they defined. The North Head STP is identified for upgrading to start within the defined programme. This is said to be in reaction to increasing grease loads. The EPA says that upgrading of the ocean outfall plants is not a priority.

Electricity co-generation is being considered at five plants but studies are at an early stage and no provision has been made in the defined capital programme.

(e) Growth

There are twelve projects for growth totalling \$334 m over the period. They include both specific as well as general system growth projects.

(f) Efficiency

The IICATS and SCADA project documentation project efficiency improvements but no future savings have been included in the SIR opex projection.

### 8.5.3

#### *Conclusion*

The programme is targeted against the priorities for Sydney Water. There are ambitions to move to higher standards than currently required by the EPA. The most immediate is the 30 sewer chokes per 100 km internal target. It is suggested that Sydney Water should only target the chokes frequencies set in the existing system licences. This can be amended for the next review period when the EPA will have reviewed the licences and reset them taking into account the system modelling.

The sewage treatment plant schemes within the next four years are generally correctly aimed at existing licence standards and growth. Sydney Water has spent, or is spending, approximately \$18m on providing plant to tighter standards than required by the EPA. \$8m is on the Rouse Hill/West Camden STPs for phosphorus reduction aimed at avoiding algal blooms. The remainder is on the Illawarra strategy where the new Woolongong STP will have tertiary treatment aimed at meeting local community requirements and supporting effluent reuse.

The programme over the last three years has over provided by \$22m for development servicing. It is recommended that the future programme be amended to match the level of actual spend over the last three years.

There is some concern about the level of planned expenditure on above ground asset maintenance. However, the current programme approach could be overlapping requirements and the basic planning for above ground maintenance needs to be improved to take account of asset condition and to identify planned work by plant. In the circumstance it is considered that the programme is left at the level submitted except that we consider project S16 North Head STP upgrade (\$16.0m) has been excluded as we consider it should not proceed until the EPA agree it is a priority for action.

## **8.6**

### ***Stormwater capital expenditure***

#### 8.6.1

#### *Retrospective review 2000-01 to 2002-03*

Sydney Water reports under-achievement of outcomes as follows.

- (a) Slippage in the structural repair programme resulting from delays to the closed conduit inspection programme.
- (b) Delays resulting from the need to re-appraisal of “end-of pipe” schemes put forward by local councils as part of the Wastewater Environmental Improvement Plans. Sydney Water believes that many of these schemes do

not provide the most cost-effective means of delivering quality improvements.

- (c) Capacity constraints in the contracting market for specialised environmental work including work at sensitive wetland sites.

Taken in total, actual expenditure (\$5.3m) was 70% of that planned (\$7.6m) for the two years 2000-01 and 2001-02. The capital under-spend may be consistent with the \$2.3m shortfall in outcomes but we did not confirm this.

### 8.6.2

#### *Proposed capital expenditure 2003-04 to 2004-05*

Capital expenditure forecast from Sydney Water's SIR and our proposals are shown in Table 37.

*Table 37: Proposed stormwater capital expenditure 2002-03 to 2006-07*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Sydney Water's SIR</b>				
Renewals and maintenance	8,000	15,000	8,000	8,000
<b>Proposed allowable capital expenditure</b>				
Renewals and maintenance	7,680	14,400	7,680	7,680

- (a) Maintain stormwater capacity

Average annual expenditure for the block allocation over the four-year period 2002-03 to 2005-06 (\$3.25m p.a.) is consistent with that for the preceding period (\$3m). Expenditure is weighted toward the last two years of Sydney Water's forecast which is reported to provide for catch-up in the closed conduit repair programme.

Total capital maintenance over the six-year period 2000-01 to 2005-06 averages \$2.79m p.a., 0.46% of the present value. This level of provision is acceptable for the purpose of the present review.

- (b) Improve stormwater quality.

The total forecast expenditure of \$24m for the block allocation provides for the work currently identified under the stormwater environmental improvement plans.

As the outputs in the form of a work programme have formally been agreed by the EPA, the expenditure should be deemed appropriate and may be used to monitor progress at the end of the price path. It is disappointing that the EPA has defined its requirements in terms of just financial inputs and works programmes rather than including measurable water quality objectives.

## **8.7 Corporate capital expenditure**

### *8.7.1 Retrospective review 2000-01 to 2002-03*

#### (a) Delivery of the planned 2000 determination outcomes

With the exception of the CIBS programme, delivery of outcomes appears to have been broadly consistent with those planned at the time of the 2000 determination.

Output delivery relating to the IT programme is difficult to as it is the aggregation of around 100 separate small projects. However, for the 22 projects with planned expenditure above the materiality threshold representing 69% of the total, actual expenditure was 118% of that planned.

The CIBS project is currently suspended pending a review by the Auditor General to the NSW Government. Meanwhile, Sydney Water is in discussion with the contractor as part of a review of future options. Modules relating to developer and large customer interfaces have been delivered and are reported to be operating satisfactorily but the main customer billing and information module has not yet been delivered.

#### (b) Variations in programme from 2000 determination

The total variation in corporate capital expenditure from the 2000 determination amounted to \$27.8m (+28%); most of the variance relates to CIBS and IT development.

The variance on risk and property management is \$6.4m (+31%). This is mainly associated contract works insurance, OHS requirements and other risk-related work identified following the 2000 determination. Centrally arranged contract insurance has been arranged to deliver yield economies of scale and contain cost increases but there were unacceptable omissions from original forecasts.

Sydney Water attribute the +15% variance in IT expenditure to changes in timing of planned expenditure and expect the 2000-2003 total to be close to that assumed for the price determination. While a benchmarking study has suggested that Sydney Water's IT expenditure is low by comparison with the peer group, we

consider that more rigorous output-based criteria for prioritising IT projects are necessary in order to manage expenditure.

Sydney Water said total expenditure of \$38m for the CIBS system was approved for 2000-01 and 2001-02, \$26m shown in the SIR against reported actual expenditure of \$44.6m. Budgeted expenditure for 2002-03 is \$28.9m of which \$7.1m had been spent by September 2002. Expected total expenditure on the project to completion, reported by Sydney Water at the time of suspension is \$68m though the total actual plus forecast for 2000 to 2006 in the SIR is \$73m. As this is currently the subject of an investigation by the Auditor general, we have not pursued the overspend further. We suggest that the expenditure should not be rolled into the capital base until the Tribunal has considered the Auditor General's findings and established its prudence.

8.7.2

*Proposed capital expenditure 2003-04 to 2004-05*

Proposed capital expenditure is summarised in Table 38.

*Table 38: Proposed corporate capital expenditure 2002-03 to 2006-07*

	2003-04	2004-05	2005-06	2006-07
	Forecast \$,000 (2002-02)			
<b>Capital expenditure in Sydney Water SIR</b>				
Managing risk	2,000	3,000	5,000	na
Manage property	8,000	8,000	8,000	na
IT development	16,000	10,000	15,000	na
<b>Total</b>	<b>26,000</b>	<b>21,000</b>	<b>28,000</b>	na
<b>Proposed allowable capital expenditure</b>				
Managing risk	1,920	2,880	4,800	
Manage property	7,680	7,680	7,680	
IT development	15,360	9,600	14,400	
<b>Total</b>	<b>24,960</b>	<b>20,160</b>	<b>26,880</b>	

(a) Managing risk

Sydney Water has forecast an average rate of capital investment over the four years 2002-03 to 2005-06 similar to that originally forecast for the two years 2000-01 to 2001-02 though expenditure in the current forecast is weighted towards the end of the period. This may be due to the omission of contract works insurance from the forecast in which case additional expenditure of \$2-3m p. a. might be expected in item C1.

(b) Manage property

Forecasting for the period appears to have been simply on the basis of an annual block allocation of \$8m, consistent with the average rate of capital expenditure for 2000-01 and 2001-02. An additional amount in 2002-03 (\$12.3m total) reflects higher expenditure on easements and refurbishment at the Bathurst Street offices.

Sydney Water's property strategy adopted in June 2000 identified NPV savings of around \$95m under the preferred option that included relocation of the head office to a new leased building in Parramatta. While being kept under review, the planned head office relocation is now timed for 2005. On the basis of the information available, the forecast investment is appropriate and effective.

(c) IT development

Sydney Water's "IT Strategy 2000" for the two-year period ending December 2002 is due to be rolled forward shortly. Sydney Water has pursued a policy of centralising IT services within the corporate area in order to ensure consistent adherence to IT policies, to improve overall budgetary control of IT expenditure and to promote efficiency.

The SIR forecast indicates a significant fall in Sydney Water's average IT investment for the three-year period 2003-04 to 2005-06 (\$13.7m p.a.) compared with the preceding three years 2000-01 to 2002-03 (\$25.6m p.a.), presumably related to the CIBS project. Sydney Water's IT recent benchmarking study by USM/META suggests that, given a turnover of around \$1,240m p.a., average capital investment in IT should be nearer \$30m p.a. Since the benchmarking study concluded that operating expenditure was also slightly below the peer group median, we have doubts as to its validity for purposes of this determination.

The outcome of the CIBS enquiry will be a major factor in determining the future IT strategy and we suspect that the forecast is likely to be exceeded. Sydney Water should review its IT forecasts once the Auditor General's review of the CIBS project is complete and a decision has been taken on a future strategy for customer information and billing.

## 9 Wyong Shire Council

### 9.1

#### ***Introduction***

Wyong Shire covers 827km<sup>2</sup> of the Central Coast region of NSW. Wyong Shire Council provides services to a permanent population of approximately 140,000. Around 55,000 properties receive a water supply and 50000 are connected to its sewerage system.

The area has been experiencing strong growth for a number of years and expects this to continue at about 2.2% p.a. over the period of this determination. The population is projected to grow to around 200,000 by 2021.

Wyong Shire Council has some 850 employees and is organised into five functional directorates. The engineering services directorate includes a water and waste section but stormwater is the responsibility of a separate roads and drainage section within the same directorate. The water and waste section has some 150 employees but there are around 50 other employees in other sections of the council providing services wholly or mainly for the water and waste section.

Wyong's water and sewerage activities are closely integrated with the rest of the Council's functions, it both provides services to and receives services from other directorates.

### 9.2

#### ***Operating expenditure***

#### 9.2.1

##### *Budget process*

The Council has an annual budget setting process and a quarterly review. The Water and Sewerage department produces separate budgets for water and sewerage.

The underlying operating expenditure has not been established from first principles for some years and an incremental budget is prepared annually at considerable detail from which changes in the assumed underlying base and exceptional items can be identified.

#### 9.2.2

##### *Base operating expenditure*

Operating expenditure and percentage changes over the current price path are shown in Table 39.

Table 39: Operating expenditure 1999-00 to 2002-03 (including corporate allocation)

	1999-00	2000-01	2001-02	2002-03
Inflation	2.40%	2.80%	2.80%	2.50%
	\$,000 nominal			
Water	6,727	7,894	8,418	9,044
	2.6%	17.3%	6.6%	7.4%
Wastewater	10,656	8,829	10,918	11,192
	12.7%	-17.1%	23.7%	2.5%
<b>Total</b>	<b>17,383</b>	<b>16,723</b>	<b>19,336</b>	<b>20,236</b>
		-3.8%	15.6%	4.7%
Corporate (included above)			6,588	6,916
				5.0%

Reasons for the big changes in the water costs between 2000-01 and 2001-02 were mainly internal and included: reduced capitalised labour, increased corporate support overheads, donated water and additional employee costs. Externally, there was an increase in water equalisation charges paid by Wyong for the joint water supply works. We consider that many of these changes should have been foreseeable at the last determination in 2000 or were controllable by the Council.

The significant fluctuation in sewerage operating expenditure over the period, downwards in one year but increasing overall, has only partly been explained by Wyong.

Wyong operate its sewage treatment plant to internal standards that are tighter than the EPA licenses; it said that the works are operated as designed.

Wyong's staffing ratio of around 2.79 employees per 1,000 water connections is relatively high by the standards of comparable economies and among the agencies which form the subject of this review. It is partly a function of current policy constraining outsourcing and a ratio of 2.0 could be considered more appropriate.

### 9.2.3

#### *Balance between operating and capital costs*

In managing asset maintenance, the optimum opex: capex balance is not normally established using the NPV or other method. While NPV analysis is used in making major investment decisions, elsewhere Wyong believes that appropriate decisions can be made based on experience and records.

9.2.4

*Future operating expenditure*

Future operating expenditure projections are shown in Table 40.

*Table 40: Operating expenditure 2001-02 to 2005-06*

	2001-02	2002-03	2003-04	2004-05	2005-06
Assumed inflation	2.5%	2.5%	2.5%	2.5%	2.5%
			\$,000 nominal		
Water	5,012	5,208	5,446	5,687	5,934
		3.9%	4.6%	4.4%	4.3%
Wastewater	7,736	8,112	8,485	8,865	9,254
		4.9%	4.6%	4.5%	4.4%
Corporate	6,588	6,916	7,322	7,606	7,817
		5.0%	5.9%	3.9%	2.8%
<b>Total</b>	<b>19,336</b>	<b>20,236</b>	<b>21,253</b>	<b>22,158</b>	<b>23,005</b>
	15.6%	4.7%	5.0%	4.3%	3.8%

The assumptions that underlie Wyong's forecasts of operating expenditure are:

- CPI increasing by 2.5% p.a.
- Underlying costs increasing in line with growth of 2.2% p.a.
- Nominal wages and salaries growth resulting from annual wage awards and performance payments growth of 4% in 2002, 3.7% in 2003-04 and 3.5% thereafter; these are applied to the following year.
- Labour productivity of 0.75% on labour costs only.

These assumptions broadly lead to annual nominal increases of 4% on labour (4.5% in 2003-04 and 4.3% in 2004-05) and 4.7% on all other items.

9.2.5

*Assessment of proposed operating expenditure*

Performance payments totalling 0.75% of labour costs are made each year to achieve around 1.5% productivity gains, i.e. the gains are shared equally between the council and employees.

The assumption that all other costs will rise in line with CPI plus growth is not accepted. We consider the appropriate range of variable costs to be 30% to 40%. Wyong has used other arguments to substantiate increased operating expenditure

including ageing of assets, mandatory standards, a more densely populated work environment, increasing work cover requirements and increasing environmental standards. In the absence of proper substantiation, we consider most of these arguments tenuous. No reduction in operating expenditure in response to reduced demand for water because of drought restrictions has been projected.

Major increases in operating expenditure for IT are proposed. Wyong's present IT operating expenditure at \$3 per customer is extremely low and the proposed total cost of around \$14 per customer is near the average for the agencies covered by the review. We believe the costs to be appropriate.

#### 9.2.6

##### *Potential for cost reduction*

We have identified a number of matters in hand and potential initiatives that should deliver gains beyond the labour productivity allowed. They include:

- Changes in management practice to establish a drive for improvement linked to clear targets
- Optimising the trade off between costs and levels of service
- Proposed investment in new technology
- Market testing and procurement initiatives
- Exploiting the potential for outsourcing
- Optimising the opex: capex balance.

We accept that efficiency is a function of outputs and inputs. If Wyong wishes to substantiate efficiency gains by virtue of improved increased outputs rather than reduced inputs, then it must identify its targets and justify them to the Tribunal and report on achievement in an auditable fashion. Without this, we believe the Tribunal should assume all efficiencies can and will be made on the input side.

#### 9.2.7

##### *Proposed operating expenditure*

The Tribunal indicated in its issues paper that it proposed to review operating expenditure from the baseline of actual operating expenditure in 2001-02; we have therefore followed this approach.

Our terms of reference require us to recommend efficiency gains that the agencies should adopt as targets based on background issues and our review. We have concerns about Wyong’s operating expenditure track record and incremental cost projections. In addition, asset management planning capability needs to be substantially improved if it is to justify and implement capital expenditure projections in a manner we would consider appropriate to a regulated business.

There are identifiable opportunities for efficiency and reasons why improvements should be anticipated and our initial view would be that significant improvements could be delivered. But there is a dichotomy as the range of management skills needs to be strengthened and systems improved at a cost if the organisation is to demonstrate and deliver its potential in a regulated environment.

In these circumstances, we have come to the conclusion that an efficiency target to reflect the full potential savings that we perceive, perhaps 2.5% to 3.0% p.a., would be inappropriate at the current time. Wyong should be allowed an opportunity to make substantive step improvement to systems, procedures and organisational capabilities but conditional on this being an agreed deliverable for the price path.

Having made recommendations for the efficiency gains that agencies should adopt as targets, we are required to identify for each year between 2003-04 to 2005-06 the level of operating expenditure that in our view is required to efficiently undertake each agency’s functions. Having considered the matters to be taken into account in our terms of reference we have concluded that some additional operating costs should be allowed.

Our proposals for allowable operating expenditure are shown in Table 41.

*Table 41: Proposed allowable operating expenditure*

	2003-04	2004-05	2005-06
	\$,000 2002-03		
<b>Water</b>			
Proposed by Wyong in AIR	5,313	5,413	5,510
Proposed	5,106	5,090	5,071
<b>Wastewater</b>			
Proposed by Wyong in AIR	8,278	8,438	8,593
Proposed	7,967	7,977	7,975
<b>Corporate</b>			
Proposed by Wyong in AIR	7,143	7,240	7,259
Proposed	7,143	7,240	7,259

	2003-04	2004-05	2005-06
		\$,000 2002-03	
<b>Totals</b>			
Proposed by Wyong in AIR	20,734	21,091	21,362
Proposed	20,216	20,307	20,305

### **9.3** *Asset management planning*

#### *9.3.1 Introduction*

We reviewed asset management planning against a checklist consisting of eight primary factors and 54 dimensions with a key question for each. We have given our judgement against each key question indicating what we believe are the main strengths and weaknesses elsewhere.

#### *9.3.2 Objectives*

Wyong has adopted a general vision, mission and values that are developed through business objectives in the water and sewerage management plans. The objectives include a qualified benchmark cost effectiveness objective rather than continuous improvement or similar.

#### *9.3.3 Forecasting*

Base records are sound but lacking in detail until recently. Relevant State and Council plans are reflected in the plans. Forecasting methodology is basic and some improvement would be beneficial.

#### *9.3.4 Asset knowledge*

Record quality and the systems on which they are based is variable. Some condition and serviceability data is available for underground assets only but not in useable form for analysis.

#### *9.3.5 Service standards*

The self chosen standards are restricted and undemanding with the exception of service response times that are proving difficult. There has been a marginal failure against the sewerage incident response time in the last year without any customer reaction and consideration was being given to relaxing the standard. There are no direct linkages to customer expectations except through the electoral process.

- 9.3.6 *Cost base and efficiencies*  
The cost base behind asset management planning is NSW PWD rates. Consultant project estimates are used for the major items. The accuracy of the PWD rates was considered doubtful but is believed, although not substantiated, to be better now. No efficiencies are reflected in future rates.
- 9.3.7 *Planning for growth and higher standards*  
Development servicing plans are based on concept plans up to 20 years old with option analyses but these are only updated rather than fully reviewed before implementation. The opex: capex balance is only considered when making major investment decisions but least cost planning principles appear to lie behind the review of water resource options.
- 9.3.8 *Planning asset maintenance*  
Risk management principles have not been adopted and there is no assessment of deterioration rates. The opex: capex balance is generally determined from experience and records rather than calculation. Outputs are not assessed and documented and there is no system for prioritisation.
- 9.3.9 *Procurement strategy*  
Procurement is heavily weighted towards day labour in both capital and operating expenditure areas without market testing to ensure value for money. Contracts are normally of conventional type and restricted to civil engineering works beyond the capacity of day labour.
- 9.3.10 *Programme management*  
Risk management concepts have not been adopted. There is little rigour to follow up on completion and costs are not tracked back to the Tribunal's determination.
- 9.3.11 *Conclusion*  
Wyong is a small organisation and its management have sound, hands on understanding of the day to day system needs and immediate problems for year to year planning. However inadequate resources for longer term planning mean that its asset management planning is unsophisticated. The absence of rigour in the process, not least the sparsity of analysis and documentation, means that it finds it difficult to substantiate proposals that may be basically sound.

**9.4 Water capital expenditure**

*9.4.1 Retrospective review 2000-01 to 2002-03*

Actual capital expenditure during the price path was \$8.8m compared with projected expenditure of \$11.5m, an under spend of \$2.7m. Principal reductions were the postponement of the Mardi to Warnervale trunk main (\$2.4m) under spend on a block allocations for growth \$2.326). New projects (\$2.7m) were introduced and renewals was overspent.

*9.4.2 Proposed water capital expenditure 2003-04 to 2006-07*

Our proposed allowable capital expenditure as compared with that shown in the Wyong’s SIR capex is set out in Table 42. Because of the nature of the programme, in the case of Wyong we have concluded that it would be inappropriate to assume an efficiency saving.

*Table 42: Proposed water capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Wyong SIR</b>				
Growth	2,935	2,714	3,971	5,125
Renewals and maintenance	1,890	1,845	1,785	1,640
Joint works	3,500	6,000	2,500	10,000
Total	8,325	10,559	8,256	16,765
<b>Proposed allowable capital expenditure</b>				
Growth	1,800	1,800	2,500	2,500
Renewals and maintenance	1,890	1,845	1,785	1,640
Joint works	1,500	6,000	3,302	8,885
Total	5,190	9,645	7,587	13,025

(a) Growth (excluding joint water supply works)

Wyong has projected underlying expenditure of \$1.4m in 2003-04 reducing to \$0.4m in 2006-07. On top, it proposes a range of major trunk mains. The one we looked at in detail was not properly substantiated as it was based on a 1990 concept report that needs to be updated to reflect the outcome of the joint water supply investigation to ensure that it is the best option and timing is appropriate.

Wyong has consistently under spent on the amount allocated for growth in its DSP’s because works are not needed so early or due to delays in procurement. We

see no evidence that this trend will change and therefore consider that an appropriate allocation for growth would be \$500k p.a. with an additional allocation of \$1,300k in the price path for major mains and \$2,000k in the next two years.

(b) Renewals

Wyong's maintenance and renewals programme has not been properly justified and our normal view would be that it should be possible to make substantial efficiency savings at an acceptable level of risk with good asset management planning. On the other hand, it is modest reflecting the young asset age, specifically targeted at known albeit unquantified problems and Wyong has historically found it necessary to overspend on maintenance.

Our judgement is that it should be allowed in full but that in return, Wyong should be expected to start gathering systematic data in usable form on condition and serviceability and moving towards risk based asset management.

For above ground assets, we consider that Wyong should be expected to use the data to develop a risk based asset management programme before the next price review. As regards underground assets, the data should be used firstly to scope the current known problems and develop a prioritisation methodology and secondly to develop a better understanding of likely future requirements. If any significant increase in the renewals rate is contemplated, then a risk based asset management plan would be appropriate

Where practical, we have identified output measures that can be used to check that appropriate progress is being maintained. At present, it is inappropriate to set challenging output requirements due to the programme size and lack of asset condition and performance knowledge.

(c) Joint works

Dam safety requirements drive new outlet arrangements at the Mardi dam; Wyong has allowed \$6.5m compared with \$7.14m at Gosford. The works have been planned for some years and should go ahead shortly although we suspect that the expenditure profile shown is optimistic.

The Mardi high lift pump station (\$3.0m) is another long standing project; Wyong has allowed \$3.0m compared with \$2.01m at Gosford. Given the concept is based on a 1990 report and the joint water supply study in progress, we consider that a major review should be undertaken to ensure that it remains the best option for

increasing supplies to Warnervale as well as managing risk for both parties. Again given the history, we see the probability of slippage.

These joint works have been included in the programme on the basis of lower of the costs estimates provided. Because of the stage of the investigation, there are unlikely to be major opportunities for efficiency gains and no real incentive to deliver improvements in a two year price path; we have therefore allowed the amount in full but reflected the probability of slippage in our proposals.

Notional expenditure is shown for augmentation of water resources consequent on the investigations currently underway. These works have not been justified as yet; we suggest that they are left in the programme on the basis of Gosford's submission (\$11.2m c.f. Wyong's \$12.5m) without prejudice to future decisions.

## 9.5 **Sewerage capital expenditure**

### 9.5.1 *Retrospective review 2000-01 to 2002-03*

The programme was considerably underspent, largely due to deferral of growth works to the value of over \$19m. However, a switch of resources to support the water service has led to reduced outputs on sewer rehabilitation. Lack of electrical resources has led to some key project deferrals, for example diesel generators to provide security of operation has been deferred. We have concerns regarding programme planning as well as the ability to deliver a programme on time and budget.

### 9.5.2 *Proposed sewerage capital expenditure 2003-04 to 2004-05*

Capital expenditure forecast from Wyong's SIR and our proposals are shown in Table 43. Because of the nature of the programme, in the case of Wyong we have concluded that it would be inappropriate to assume an efficiency saving.

*Table 43: Proposed sewerage capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Wyong SIR</b>				
Growth	4,041	6,242	7,045	10,406
Renewals and maintenance	1,598	1,658	1,476	1,856
Mandatory standards	2,120	2,160	1,260	1,260
Discretionary standards	0	0	0	0
Efficiency	0	0	0	0
<b>Total</b>	<b>7,759</b>	<b>10,060</b>	<b>9,781</b>	<b>13,522</b>

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Proposed allowable capital expenditure</b>				
Growth	3,000	4,742	5,545	8,906
Renewals and maintenance	1,598	1,658	2,000	2,000
Mandatory standards	2,120	2,160	1,260	1,260
Discretionary standards	0	0	0	0
Efficiency	0	0	0	0
<b>Total</b>	<b>6,718</b>	<b>8,560</b>	<b>8,805</b>	<b>12,166</b>

(a) Asset renewal and replacement

The expenditure on sewer rehabilitation may be at about the right level at \$27m given that the system is relatively new. The recorded output of length of sewer renovated aimed at resolving immediate failures is very low at <1 km.

Expenditure on sewage transport – non sewers \$5723k includes just under \$1m on the telemetry and radio systems. The projects cater for growth as well as renewal but they have been coded wholly to renewal.

The overall expenditure on pumping stations seems high at approximately 5% of the asset value p.a. This may be because the projects are really driven by growth and assets are being replaced early. However Wyong has very simple procedures for justifying capital expenditure and may be overspending. The expenditure on sewage treatment asset renewal (\$843k) is very low at 1% p.a. of the asset value.

We believe that justification requirements need developing and that a procedure for allocating the costs of major projects to the various drivers would be appropriate. The assets may be relatively new but procedures for planning above ground asset maintenance need to be improved.

(b) Mandatory standards

The EPA is close to finalising the ‘country’ sewerage system licences. Wyong will be required to investigate the sewerage systems over three to four years and identify environmental and public health requirements. It will also have to implement incident reporting protocols. There is no intention to change sewage treatment plant discharge consents or impose a ‘no dry weather overflow’ requirement.

Mandatory works are mainly driven by odour control requirements under the Protection of the Environment (Operations) Act. Wyong is tying the timing of these in with other asset improvements where possible. There are also items to cover the 'no dry weather overflow' situation such as S135 Diesel generators. Although not formally required by the EPA as yet, these are best practice requirements and are supported.

(c) Growth

Over the last three years the Section 94 growth programme has been totally different (over \$19m less) to the projection at the determination. Wyong has reduced the amount projected but it is still higher than actual expenditure over the last three years. It is suggested that the projection should be reduced to the level of recent actual expenditure that is \$600k p.a.

Sewage transport, non-sewers, (\$20721k) includes 52 projects for pumping stations and rising mains. Although the titles indicate that the projects include 50% refurbishment it is considered that this is likely to be an overstatement. The capital programme was deferred or slipped considerably in the last three years. We believe the same is likely to happen in the future.

The Wyong South STP has been loaded to greater than its design capacity, but with satisfactory performance, before being extended and the remaining schemes have been deferred pending development. This approach is appropriate.

**9.6**

***Stormwater capital expenditure***

Capital expenditure currently running at \$4.5m p. a. has, to date, largely been directed towards upgrading the capacity of piped systems in the lower-lying areas of the Shire. Work to improve stormwater quality, mainly comprising gross pollutant traps and nutrient removal works is also in progress and has been deemed a mandatory standards requirement.

**9.6.1**

*Retrospective review 2000-01 to 2002-03*

At the time of the 2000 determination, outcomes from Wyong's stormwater drainage programme were not defined in specific terms.

Actual expenditure over the price path is expected to out turn at \$11.9m compared with the projected \$13.7m, an under spend of \$1.8m or 13%. This probably results from some loss in momentum following the Council's decision to give greater priority to asset refurbishment.

## 9.6.2

*Proposed capital expenditure 2003-04 to 2006-07*

Capital expenditure forecast from Wyong's SIR and our proposals are shown in Table 44. Because of the nature of the programme, in the case of Wyong we have concluded that it would be inappropriate to assume an efficiency saving.

*Table 44: Stormwater capital expenditure*

	2003-04	2004-05	2005-06	2006-07
	\$,000 2002-03			
<b>Capital expenditure in Wyong SIR</b>				
Maintenance and renewal	210	215	221	226
Growth	3,782	3,877	3,974	4,073
Standards	735	754	773	792
<b>Total</b>	<b>4,727</b>	<b>4,846</b>	<b>4,968</b>	<b>5,091</b>
<b>Proposed capital expenditure</b>				
Maintenance and renewal	1,830	1,830	1,830	1,830
Growth	2,162	2,262	2,365	2,469
Standards	735	754	773	792
<b>Total</b>	<b>4,727</b>	<b>4,846</b>	<b>4,968</b>	<b>5,091</b>

Wyong has a capital programme of identified and costed drainage schemes provisionally covering the period to 2004-05 covering renewals, growth and mandatory standards. Growth is for dealing with category 1 flooding sites and mandatory standards tackles stormwater quality.

Total asset renewal and replacement expenditure over the eight-year period 2000-01 to 2007-08 averages \$484k p.a. representing only 0.38% of the reported asset replacement value. This cannot be described as adequate.

A more equitable balance of the forecast investment between asset renewal and replacement and expenditure aimed at dealing with flooding of living areas in houses would provide a satisfactory balance of outcomes for the remainder of the review period.

## 10 Terms of reference

### ***Objectives of Consultancy***

The primary objectives of the consultancy are to assess across each agency's water business and across the retail agencies' sewerage and drainage businesses:

1. the appropriateness of actual and proposed operating expenditure for the period from 2001-02 to 2005-06.
2. the prudence of each agency's capital expenditure for the period from 1999-2000 to 2002-2003.
3. the appropriateness and efficiency of proposed capital expenditure for the period from 2003-2004 to 2006-2007.

In undertaking the study the consultant must consider:

- current and projected capacity
- growth in customer numbers
- current asset condition and renewal requirements
- existing operational requirements
- the specific regional and demographic circumstances of each agency
- implications for expenditure of demand management initiatives
- efficient costs of providing the relevant water, sewerage and drainage services
- potential for contestability in the provision of water, sewerage and drainage services
- current and likely future environmental, health and safety standards
- current and likely future customer service standards
- relevant legislation and Government policies and initiatives.

This assessment should be based on best practice standards for efficient maintenance and utilisation of water, sewerage and drainage infrastructure assets.

### ***Operating Expenditure***

For this aspect of the review, the consultant will be specifically required to:

- a) Review the agencies' functions and costs of operations, including:
  - operations, support functions
  - maintenance and servicing activities
  - administration and overheads (both direct and corporate allocations).
- b) Review the appropriateness and performance of each of these functions against industry best practice.
- c) Review the cost effectiveness and efficiency of the functions.
- d) Identify reasons for any costs higher than normal commercial levels, for example government ownership, awards and conditions, operating environment, staffing levels, assets, technology, or other factors.
- e) Identify and analyse transfer of costs between regulated and unregulated areas of the water agency businesses.
- f) Identify and analyse the agencies' potential for cost reduction in each area and recommend efficiency gains that the agencies should adopt as targets. If current expenditure in an area of operations is assessed as inadequate, specification and quantification of recommended additional expenditure should be undertaken.
- g) Identify for each year between 2003-2004 and 2005-2006 the level of operating expenditure that in the consultant's view is required to efficiently undertake each agency's functions.

### ***Capital Expenditure***

For this aspect of the review, the consultant will be specifically required to:

- a) Identify agency capital works projects from 1999-2000 through to 2009-2010, separately identifying projects satisfying a materiality threshold of \$1,000,000 for SWC, \$250,000 for HWC and SCA, and \$100,000 for WSC and GCC.
- b) Identify the capital works that are intended to be contracted-out or which are intended to be carried out in-house or by the agencies' internal contracting arms.
- c) Identify and segregate the capital works projects associated with assets for which developers will either contribute to the cost of provision or will build and possibly hand over to the agency. Identify industry best practice with respect to asset provision, asset utilisation and service standards. Compare and contrast the asset management policies of the NSW water agencies with industry best practice, and quantify the impact of these policies on costs relative to service, reliability and safety levels. The consultant should identify any deficiencies or shortcomings in the approaches taken by the various agencies, having taken into account any capital versus operating expenditure trade-offs.
- e) Assess the rigour of the agencies' approach to managing their assets and developing their asset management plans having regard to the following:
- least cost planning
  - service standards
  - environmental outcomes
  - new technology
  - risk management and safety
  - industry best practice.
  - minimising costs over the life of the assets.
- f) Provide the consultant's opinion as to the reasonableness of the cost estimates included in each agency's capital expenditure programme for the period from 2002-2003 to 2006-2007.
- g) Comment on the prudence and reasonableness of the agency's actual capital expenditure and project delivery for the period from 1999-2000 to 2002-2003. Reasonableness should be assessed against identified drivers and variations from

capital expenditure proposals identified for the 2000 determination should be discussed.

h) Comment on any particular concerns or issues relating to the process for determining and prioritising future infrastructure expenditures for each agency.

i) Identify for each year between 2003-2004 and 2006-2007 the capital expenditure programme that, in the opinion of the consultant, is required to undertake each agency's functions.