



**OPERATING LICENCE REVIEW** | HUNTER WATER CORPORATION  
| SUBMISSION TO IPART  
| OCTOBER 2006



**Review of the Operating Licence for  
Hunter Water Corporation**

**HUNTER WATER SUBMISSION**

**13 October 2006**

Hunter Water Corporation  
36 Honeysuckle Drive, NEWCASTLE  
PO Box 5171  
HRMC NSW 2310  
[www.hunterwater.com.au](http://www.hunterwater.com.au)

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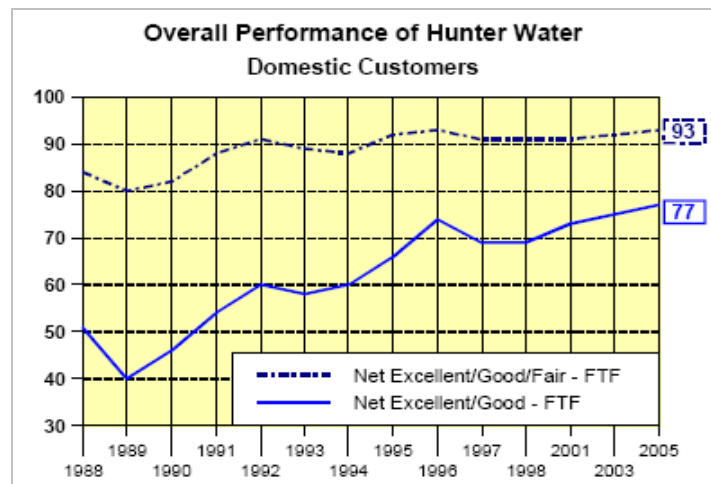
# 1 INTRODUCTION

The operating licence sits as one element of a suite of legislated controls on Hunter Water's operations. The Hunter Water Act 1991 assigns the operating licence the roles of:

- Specifying standards for water quality, service interruptions, price levels<sup>1</sup> and other matters determined by the Governor of NSW
- Ensuring that Hunter Water's systems and services meet the quality and performance standards set in the operating licence
- Setting terms and conditions that require the Corporation to maintain procedures for regular consultation with its customers in relation to its water, sewerage and drainage systems.

The current operating licence is the third licence held by Hunter Water since it was established as a Corporation in 1991. The licence has served the Hunter community well by ensuring Hunter Water's service delivery fits community expectations for water, sewer and drainage services. This is reflected in the latest Hunter Water customer survey.

The survey, conducted in 2005, found strong community satisfaction with Hunter Water's ability to fulfil its core responsibilities, particularly safe clean drinking water. Some 93% of residential customers rated Hunter Water's performance as excellent/good/fair and 77% as excellent/good. This latter result is the best achieved since the surveys began in 1988 and a 2% increase on the 2003 survey results.



The operating licence has very strong monitoring, reporting and community information requirements. These include requirements to:

- Report drinking water quality test results to the community each month.
- Provide annual reports on the drinking water quality, system performance standards and indicators, the activities of the community consultative forum, water catchment status, environmental indicators, demand management and the integrated water resources plan<sup>2</sup> and customer complaint management. All these reports are available to the community on Hunter Water's website.

<sup>1</sup> Price setting is now carried out by IPART through a price review and determination process separate to the operating licence. This is referenced in section 13 of the current operating licence.

<sup>2</sup> The integrated water resources plan is Hunter Water's plan for meeting the future water demands from growth. It includes a mix of demand management and supply upgrade measures and is discussed fully in section 5 of this submission.

Hunter Water believes that the extent of coverage of the operating licence is right. Its regulatory provisions neatly complement the requirements of other regulatory instruments in place under environmental and water legislation. Some provisions need minor updating to reflect developments since 2002 when the licence came into affect but these changes are largely administrative in nature.

An important and successful feature of the present operating licence is the requirement for Hunter Water to carry out comprehensive integrated water resource planning. The aim of this planning is to find the best mix of demand and supply options to meet future water demands through consideration of social, economic and environmental factors. With unprecedented drought conditions facing much of Australia, it is now widely recognised that such integrated planning is essential to the future of the water industry. Hunter Water intends to revise its current integrated plan over the next 18 months and believes that the outcome of this plan should be the basis for ensuring that the future demands of the Hunter community are met. The Corporation strongly supports continuation of the integrated planning approach in preference to other measures such as setting regulated targets for demand reduction, recycling and leakage management.

One contemporary development affecting the operating environment is the new program of national performance measurement for urban water utilities throughout Australia, to be known as the National Performance Framework. The emergence of the framework provides an opportunity to streamline some of the monitoring and reporting requirements of the operating licence.

The cornerstone of the operating licence is the setting of standards for the elements of service delivery that are most important to customers – drinking water quality, water supply reliability, water pressure and sewer overflows. During 2006, Hunter Water has worked with IPART to identify improvements to the current standards. IPART has appointed consultants to advise it on finalising these standards and, as reported in the issues paper, the findings of this work will be presented to the public workshop in Newcastle on 5 December. This submission, therefore, does not address these standards in detail and Hunter Water looks forward to public discussion of standards at the workshop and in any other forums proposed by IPART.

This submission provides an overview of how Hunter Water operates to meet the requirements of the current licence and suggests appropriate revisions to ensure that the licence is effective in both the current and emerging operating environment for water utilities. The submission also addresses a range of topics raised by IPART in its issues paper.

## 2 REGULATORY FRAMEWORK

### 2.1 Regulatory Best Practice

Hunter Water strongly supports all the best practice principles for regulation advanced by IPART in the September 2006 issues paper.

In applying the principles, it is important to acknowledge that Hunter Water's operations are regulated by the NSW Government through a number of regulatory instruments including the operating licence. Thus, the operating licence should be seen as one part of a suite of regulatory instruments and the application of the regulatory best practice principles needs to recognise the role of the operating licence in this broader context.

### 2.2 The Role of the Operating Licence in Context

The main focus of the operating licence is to ensure that Hunter Water delivers appropriate standards of service to its consumers and to the communities in which it operates.

The operating licence has a principal focus to meet consumer needs by prescribing standards of service that Hunter Water must meet in relation to:

- Supplying customers with safe drinking water
- Providing customers with a reliable supply of water
- Providing customers with adequate water pressure
- Providing reliable transport of sewage.

The operating licence also sets out conditions relating to:

- Community consultation
- Customer and consumer rights
- Customer complaint and dispute handling procedures
- Managing water demand and supply
- Environmental management
- Publication of environmental and ecologically sustainable development (ESD) indicators
- Independent auditing of operational performance.

Other regulatory measures and instruments establish the operating conditions for the pricing of services, access to natural water sources and environmental protection in relation to wastewater activities. The main regulatory arrangements are:

- Price regulation by IPART. Prices charged by Hunter Water are independently set by IPART through transparent public processes. Actual prices are set for annual and miscellaneous charges, a calculation methodology has been established for setting developer charges, and IPART recently released a pricing framework that outlines the pricing arrangements for recycled water customers.
- Environmental protection – natural water sources. Hunter Water extracts water from natural sources under a Water Management Licence and Water Access Licences issued by the Department of Natural Resources (DNR) under the Water Act 1912 and the Water Management Act 2000. These licences permit Hunter Water to access raw water and provide environmental protection to the various water sources and to the rights of other

users of these water sources. The DNR licences define Hunter Water's rights and responsibilities regarding the extraction of water by setting conditions on extracting water from Chichester Dam, the Williams River at Seaham and groundwater from the coastal sandbeds.

- Environmental protection – wastewater systems. The Department of Environment and Conservation (DEC) issues Environment Protection Licences for each of the 14 wastewater systems operated by Hunter Water. These licences relate to the operation of both the wastewater treatment plants and to the network of pipes and pump stations that connect customers to the treatment plants.

The DEC licences protect the environment by setting the conditions for the operation of the wastewater treatment plants. These specify the maximum volume of effluent that may be discharged from each plant and a requirement for the effluent to meet specific quality standards. The DEC can also place additional conditions on the licence through pollution reduction programs.

The DEC licences have included pollution reduction programs for a number of years. Hunter Water will have completely upgraded or rebuilt its 17 wastewater treatment plants by 2007 at capital cost of over \$260m. The new and upgraded plants provide significantly improved environmental protection.

With the near completion of the treatment plant upgrades, the DEC's focus has switched to the sewer pipe networks with an emphasis on reducing wet weather overflows. New works to meet these requirements account for \$99.5m or 30% of Hunter Water's capital program over the next three years 2006/07 to 2008/09.

- A memorandum of understanding between the NSW Department of Health and Hunter Water ensures prompt exchange of information between the two parties on drinking water-related health matters and defines water quality emergency protocols.

Since the first operating licence was issued to Hunter Water in 1992, the main focus of the licence has been standards of service for customers and customer and community protection. The 2002 licence added additional dimensions covering community consultation, customer and consumer rights, complaint management and environmental reporting. Hunter Water believes the focus on customer service and transparency of operational performance should continue as the central themes of a renewed licence.

## 3 CUSTOMERS AND THE COMMUNITY

### 3.1 Customer Service Indicators

As outlined in IPART's issues paper, Hunter Water has reported on a number of customer service indicators since 2002/03. These indicators have been audited each year as part of the operating licence performance audit and the results advised to IPART and the Minister.

The issues paper also points out that the National Water Initiative (NWI) benchmarking project, the National Performance Framework, includes a set of customer service indicators, many of which are similar to the current Hunter Water indicators.

IPART has suggested in the issues paper that, where NWI indicators are similar to existing measures, the NWI indicator should take the place of the existing indicator. Hunter Water supports this approach and considers it is the best way to achieve consistency in agency reporting.

Further, Hunter Water considers that the coverage of the proposed NWI indicators is sufficient to provide a measure of its customer service performance, particularly when these indicators allow comparison with other utilities. The Corporation believes, therefore, that the NWI indicators should be the primary of customer performance indicators referenced by the operating licence.

The NWI customer service indicators should be the primary measure of customer service required by the operating licence

### 3.2 Debt and Disconnection

Hunter Water's customer contract provides for the restriction and disconnection of water supply at customers' properties when accounts are not paid by the due date and alternative payment arrangements have not been made. A flow restriction involves the insertion of a disc in the customer's water service that restricts the flow of supply coming through the pipe. Disconnection involves completely shutting off the supply to the property.

Flow restriction or disconnection are the last steps in Hunter Water's credit management process. When a customer has an outstanding amount, there are a number of steps in this process prior to taking either of these actions. Properties rarely have their supply disconnected for non-payment.

From a whole-of-community, as well as a responsible debt management, perspective, it is important that customers are encouraged to pay their accounts on time. For this reason, Hunter Water believes that it should maintain the right to charge interest on overdue accounts, and as a final resort, to restrict or disconnect the property.

However Hunter Water is also mindful that some customers experience genuine hardship from time to time. Thus, the Corporation has well-established policies and procedures to provide customers with every opportunity to seek assistance in the event of financial hardship. In addition to providing a relatively generous (in comparison with other utilities and organisations) 21 days for payment, customers can make arrangements to pay their accounts by instalments and can access the payment assistance scheme.



## Debt Recovery Process

Before a customer reaches the point that restriction is considered, there are a number of steps that must be taken – all of which are designed to provide opportunities for the account to be addressed to avoid further recovery action. To further assist customers, an additional step in the recovery process is currently being trialled whereby customers with outstanding accounts receive a hand-delivered notice warning of impending restriction if the account remains unpaid. This provides customers with additional notice and another opportunity to make arrangements to address outstanding accounts prior to any restriction activity occurring and is designed to reduce the number of restrictions.

Table 1 below outlines Hunter Water’s debt recovery processes. For customers with a good payment record, the steps numbered in column A are followed. For other customers the steps as numbered in column B are followed.

Table 1: Hunter Water’s debt recovery process

A Steps	B Steps	Action
1	1	Initial 21 day payment period.
2	n/a	If not paid by due date, a reminder letter is sent allowing a further 7 days for payment. No interest is charged on this additional period.
3	2	If not paid by due date, a letter is sent advising that recovery action will be initiated unless payment is made within 7 days.
4 TRIAL STEP	3	If the account remains unpaid or no payment arrangements have been made, a letter is hand delivered to the property address, advising of the intention to restrict or disconnect if payment not made within the next 7 days.
5	4	When account remains unpaid after notice of impending restriction or disconnection or no arrangements to pay have been made, a proposed notice is sent advising that the water supply will be restricted without further notice.
6	5	Water supply is restricted.

Hunter Water’s debt recovery process is very reasonable in comparison to the practices of other utilities. The initial 21 day payment period is relatively generous compared to other utilities, there are at least 4 steps to go through before restriction and the final step provides 7 days notice of impending restriction (whereas other utilities often provide only 48 hours notice at this point). In all, up to 42 days is allowed between billing and restriction with continual customer/consumer contact in this period.

A customer can establish a good payment record simply by effectively managing payment of their account for 12 months. In essence, if a customer has had no recovery actions in a 12-month period then the customer information system will automatically recognise them as having a good payment record. Those with a good payment history are afforded an additional 7 days for payment. Any accounts that have proceeded to recovery action in a 12 month period, do not have access to the additional 7 days for payment.

If the outstanding account is in dispute, then debt recovery action is delayed until investigations and/or mediations have been completed (refer to sections 4.7 and 12.3.1 of Hunter Water’s customer contract).

Hunter Water’s legal billing relationship is with the property owner. Under the terms of the Hunter Water Act, when the ownership of a property changes hands any outstanding amounts that are not settled at the change of ownership become the liability of the new owner. As the issues paper notes, this allows the Corporation to ultimately recover debt and consequently, Hunter Water has a high debt recovery rate.

However, there are a number of other factors that should also be considered in regard to this matter. Responsible debt management practices are designed to assist customers reduce their debts within reasonable timeframes. It is particularly important that debts are not allowed to grow to a point where they become unmanageable for the customer. In bankruptcy, property owners sell their properties with outstanding amounts being recovered at settlement. If a debt has been allowed to grow, available equity may not always cover the value of outstanding amounts.

In recent years, equity loans have become increasingly common, particularly among retirees. Over time the value of property equity loans is increasing and consequently available property equity is decreasing. This trend has the potential to erode Hunter Water's ability to successfully recover outstanding payments when there is a change in property ownership.

Given these trends, it is more appropriate for Hunter Water to continue managing its customer relationships in a way that avoids, or at least minimises, the risk of customers reaching unmanageable levels of debt.

### **Flexible Payment Options**

It is always Hunter Water's aim to help customers manage their ongoing payment commitments so they can maintain access to water and sewerage services. The Corporation's credit management activities recognise that there are times when customers can find it difficult to pay their bills, and assistance and payment flexibility is available at those times. This includes alternative payment arrangements such as payment instalment plans and direct debit, and access to a payment assistance scheme that is operated through local welfare agencies.

Every effort is made to encourage customers who may be having difficulties paying their accounts to contact Hunter Water as early as possible to discuss suitable arrangements. Restriction action is not taken where the customer contacts Hunter Water and either pays the outstanding amount in full or makes an arrangement to pay the account in instalments over an agreed period of time and complies with this arrangement.

Access to payment arrangements by instalments is available to customers (ie property owners) who are experiencing financial hardship. These extended payment arrangements are tailored to the customer's individual circumstances and income position. No further recovery action is taken while ever the customer is complying with such an agreement. It should also be noted that Hunter Water does not take restriction action for certain categories of customers such as pensioners, charitable institutions and properties that have a home dialysis machine installed.

There are also customers which choose to make regular weekly, fortnightly and monthly payments towards their water account (in advance) using the direct debit facility. All customers meeting the financial institution requirements and Hunter Water's requirements for using the direct debit facility have access to this system.

Hunter Water customers experiencing genuine financial difficulty may also be eligible for the payment assistance scheme (PAS). The PAS is available to customers through nominated welfare agencies. These agencies assess customers experiencing financial difficulty and may issue \$25 vouchers for use in payment of residential accounts. The amount of assistance and the frequency with which it is required is determined by the agency undertaking the assessment. Hunter Water respects the independence of agency assessments.

Hunter Water does not impose any limit on the number of vouchers available to customers. The purpose of the scheme is to offer short-term emergency assistance to customers, however special needs customers may require longer-term assistance at the discretion of the

welfare agency. Agencies are asked to help develop financial independence in customers through budget counselling and other personal advice. Agencies are also encouraged to utilise other Hunter Water payment method options in conjunction with PAS where possible.

The range of payment options available to customers experiencing financial hardship are widely publicised to customers via Hunter Water's website, brochures such as the Customer Charges Guide - a pamphlet which is sent out with every account on an annual basis (with the first account after new prices are agreed by IPART), the code of practice and procedure on debt and disconnection which is sent to every customer each year, and the customer contract.

Under the current operating licence (clause 5.3.4), Hunter Water is also required to place copies of the code of practice with the Rental Bond Board. Day to day functions of the Rental Bond Board now are administered by Fair Trading Centres. However, most transactions are carried out by landlords (lodging bonds, refund applications) and real estate agencies and are electronic. Experience with the current licence has shown there is little interest in copies of the code available at the Fair Trading Centre. It is also noted that this is not a requirement of the current Sydney Water licence which was revised in 2005. This issue also applies to the requirement for the customer contract to be available at the Rental Bond Board (clause 5.1.10 in Hunter Water's current operating licence).

The IPART issues paper questions whether Hunter Water should be required to participate in Centrepay – an arrangement that allows bills to be paid via regular deductions from Centrelink payments. Hunter Water is currently implementing a new customer information system that includes a new, more flexible billing and payment module. Following the successful conversion to this system, the Corporation will be negotiating with Centrelink to introduce Centrepay as another payment option for customers. It is proposed that the code of practice and procedure on debt and disconnection be reviewed within 6 months of the new operating licence becoming effective. The revised Code will incorporate the outcomes of the negotiations regarding Centrepay.

Hunter Water's approach to responsible debt management is to discourage the escalation of outstanding amounts via consistent application of equitable debt management policies. Applying interest to outstanding accounts is an important incentive to customers to actively manage their accounts. Hunter Water's debt recovery process is fair and equitable, in that it allows sufficient time and several notifications for customers to be aware of overdue amounts and to seek assistance prior to restriction activity occurring. This holistic approach to debt recovery aims to avoid situations where debts continue to increase over time, making it increasingly difficult for individual customers to meet their commitments.

It is proposed that the Corporation's code of practice and procedure on debt and disconnection be reviewed in the 6 months following the introduction of the new operating licence. This review will consider the introduction of further flexible payment arrangements, such as Centrepay.

### **3.3 Customer Contract**

Providing excellent customer service is as important to Hunter Water as its other key objectives of protecting public health, protecting the environment and operating as a successful business.

The customer contract details the rights and obligations of customers and sets out the minimum standards of service that customers can expect. The contract also informs

customers of the rebates payable when certain levels of service are not met. These rebates provide the equivalent of a “money back guarantee” for specified poor levels of service. Overall, the customer contract serves as Hunter Water’s service guarantee to customers<sup>3</sup>.

The IPART issues paper notes that Hunter Water introduced the current customer contract on 1 September 2003 following a full public review by IPART. The issues paper also states that the Tribunal is unaware of any significant concerns with Hunter Water’s current customer contract but believes it would be appropriate for the contract to be reviewed during the term of the operating licence.

Hunter Water supports this view and considers that, while there are few issues with the contract at this time, there are changes on the horizon that should be addressed in the contract. These changes include:

- Reticulated recycled water will become available to residential customers in Thornton North from 2008. While most of the provisions in the current contract will be applicable to reticulated recycled water supply, some changes and additions will be required.
- The new operating licence will introduce new or amended system performance standards and, as a result, there may be a need to align the customer rebates with the new standards.
- Rainwater tanks and recycled water will be used to meet BASIX<sup>4</sup> requirements for new houses and renovations. It is appropriate that the contract clearly outline customers’ responsibilities in relation to cross connection and maintenance of non-return flow protection.
- New legislation is planned to facilitate competition in the water industry and this may require changes to the contract. The NSW Government’s May 2006 consultation paper, *Creating a dynamic and competitive metropolitan water industry*, proposes that Hunter Water remain provider of last resort in order to guarantee supply of essential services. These provisions may require explicit conditions in the contract.

In addition, there are some provisions within the existing contract that would benefit from clarification although these are not of material significance at this time. Hunter Water believes that, in light of the above emerging changes, it would be beneficial to refresh the customer contract when the effect of these changes is clearer.

Hunter Water proposes that a review of the contract be initiated within 12 months of the commencement of the new operating licence with the aim of having a new customer contract in place by late 2008. This timeframe would see the contract reviewed, and updated where necessary, 5 years after it was first established.

### 3.4 Complaint Handling

Hunter Water has well-established processes for responding to enquiries, complaints and disputes received from customers. Essentially, if a customer is not happy with an aspect of our service delivery, the Corporation wants to know about it and will take every reasonable action to resolve issues amicably.

Consumers (eg tenants) are treated in the same way as customers in everything other than financial transactions, and existing complaint handling policies do not differentiate between a customer and a consumer.

<sup>3</sup> A copy of the current customer contract is available on Hunter Water’s website at [www.hunterwater.com.au/customercontract.asp](http://www.hunterwater.com.au/customercontract.asp)

<sup>4</sup> See Glossary for an explanation of BASIX (Building Sustainability Index).

## Internal Dispute Resolution

The current complaints handling system is based on the Australian Standard AS4269-1995 and incorporates recording and tracking facilities, categorisation of complaints, monitoring of trends and staff training on policy and procedures. It also includes options if a customer is not satisfied with Hunter Water's response. This process is outlined to customers via Hunter Water's website, brochures, bill inserts and customer contract.

Standards Australia recently released an updated standard for complaint handling. As part of Hunter Water's ongoing commitment to process improvements, the Corporation will review the complaint management system to ensure continuing alignment with the standard.

Consumers have different avenues for contacting Hunter Water – in person at the customer centre offices, via telephone by contacting the Corporation's contact centre or in writing.

In line with the Australian Standard, any communication received where the customer expresses dissatisfaction with Hunter Water's products or services is classified as a "complaint". Any communication received which can be satisfied by providing written or verbal information, advice, assistance, clarification, explanation or referral about a matter is classified as an "enquiry". Hence, in the event a consumer contacts Hunter Water to notify an operational fault and does not express dissatisfaction, this is counted as an enquiry.

This differentiation between complaints and enquiries is also supported by the National Performance Framework's definitions for the NWI indicators. The National Performance Framework definitions state that "*when a customer reports a service interruption, this is not counted as a complaint unless the customer expresses dissatisfaction about the interruption*". Also, if a customer queries an account with a question like "could you please explain how my bill is calculated", it is not recorded as a complaint unless the customer identifies that they are making a complaint.

As discussed in the issues paper, the current operating licence includes requirements to report complaints by seven types and 200 suburbs. This produces a complaints matrix that has become known internally as the "tablecloth" because of its size. Hunter Water's concern about reporting in this way is not that it is onerous but rather that it does not assist Hunter Water identify localised recurrent problems. Local and recurring problems are identified and actioned routinely throughout the year by other operational reporting processes and monthly monitoring of complaints.

Annual compilation of the data required by the operating licence does not assist this process and, because it only records the number of complaints rather than impact, the importance of issues can be masked in any analysis of the data.

Hunter Water notes that similar provisions have been removed from Sydney Water's operating licence and recommends that the requirements are not included in the new Hunter Water licence.

Hunter Water considers it appropriate to continue its current practice of counting complaints and enquiries to ensure consistency with the Australian Standard, the NWI indicators (which will be publicly available) and to reflect the true level of customer dissatisfaction.

The Corporation also believes that the requirements to annually report complaint numbers by type and suburb be discontinued as it does not meet the intent of identifying recurring localised problems. Hunter Water has routine and regular operational reporting processes that identify and action such problems as they occur.

## External Dispute Resolution

Hunter Water joined the Electricity and Water Ombudsman of NSW (EWON) scheme on 1 July 2002. The scheme provides Hunter Water's customers with an external, independent review of complaints they may have with the Corporation. EWON does not however replace Hunter Water's own customer complaint process. The scheme provides another option to customers who may not be satisfied with the solution offered by Hunter Water.

EWON has advised IPART and Hunter Water that it cannot furnish information for Hunter Water to report on complaints lodged with EWON in the detail required by clause 12.2.9 (b) of the current operating licence. EWON advises that there are privacy concerns about providing some of this data. Hunter Water notes that Sydney Water's operating licence has been amended to reflect EWON's concerns and considers that a similar amendment would be appropriate for Hunter Water's new licence.

Hunter Water agrees with IPART that the clause in the operating licence regarding reporting for external dispute resolution bodies is modified, as per Sydney Water's licence, to address EWON's concerns of breaching privacy requirements.

### 3.5 Effectiveness of the Consultative Forum

Hunter Water has well established processes in place to consult with, and provide information to, the community. From a regulatory perspective, clause 5.4 of the operating licence requires the organisation to consult regularly "*with a Consultative Forum to enable community involvement in issues relevant to the performance of Hunter Water's obligations under the Licence*".

The current licence is relatively prescriptive in terms of a range of requirements in relation to the forum, its membership and operation.

Hunter Water considers it appropriate that the operating licence continue the requirement for the Corporation to have a formal mechanism in place to consult regularly with key stakeholder groups. Hunter Water, therefore, suggests that the majority of the provisions in the current licence should continue in the new licence. It is considered, however, that the clauses in the existing licence relating to the establishment of the forum are no longer necessary and could be deleted. The clauses referred to are 5.4.3 and 5.4.4.

At the end of 2005/06, the forum had 16 member organisations, covering a range of key community, environmental, business and local government organisations. A feature of the forum is that the member is not the individual, but rather a representative of their organisation.

The group meets quarterly with Hunter Water's senior management to discuss and raise issues related to Hunter Water's services and performance. Formal agendas and papers are made publicly available and meetings are open to the media.

In accordance with clause 5.4.7 of the operating licence, a Consultative Forum Charter was developed around the end of 2002. The Charter provides the framework in which the forum operates, outlining the role and responsibilities of forum members and Hunter Water.

The operation of the forum is independently reviewed each year as part of the operational audit and, as noted in the issues paper, to date there have been no significant issues raised regarding the functioning of the Consultative Forum.

The current licence requires IPART to evaluate and report on the effectiveness of the Consultative Forum and compliance with the Consultative Forum Charter. A common method of evaluating the effectiveness of boards and committees within companies is self assessment. As an input to this licence review process, Hunter Water developed a questionnaire aimed at collecting the views of forum members about various important aspects of the forum's activities, including structure and role, meeting processes, relationships and effectiveness. The survey, conducted in mid 2006, involved rating a range of statements (from "strongly agree" to "strongly disagree"), as well as providing the opportunity for members to provide open comments on each of the topics. The questionnaire was linked to the commitments contained in the Consultative Forum Charter.

Overall, the ratings from forum members were very favourable and can be generally summarised as follows:

- Structure and role – All respondents understand the role and responsibilities of the forum, as well as their individual responsibilities as the representative of a member organisation.
- Meeting processes – There was general agreement regarding the effectiveness of meeting processes and agenda papers.
- Forum relationships – Strong support was indicated for the working relationship between forum members and Hunter Water.
- Effectiveness – On a scale of 1 to 10 (where 1 represents "extremely poor" and 10 represents "excellent"), 75% of respondents rated the forum's overall effectiveness between 8 and 10.

The survey also sought members' views on the strengths and weaknesses of the forum, and asked for suggestions to improve the performance of the forum. Verbatim responses provided by members include the following.

### **Major Strengths**

- *Access to Hunter Water operations and decision making*
- *Forum to bring forward issues*
- *Provides opportunity for input and feedback from user and stakeholder groups directly to senior management*
- *Provides opportunity for review and comment on operational performance*
- *A good cross-section of community representation with most members working for the good of the communities they represent*
- *Giving opportunities for a wide variety of community members to interact with Hunter Water staff, have opportunities to question Hunter Water staff, to learn of decision making processes at a deeper level*
- *Grass roots involvement in bringing to Hunter Water's attention community concerns and issues relevant to its operations*
- *Assisting Hunter Water meet their obligations in their charter to the State Government regarding community consultation*
- *The free exchange of viewpoints*

### **Major Weaknesses**

- *No major weaknesses*
- *A minority of the members do not attend regularly*

- *Minutes and papers often arrive extremely close to meeting date, making preparation difficult*
- *No major decision making powers*
- *Inconsistent involvement by some member organisations*

### **Suggestions for Improvement**

- *Have minutes of the meeting emailed to members within one week of the meeting. Agenda papers can be posted closer to the meeting date.*
- *Names and representative agencies be available on tags for new members and those who do not attend regularly.*
- *Include a short feedback session on how information has been disseminated by members.*
- *Follow-up non-attending organisations.*
- *Optional inspections of facilities/issues.*
- *It seems to operate quite well in comparison to many community organisations I belong to. I suspect this is because the various Chairmen over the years have not appeared to either dominate members or show off his/her skill level in front of peers. This is a vote of confidence in the people chosen to lead the Corporation.*

Hunter Water considers that the Consultative Forum is effective in meeting the operating licence requirements for community consultation. Hunter Water will use the outcomes of the recent survey to build on the forum's current operation and effectiveness.



## 4 SYSTEM PERFORMANCE REQUIREMENTS

System performance measures are the key customer protection tool in the licence. In the absence of strong market forces (in particular, customer choice), these measures help ensure Hunter Water operates its systems at appropriate levels to meet customer expectations.

The measures can take the form of either indicators or standards. System performance standards have targets attached to each measure that represent minimum levels Hunter Water must meet. System performance indicators do not have targets and the Corporation is only required to report the level of performance achieved.

As outlined in the issues paper, the Tribunal has engaged external consultants, GHD, to advise on possible changes to the system performance standards and indicators in the licence.

This review is occurring at the same time as the National Water Commission released the NWI indicators that Hunter Water is also required to provide each year. To avoid any unnecessary duplication of regulation it is proposed that, where possible, there is some convergence between the standards and indicators in the operating licence and the NWI indicators.

### 4.1 System Performance Standards

Establishing system performance standards is a complex issue that requires careful evaluation of social costs and benefits, as well as financial and geographic factors.

Hunter Water has \$1.9 billion worth of assets in place to deliver services to customers at current performance standards. This illustrates that significant investment is required to deliver current performance and that further substantial investments generally would be needed to achieve measurable or observable (to customers) enhancements in performance.

Small improvements in standards can often require substantial expenditure of community resources for very little gain. Because of this, it is important that the social cost-benefit of any system service enhancement is considered carefully before major changes are made to the service standards required by the operating licence.

Local factors are also important when considering appropriate measures. There are no universally agreed levels for system standards and standards vary across Australia and the world. The differences in standards reflect different customer expectations from place-to-place and the nature of the different systems tailored for quite different geographic areas.

In particular, geographical differences (eg hilly terrain versus predominantly flat areas) can require quite different specification of system performance measures such as water pressure. Similarly, the location of urban settlement in relation to water sources can create quite different operating environments for utilities. For example, the system configuration and performance in Perth, a city which draws on water sources to its north, west and south is quite different to that of Newcastle with sources at one end of five linear networks stretching several hundred kilometres in total.

As previously mentioned, GHD is currently undertaking a review of Hunter Water's standards. The Corporation has been working with GHD and IPART on possible improvements to the suite of standards and indicators in line with the review's terms of

reference<sup>5</sup>. Refer to Table 2 below for a list of the existing system performance standards in Hunter Water’s operating licence.

Table 2: Hunter Water’s current system performance standards

Area	Standard
Water quality	Meet the Australian Drinking Water Guidelines
Water continuity	No more than 14,000 properties experience one or more water interruptions which taken together have a cumulative duration greater than 5 hours in a financial year
Water pressure	No more than 4,800 properties experience a pressure incident in a financial year, where the water pressure to a property falls below 20 metres head at the point of connection
Sewage overflows	No more than 6,500 uncontrolled sewage overflow events occur in a financial year

Hunter Water supports that the operating licence continues to have measures in place for the key customer expectations: water quality, water continuity, water pressure and sewage overflows.

In determining the specific standards that are appropriate to Hunter Water however, it is important that the measures:

- Are customer focused and relate to the issues and service attributes that customers consider important
- Relate to improved customer outcomes that provide a net benefit to the community (and do not generate perverse outcomes)
- Are within Hunter Water’s control to influence - through investment in infrastructure or changes in operations to meet service standard
- Are within Hunter Water’s technical ability to report - ie data is available and measurable
- The reporting data is sufficiently stable to enable any underlying trends to be observed
- Avoid duplication with the requirements of other regulators or legislation and duplication of monitoring and reporting of performance data already collected/reviewed by another regulator.

As stated in the issues paper, the Tribunal is yet to release the consultant’s report however following its publication, “*the findings of the report will be presented at the public workshop*”. Hunter Water welcomes the opportunity to consider the report recommendations and anticipates that there will be further opportunity for the Corporation and the wider community to provide feedback.

## 4.2 System Performance Indicators

As part of the NWI, New South Wales has agreed to report a range of nationally-agreed benchmarking indicators of performance for urban water utilities. The National Benchmarking Framework will allow for a comparison of water utility performance over time and between utilities. A set of clear and common definitions for each indicator in the national framework has been developed and will help ensure that the information reported is consistent.

<sup>5</sup> Refer to page 31 of IPART’s issues paper for a complete list of the Tribunal’s terms of reference for the system performance standards and indicators review.

The NWI indicators essentially duplicate the role and function of the existing suite of system performance indicators in the operating licence and have the added ability to provide a comparison of performance across the Australian water industry. Where this duplication exists, or where a national framework indicator has the same intent as indicators in the operating licence, the NWI indicators should be adopted in place of the existing indicators in the operating licence.

### 4.3 Asset Management Framework

Hunter Water recognises that it has a responsibility to ensure the safe, reliable and efficient management of its assets. The Corporation's approach to asset management is in line with the overall business mission statement "*to be commercially successful while delivering value for money water in an environmentally responsible way*".

Hunter Water's asset management program is based on protecting and ensuring the consistent reliability and high performance of assets so as to ensure that assets perform within their original investment expectation. Hunter Water manages its assets in such a way that regulatory and legislative requirements are met at the optimal whole-of-life asset cost. Risk management principles are used for decisions about asset replacements and maintenance activities. If there are assets or regulatory requirements where failure would result in an unacceptable risk to the community, rehabilitation or replacement works are identified through investigations and/or strategies are initiated to lower the risks. For less critical assets, maintenance activity and failure history are monitored and these records are used to inform future replacement or rehabilitation decisions.

The capital-intensive nature of the water industry demands that agencies be good asset managers. However, until recently, there has been no common or consistent method for assessing asset management within the Australian water industry. In 2000, the Water Services Association of Australia (WSAA)<sup>6</sup> developed a comprehensive tool that enables self-assessment and benchmarking of asset management. This assessment tool tests whether essential functions are being carried out to optimise whole-of-life costs for the assets to deliver a given level of service. The framework was peer reviewed by an independent international consultant in terms of the methodology's structure, content, scoring and consistency in application. The peer review concluded that the "*framework is robust, comprehensive and fit for purpose.*"<sup>7</sup>

In 2004, Hunter Water participated in asset management benchmarking conducted by WSAA using the framework. Participating agencies in the benchmarking project undertook a self-assessment of their asset management practices which was then audited by consultants with extensive asset management experience who have been accredited by WSAA.

Based on the benchmarking results, Hunter Water is one of the best practice agencies in asset management in the Australian water industry with scores above the median agency score for all key asset management functions. Hunter Water's results in the 2004 WSAA benchmarking are shown in Table 3.

The Corporation considers that an audited assessment using the WSAA framework provides a sound basis for assessing the strength of its asset management and for identifying areas and opportunities for improvement. It is Hunter Water's intention to carry out a complete assessment of this type every five years or the equivalent of once during each operating licence period.

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<sup>6</sup> See Glossary for further details of WSAA (the Water Services Association of Australia).

<sup>7</sup> Foley A, 2005

Table 3: Benchmarking results for Hunter Water, 2004

Function	Hunter Water	Min	Max	Median
1. Corporate policy and business planning	74%	30%	84%	57%
2. Asset capability and forward planning	83%	29%	90%	63%
3. Asset acquisition	79%	39%	85%	65%
4. Asset operation	76%	28%	85%	70%
5. Asset maintenance	72%	28%	92%	61%
6. Asset replacement and rehabilitation	76%	33%	89%	60%

Hunter Water notes that the Tribunal believes that asset management should be directly addressed in the operating licence. The issues paper claims that inclusion of asset management provisions in the operating licence is important because a decline or failure of asset management “*could impact significantly on customers, the environment or wider community*”. However, Hunter Water considers that the standards and performance requirements in various regulatory instruments, including the operating licence, already drive it to ensure that its asset management does not result in situations that could adversely affect customers, the environment or the wider community. In this context, including prescriptive asset management requirements in the licence would be duplicating the intent of the existing regulatory standards and taking away the Corporation’s flexibility to manage.

Further, setting detailed asset management requirements in the operating licence take IPART away from the best practice goal of not being “*unduly prescriptive*” as outlined in section 3.5 of the issues paper. In that discussion, it is stated that the Tribunal prefers that “*the licence should stipulate performance goals or outcomes that encourage cost-effective compliance*”. As mentioned above, performance standards in the operating licence and other regulation already perform this role. A useful adjunct to this process would be a requirement to undertake mandatory asset management benchmarking once in a licence period (in this case, 1 in 5 years).

Hunter Water considers that the existing standards in the operating licence and other regulatory instruments set outcomes that drive its asset management.

Hunter Water is committed to benchmarking its asset management systems and processes periodically. As well as assisting Hunter Water to identify areas for improvement, this benchmarking could also be used to provide assurance to the community and IPART that sound asset management practices are in place.

## 5 SUPPLY AND DEMAND MANAGEMENT

As outlined in IPART's issues paper, Hunter Water's principle vehicle for managing demand and supply is the Integrated Water Resource Plan (IWRP). Hunter Water developed the first IWRP in 2002 in accordance with the requirements of the current operating licence.

The IWRP seeks to achieve an appropriate level of drought security and sustainable annual yield for the Corporation's customers while balancing available resources in a sustainable manner. The plan aims to find the best solution to meet future water demands after appropriate consideration of social, economic and environmental factors. It balances both demand management and supply development options so that the optimal sequencing of options is identified. As a result, the IWRP is Hunter Water's blueprint for managing both demand and supply and was developed to address the current drivers behind water demand and water supply in the lower Hunter.

The initial plan was published as a draft for public comment in October 2002. Following review of the submissions, a final IWRP was published in March 2003 with an action plan for implementing a range of the most cost-effective demand management and supply enhancement options.

Progress with the IWRP is reported to IPART each September and copies of this report are available for the community. The September 2006 report is now available on Hunter Water's website.

The fundamental basis of the IWRP is that it provides a rational and informed process for examining, side-by-side, a mix of options for improving water-use efficiency (modifying demand) and water-delivery efficiency and increasing supply. This process is essentially very different from the discussion in the issues paper, which identifies a number of these options and advances the idea of addressing these options by mandatory targets on an individual basis.

Hunter Water firmly believes that the IWRP process is preferable to individual targets set by regulation. The process allows for a mix of measures that take account of the costs of delivering the individual measures, the capacity of specific measures to deliver savings or supply increases and the timing to ensure the community's demands for water are met. It does not mean that one option will be pursued at the expense of all others. Rather, it means that options will be adopted in line with their merits measured in terms of their cost, environmental sustainability, community acceptance and contributions to the demand/supply balance.

### 5.1 Review of the IWRP

Much of the discussion of the IWRP in the IPART issues paper is framed in the context that the current IWRP objectives will continue to guide Hunter Water's demand and supply management in the future. Specifically, the Tribunal has sought comment on whether the IWRP remains appropriate to guide Hunter Water in planning for the future water needs of the lower Hunter region.

While the current IWRP has been successful, Hunter Water believes that this plan is not adequate for future planning and has recognised a growing need for a major revision of the plan. Hunter Water foreshadowed this review in its 2005 annual report on the IWRP to IPART as well as providing further details of the review.

Hunter Water began work on revising the current IWRP<sup>8</sup> in July 2006. The intended process will be more extensive than the original IWRP development and give the community opportunities to contribute to the future water supply strategies for the region. Because of the encompassing nature of the process and the need for significant community involvement, it is expected that the revision process will take 18 months to 2 years to complete.

The changing circumstances that Hunter Water believes necessitate revision of the 2002 IWRP include:

- Drought is influencing much of Australia and the drought security of Hunter Water's current supply system needs to be re-evaluated
- Recent supply investigations that identify pre-treatment of water pumped from the Williams River to Grahamstown Dam as the next most cost-effective supply augmentation option
- Expanding the planning horizon to beyond 25 years, which is more consistent with the long-term planning times required for implementing major water resources/reuse projects.
- Projected increases in population growth over the previous IWRP and in line with the Department of Planning's regional population projections to 2031
- New supply arrangements with the central coast region
- Introduction of demand initiatives such as BASIX, NABERS, Smart Approved WaterMark and WELS<sup>9</sup>
- Introduction of a water sharing plan for the Williams River by Department of Natural Resources
- Various new recycling opportunities and growing community interest, including the provision of recycled water to new residential subdivisions to meet BASIX requirements.

These drivers are outlined in more detail below.

### **Drought Security**

Drought has affected much of Australia over recent years and has resulted in seriously depleted water storages in many parts of the east coast of NSW. Both the Central Coast and Sydney have water restrictions in place and water storages in these areas are at, or near, record low levels. In the last 12 months, Hunter Water catchments have received below average rainfall and storage levels fell from over 90% in June 2005 to 67% in June 2006. Following recent good rainfall, the storage level now stands at 83%.

Despite the Hunter's good fortune with regard to drought in recent years, it is acknowledged that the Corporation's current water storages alone do not provide a high level of drought security. In an extreme drought, use would also be made of contingency measures such as drought groundwater reserves and, possibly, desalination. The proposed review will allow a detailed examination of the best ways of assuring the supply of water to the Hunter community in extreme droughts, including the best use of storage options and contingency measures.

The general heightened awareness of water issues in the community provides an opportune time to engage the community on long-term water supply issues, such as drought security, restriction frequency and contingency planning.

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<sup>8</sup>The revised Integrated Water Resource Plan will be published with a more reader-friendly title for use in public discussion. However, it will still meet operating licence requirements for content and coverage of the IWRP.

<sup>9</sup> See Glossary for an explanation of the schemes.

## Source Augmentation Options

The primary focus of the 2002 IWRP water supply component was the finalisation of Grahamstown Dam Stage 2 upgrade that was completed this year. Hunter Water now needs to consider and consult with the community about future augmentations that will provide ongoing water security for the lower Hunter.

Pre-treatment of water pumped from the Williams River to Grahamstown Dam plus improvements to the pumping station has been identified as the next most cost-effective supply augmentation option. Hunter Water does not always extract from flood flows in the lower Williams River because of concerns about the nutrient load in these flood waters and the potential impact of these nutrients on the quality of water stored in Grahamstown Dam. The first point of the flood event is allowed to pass and the cleaner tail water is captured. Investigations have shown that additional water could be extracted from high flows in the river and treated before storage in Grahamstown Dam.

This would be a very low-cost upgrade producing a very significant increase in yield with minimal environmental consequence because the Corporation's extraction capacity is very small compared to the flood flows in the river. It could meet demands from projected population growth to 2030. However, it will only marginally improve the drought security offered the present storage system before contingency measures are required. Other measures, therefore, will be required to maintain or improve current levels of drought security as demand grows.

## Planning Period

The current IWRP has a 10 year planning horizon. It is proposed that the revised IWRP adopt at least a 25 year planning horizon because:

- Recently released population projections issued by the Department of Planning were for a 25 year period.
- Large-scale augmentations require long planning periods for implementation.
- The effect of new demand-reducing measures, such as BASIX, will take some time to be reflected in overall demands, and
- Examination of the practices of other agencies shows that many adopt longer planning periods<sup>10</sup>.

## Demand Projections

Hunter Water is currently reviewing water demand forecasts. The investigations are looking at predicted population growth, connection growth and impacts of demand management initiatives that are likely to take effect over the next 25 years. The IWRP review will provide an opportunity to update the demand forecasting with the most recent data, particularly the latest population projections available in the Department of Planning's Lower Hunter Regional Strategy.

## Central Coast Supply Arrangements

Hunter Water is currently planning to increase emergency supply capability to the Central Coast by the end of 2006 from 6 megalitres per day to 25 megalitres per day. The increase in capacity will be provided by a new pipeline linking Hunter Water's supply system with that of Wyong Council. An important feature this new link is that it will have the capacity to supply water in either direction. The revised IWRP will consider further facilitating water transfers

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<sup>10</sup> For example: Water Corporation (WA) - 45 year plan, Gold Coast Water - 50 year plan.

between the two authorities into the future to provide more flexible drought management in both areas.

### **Water Access**

Water access and water sharing initiatives proposed by the Department of Natural Resources will need to be taken into account in terms of calculating future source yields and the implications for future water supply. Hunter Water is conducting a number of studies required by the water management licence in relation to future demands and possible ecological impacts of Hunter Water's Williams River works and activities. These studies will also inform the water sharing plan currently being prepared by the Department. The water sharing plan with water access rules for the Williams River is expected to be finalised prior to the IWRP review being completed.

### **Water Recycling**

During 2006, Hunter Water is developing a recycled water strategy study to assess the opportunities for water recycling. Viable options identified in this strategy will be integrated into the review of the IWRP. Since the revised IWRP will go through a formal public consultation process, it will provide a mechanism to gain community input and feedback in relation to recycling. Of particular interest will be gaining input on community attitudes towards projects that either reduce demand for potable water (in the case of dual reticulation) or supplement supply of potable water (as is the case for indirect potable use and aquifer recharge). Recycled water is discussed further in section 5.5 of this submission.

### **Residential and Non-Residential Demand Management Evaluation**

The current IWRP includes a range of demand management programs. These programs have only been running for a few years and hence there is limited data available on the success or otherwise of the programs. In addition, many other authorities have implemented demand management programs that can be evaluated in terms of the applicability to the lower Hunter. The IWRP revision will provide an opportunity to evaluate the results of local initiatives and examine the potential for the inclusion of alternate demand management initiatives.

Demand management initiatives such as BASIX, NABERS, SMART Approved WaterMark and the Water Efficient Labelling and Standards (WELS) scheme have come into effect since the commencement of the IWRP in 2003<sup>11</sup>. The expected impacts of these initiatives will be included in the IWRP revision.

The IWRP has helped to ensure that the water demands of the Hunter community have been met over the period of the operating licence. The lower Hunter region has been one of the few metropolitan centres in Australia to be free from water restrictions over the last 5 years. Further, Hunter Water has been able to use its resources to assist the Central Coast in a period of severe shortage since mid 2004.

Hunter Water believes that the appropriateness of the IWRP to guide Hunter Water's future water planning should be considered in the knowledge that the IWRP will be completely revised with a contemporary and forward-looking context over the next 18 months to 2 years and this review will involve extensive community participation.

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<sup>11</sup> See Glossary for an explanation of these schemes.



## 5.2 Revisions to Licence Provisions Relating to the IWRP

The current operating licence is quite prescriptive about inputs to the IWRP, the method of options analysis and how the outcomes should be implemented. Hunter Water believes that these requirements could offer more flexibility. Specifically:

- Section 8.3.10 requires the IWRP to have a planning horizon of 10 years. Hunter Water believes that longer planning horizons are appropriate and that this provision should be revised to encourage longer-term planning by setting 10 years as the *minimum* planning horizon.
- Section 8.3.15 requires that the costs of each option include financial, social and environmental costs for each year of the plan. While some social and environmental costs can be readily quantified, others are very difficult to quantify. For this reason, resource planners now widely employ multi-criteria analysis to better take account of non-monetary costs and benefits. Multi-criteria techniques also have the advantage in that they often improve community input by assisting the community to express preferences for options on a range of criteria. Hunter Water believes it would be appropriate to replace the existing provision so that only financial benefits and costs are required to be valued and that other social and environmental benefits and costs be considered using a multi-criteria approach.
- Section 8.3.17 requires Hunter Water to adopt the least-cost option in the plan unless there are reasonable and substantive reasons for adopting a different option. Hunter Water believes it would be better to replace this with a requirement to follow options identified by a multi-criteria analysis, where the criteria have been established through community consultation.

Hunter Water believes that some of the current operating licence requirements about the analysis required by the IWRP could be made more flexible to improve the analysis and facilitate community understanding and community decision making on future water options for the lower Hunter region.

## 5.3 Water Conservation Targets

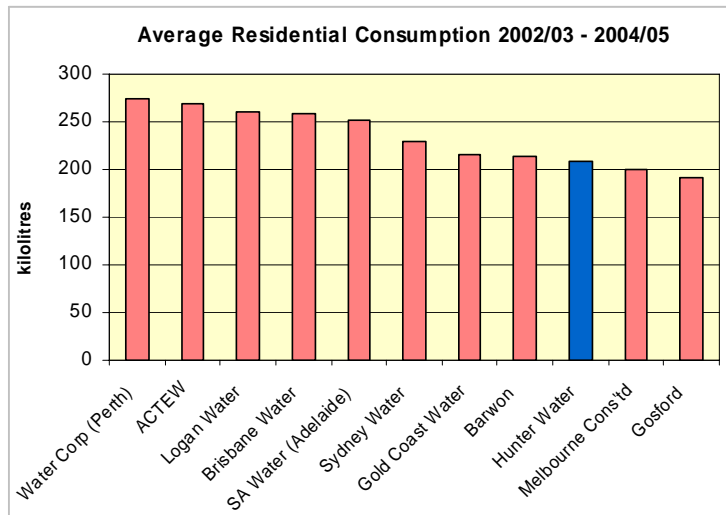
The current operating licence requires Hunter Water to ensure that residential water use equals, or is less than, 215 kilolitres per year when calculated as five-year moving average.

It is important to note that Hunter Water still has one of the lowest levels of residential water consumption in Australia. Examining the average water consumption by residential properties for the period from 2002/03 to 2004/05 for 11<sup>12</sup> of the agencies reporting annually to WSAA, Hunter Water was the third lowest with an average of 209 kilolitres per year compared to an average of 234 for the 11 centres examined. The two centres with lower consumption were Gosford and Melbourne (combined) both of which had water restrictions in force for part of the period. Refer to Graph 1.

As discussed at the beginning of this section, Hunter Water strongly believes that the IWRP process of pursuing a range of demand and supply management options on merits assessed by multi-criteria evaluation is preferable to setting targets for the various component strategies. However, the IPART issues paper presents a number of alternative options for setting conservation targets in the operating licence. These are discussed briefly below.

<sup>12</sup> As reported in WSAAfacts 2005. The 11 agencies included in this analysis are the major coastal capitals and regional centres of population greater than 150,000 plus Canberra but excluding Darwin as it is influenced by a tropical climate and typically has very high average water consumption that would distort the comparison.

Graph 1: Average Residential Water Consumption 2002/03 - 2004/05 (kilolitres per year)



### Maintain the Current Target or Change to a Per Capita Target

Hunter Water believes that setting a target and the type of target, is a matter that could be established through the IWRP process. In the interim, the current target is the most appropriate to Hunter Water's operating environment.

The issues paper observes that the current target excludes non-residential water consumption. It suggests this could be addressed by the second target option – a per capita performance target. The objective of per capita performance targets is to reflect how community demand at an individual level is changing by isolating the effect of growth.

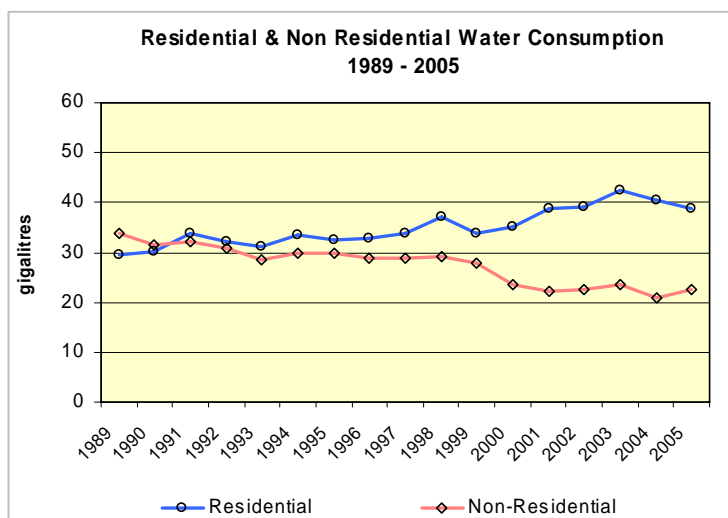
Per capita targets were considered as part of the 2002 operating licence review but were not adopted because of the changes occurring in major industry in the lower Hunter and the influence of these changes on overall demand.

Changes in the lower Hunter industrial customer base means that measuring consumption against per capita targets does not signal the underlying pressures on demand. Examination of consumption trends since the mid 1990s for the residential and non-residential sectors shows a steady decline in non-residential consumption and an increase in residential consumption that broadly aligns with population growth in the region. Overall, the decline in non-residential use to date has offset the increase in residential consumption (refer to Graph 2). Thus, if total consumption had been measured against a per capita target, Hunter Water would have remained within the target simply as a result of demographic change and not as a result of any changes in the underlying water-use behaviour of its customers, particularly its residential customers.

Further, it is important to understand what comprises non-residential water use and what the implications may be of policies to reduce some elements of industrial use. Non-residential water use can be broadly defined in three groups:

- Domestic use (eg showers, toilets etc in offices, shops and factories)
- Production use (where water or its constituent chemical elements are used directly as inputs to production); and
- Process use (where water is used indirectly in production for processes like cooling, washing and dust control).

Graph 2: Residential and Non-Residential water consumption 1989 - 2005 (gigalitres per year)



It is important to recognise that when water is used directly in production, its use cannot be reduced without reducing the outputs of the production process. Thus the main avenues for demand reduction and efficiency improvement in the non-residential sector are in domestic and process uses of water. Programs to achieve reductions in these areas need to be carefully targeted so as not to erode the viability of businesses using water as a direct input to production.

Non-residential water use can be quite independent of population change. Industrial growth or decline may not be reflected in population changes – for example, the lower Hunter region’s population has climbed consistently since the late 1990s despite three of the top five water-using industrial customers ceasing operation since 1998/99. These industries accounted for around 11% of total water use in 1998/99 or 15 kilolitres per capita of the population served out of a total of around 130 kilolitres per capita. This illustrates how the presence of large industries with stable usage of large volumes of water can easily mask other changes in water use within the community.

There is a large amount of vacant prime industrial land available in the Hunter. This includes the former BHP site which is currently undergoing rehabilitation and large areas of Kooragang Island. Both of these areas are suited ideally to heavy industry requiring port access and the future development of this area will have implications for industrial water demand. Hunter Water is currently also examining options to service this area with recycled water although the availability of recycled water to these locations may be limited at a viable cost.

On the other hand, demand from the residential sector is increasing with population growth. As with many other goods and services, the increasing affluence of the Hunter community and the value communities now place on lifestyles, aesthetics and quality of life will continue to place pressure on the demand for water for use in landscaped gardens, swimming pools and spas and other water using appliances. This means the residential sector is likely to be the area of greatest potential growth in discretionary demand and the area where a demand target will prove most informative. While there are a number of new initiatives, such as BASIX, that will ultimately impact on residential demand, it is still too early to detect the overall effect measured by parameters such as per capita use or average residential consumption.

Hunter Water’s performance against the current target in 2005/06 was 208 kilolitres per year (5 year average) against the licence target of 215 kilolitres per year. The 5-year average

consumption has increased steadily from 205 kilolitres in 2002/03 to 209 kilolitres in 2004/05. This increase coincided with a sequence of years with hot and dry spring and summer seasons. The average fell slightly in 2005/6 due to actual consumption being 205 kilolitres per tenancy, brought about by milder seasonal conditions. The consistent hot dry seasonal influences make it difficult to assess the underlying consumption trends.

Hunter Water's projections of annual residential consumption under average climate conditions and taking account of the impact of BASIX, indicate that the impact of BASIX on average consumption across the whole residential sector over the next operating licence period is likely to result in a difference of 2 kilolitres per year in the average consumption by the end of the licence period. This difference is not sufficient to warrant any adjustment to the target at this stage.

Hunter Water believes that the existing target based on residential consumption best suits the intention of monitoring and containing discretionary growth in demand, which arises largely through the residential sector. Including industry in a per capita cap ignores the direct link many industries have between water use and their output resulting in limited capacity to reduce this use without affecting production. In future, it is also likely that new industries and some existing industries will be serviced, at least in part, with recycled water and this use of recycled water should not mask changes in discretionary use by households.

As mentioned earlier, Hunter Water's residential customers are among the lowest water users in Australia. Setting a target to reduce residential demand further means that resources must be committed to meeting this target without considering what other strategies would give a better result for the same resource investment. Again, this highlights the difference between the target-setting approach and the merit or outcome-based approach of the IWRP process. Under the IWRP process, allocation of resources to reducing residential demand would be determined by a multi-criteria evaluation of the gains from, and costs of, doing so. This does not mean that programs to achieve further reductions in residential demand will not be pursued but that the scale and extent of these programs will be based on the relative merits of such programs when compared to all other options available.

Hunter Water considers that the existing cap on residential use is the best target for managing demand growth in the region given the unpredictable nature of business shutdown, new business entry and possible increases in the use of recycled water on future non-residential demand. The existing cap level of 215 kilolitres per year on a moving average basis remains appropriate given that this figure is equivalent to the bottom end of (unrestricted) use levels by residential customers of comparable agencies.

### **Cap on Total Volume of Water Drawn from Storages**

One of the attributes of regulatory best practice articulated by IPART in sections 3.5 and 3.6 of the issues paper relates to minimising regulatory overlap and avoiding regulatory inconsistency.

Section 2 of this submission describes the regulatory machinery that exists in addition to the operating licence to govern Hunter Water's operations. Section 4 of the issues paper also presents a discussion of the suite of regulatory arrangements governing Hunter Water's operations. Both of these refer to the legislated role of the Department of Natural Resources (DNR) role in managing and setting conditions on water extractions.

Hunter Water's extractions are regulated by DNR through water licences and associated approvals. Extraction is also managed by the DNR's water sharing plans. A water sharing plan has been in place for Hunter Water's groundwater sources since July 2004 and a further sharing plan is in preparation for the Hunter valley unregulated rivers, including Hunter Water's sources on the Williams River.

Both the licensing process and water sharing plan development involve extensive opportunities for community consultation. Hunter Water's extraction licences were reviewed in 2003 and 2004 by the then Department of Infrastructure, Planning and Natural Resources (now DNR) with community input. The water sharing plan for the groundwater sources involved extensive community consultation in the lead up to the first release of the plan in February 2003. The water sharing plan for the Hunter's unregulated rivers is expected to be open for public exhibition and comment later in 2006/07.

There is already effective regulation in place governing Hunter Water's water extractions through the DNR licences and water sharing plans. This regulation is established and reviewed periodically with opportunities for community input. Including a cap on water extractions in the operating licence potentially confuses and duplicates the DNR regulation.

The issues paper acknowledges that any cap on water extractions from storages would need to be consistent with entitlements in DNR's water sharing plans. If an operating licence cap is consistent with the water sharing plan entitlement, then it presumably serves a similar regulatory function. Hunter Water believes it is therefore unnecessary to duplicate this function in the operating licence. Even though the cap is consistent with the water sharing plan entitlements, it would not necessarily be expressed in the same way or operate on the same accounting basis. It therefore would create confusion in terms of regulatory precedence and add no community benefit.

A further difficulty with the proposal for targets linked to "sustainable yield" is that the purpose of the target is not clear. Sustainable yield can be increased by supply augmentation and often such augmentation can be achieved by better use of existing assets. For example, the pre-treatment of water transferred from the Williams River to Grahamstown Dam outlined earlier will enable Hunter Water to make greater use of its water entitlement from the Williams River and better use of the existing pumping and storage assets. Because it provides access to high flows in the river and extractions remain within entitlement, this supply augmentation can be achieved with no perceived environmental impact. At the same time, it provides a substantial increase in yield.

It is not clear how such yield increments would be dealt with in the target setting process. As mentioned earlier in this section, the principal mechanism for staying within sustainable yield is water resource planning through the IWRP. The purpose of the IWRP is to identify the optimal mix of demand reducing and supply improvement options for the future to ensure the Corporation remains within available yield of its sources in the face of population growth.

It is likely that this optimal mix of demand and supply measures will include further supply measures that will increase sustainable yield. Unlike many urban areas in Australia, the lower Hunter region still has a number of low-cost supply augmentation options that also have minimal adverse impact on the environment and other users of the resource. In the context of the planned comprehensive review of the IWRP, it is questionable whether sustainable yield targets serve any useful purpose.

It is not clear what the purpose of a sustainable yield target is and how setting arbitrary sustainable yield targets in the operating licence fit into the resource planning context of the IWRP.

### **Percentage Reduction of Forecast Demand**

Again, this concept appears to be proposing a rather arbitrary approach that would override the rational planning process established in the current operating licence and that can be built on through the review of the IWRP over the next 18 months.

The IPART issues paper observes that current IWRP strategy is weighted heavily towards supply options and perhaps the proposal for more arbitrary demand reduction targets in the next licence is intended as a means of establishing some perceived need for “balance” in demand and supply measures.

However, as discussed above, such approaches erode the value of having a rational resource planning process through the IWRP. It is true that the current IWRP strategy is weighted in favour of a supply option, the now completed Stage 2 upgrade Grahamstown Dam. This is so for good reason. Section 8.3 of the current operating licence requires the IWRP to be formulated as a least-cost plan taking account of all financial, social and environmental costs. Section 8.3.12 requires Hunter Water to adopt the least-cost options for meeting demand growth determined by the least cost planning approach. In the current IWRP, the Grahamstown Dam upgrade is a substantial part of the least-cost path forward and it provides a substantial contribution to meeting demand until around 2016. It has the further advantage that increased storage volume in the dam was incorporated in works needed to achieve a mandatory dam safety upgrade.

At this stage it is too early to pre-empt the strategies that will come out of the review of the IWRP over the next 18 months. However, as indicated earlier, Hunter Water and its customers are fortunate to have low-cost, low-environmental-impact source options available. Thus to date, supply augmentation has been a significant component of the least-cost options for the community. This also is likely to be true in the immediate future, especially with low-cost options like pre-treatment of water transferred from the Williams River, which has a very low cost per unit of additional yield.

Hunter Water finds it curious that, on one hand, the current operating licence is very strong on establishing a rational and comprehensive process for future resource planning and, on the other hand, the issues paper seems to be canvassing a range of blunt and arbitrary tools like percentage demand reduction targets. The two approaches do not easily co-exist.

### **Cost-effectiveness Standard**

The approach discussed in alternative 5 in the issues paper is not dissimilar to the basis for assessing demand side options within the IWRP. The strategy suggested is effectively what is happening under the current IWRP, where the least-cost demand side programs are being pursued.

Progress with Hunter Water’s demand-side programs is outlined in the 2006 IWRP Report to IPART for 2005/06. The major component of demand management program is the residential refit program undertaken in conjunction with Newcastle Council and Energy Australia. This program has installed over 9000 refit kits since July 2004. Approximately 75% of the kits were installed in the first year with uptake slowing in the following year despite continuous promotion of the program. In 2005/06, the program was extended into the commercial sector by targeting high-density accommodation such as hotels, caravan parks and hotels.

One of the major issues with setting other forms of targets (eg volume targets) for demand management measures is the rate of community take up of the measures. Assessing community uptake has become more complex with BASIX, under which many demand reducing measures are mandatory for new and renovated homes. Another complexity is that a number of organisations now market and distribute domestic water saving devices within the community to create abatement certificates under the NSW Greenhouse Gas Abatement Scheme.

With a variety of other programs now contributing to demand-side savings in the community, it is clearly impractical to impose a target on Hunter Water’s initiatives. Depending on the



success of other programs, such a target may bear little reflection of the savings being achieved across the community.

Under its revised IWRP, Hunter Water will continue to pursue water-use efficiency initiatives that are found to be worthwhile when compared with other options like leakage management, recycling and supply augmentation on the basis of the multi-criteria evaluation.

Hunter Water believes that the IWRP process effectively applies the cost-effectiveness requirement outlined in the issues paper. Throughout this discussion, Hunter Water has emphasised that arbitrary targets do not sit comfortably with a rational resource planning approach such as the IWRP process required by the current operating licence.

Hunter Water acknowledges there are some limitations in the current IWRP and is now embarking on a major review and overhaul of the plan. This review will take on board the lessons learned over the last five years from the initial IWRP. It will involve a much enhanced community consultation process, consider options over a longer planning period, examine interconnection options with a wider region, particularly the Central Coast, and consider new opportunities for recycling. It would be disappointing to see arbitrary targets result in the allocation of resources to demand reduction measures ahead of initiatives with potential to have a greater impact on the demand/supply balance.

## 5.4 Reducing Leakage

The current operating licence requires Hunter Water to report on losses from the water supply system. Clause 8.5.5 of the current operating licence requires Hunter Water to report water losses according to the definitions and methodology of the International Water Association (IWA). The product of the IWA methodology is a measure of losses known as the Infrastructure Leakage Index (ILI). Hunter Water supports use of the ILI to measure losses as it is now nationally and internationally accepted as the standard measure for leakage. The new National Water Initiative benchmarking indicators also use ILI to measure water losses from urban supply systems.

The ILI is a measure of how current actual losses (leakage) compare with the theoretical lowest possible level of leakage that could be achieved by a particular water supply system. The calculation takes account of factors such as length of main, number of connections, connection density, operating pressure, meter errors, fire fighting use etc. The ILI is expressed as the ratio of actual losses compared to the theoretical lowest level of losses for the system. An ILI of 1.0 therefore means that current losses are equal to the best achievable result for a particular system. The IWA methodology rates ILI in 3 bands

- 1 to 1.5            Excellent
- 1.5 to 3.5        Good
- Above 3.5        Below average

The issues paper suggests that a leakage target could place greater emphasis on reducing leaks in Hunter Water's system. Hunter Water believes that the need for greater emphasis needs to be considered on the basis of its current performance.

Hunter Water's annual ILI for 2005 was 1.3. This means that the leakage level was 1.3 times higher than the theoretical lowest achievable value. This puts its leakage performance in the IWA's "excellent" band. The ILI was monitored throughout the year and results for each four-month reporting period ranged from 1.0 to 1.6, indicating that, over the year, the ILI was in the excellent band or close to the good/excellent boundary.

Hunter Water commenced an active leak control program in 2002/03. To date, almost 25% of the water supply system has been surveyed for leaks and the volume of water from these leaks would have amounted to around 875 megalitres per year. To put this in perspective, it is equivalent to 4 or 5 days of demand. While this may seem like a worthwhile saving, it must be remembered that most of these leaks would have been reported and repaired in due course so the net gain from the leak detection is well less than this theoretical amount.

While the issues paper suggests greater emphasis could be placed on reducing leakage, the surveys since 2002/03 suggests that the gains from an accelerated program covering the entire supply system would not be large. This is particularly so when it is recognised that the conservative upper bound of 4 or 5 days demand for the 25% of the system recently inspected was undertaken in areas considered most likely to be susceptible to leaks of the type that may otherwise go undetected for a long period eg areas of sandy soils, old mine areas etc where leaks may not necessarily be visible on the surface.

Hunter Water plans to complete a full survey of the network over the next five years to establish a baseline for further leak detection and monitoring activity. The Corporation is also investing in greater network monitoring with zone metering and reservoir monitoring to assist in locating losses. Follow-up leak detection will be based on a risk-based approach targeting areas where intelligence from more comprehensive network monitoring and knowledge of vulnerable areas (such as those with deep sand soils) will be used to determine the need for leakage surveys.

As with other measures to address the demand and supply balance, further leakage management strategies will be considered against other demand and supply management options.

In light of Hunter Water's current performance as measured by the ILI and the fact that leakage surveys of 25% of the system have found relatively little leakage, Hunter Water believes the optimal approach for the operating licence is to monitor leakage via the National Water Initiative benchmarking indicators rather than setting a prescriptive target.

## 5.5 Recycled Water

Hunter Water has a history of recycling water where it is economically and environmentally justifiable, particularly for industry.

Industrial recycling plays an important part in Hunter Water's water recycling strategy. The pay-for-use pricing structure, which has existed in the Hunter since 1982, provides an incentive for industry to substitute recycled water for potable water. However, the proportion of recycled water reused by industry has generally declined over the past five years as a result of a major industrial customer no longer requiring recycled water. The main industrial uses in 2005/06 were for power generation at Eraring Power Station and coal washing.

Hunter Water also supplies recycled water to the TAFE NSW Kurri Kurri campus from Kurri Kurri wastewater treatment works. The recycled water supplied to the campus, a Centre of Excellence for Horticulture, is used as a replacement for potable water which otherwise would be required to irrigate the grounds and external teaching areas. Recycled water is also used by a range of other users at various locations – mainly golf courses and for farm irrigation.

Treated effluent is also used productively at three wastewater treatment plants. These schemes are designed to use effluent from the treatment process to produce a beneficial agricultural product. The recycled water enterprise at Karuah wastewater treatment plant has



been designed to reuse 98% of the catchment flows through irrigation of a combination of fodder crops and trees. Tree plantations irrigated with recycled water were established some years ago at both Branxton and Paxton wastewater treatment plants. Both woodlots have proved successful in reducing the discharge of effluent and nutrients to local waterways, particularly during the summer months.

Over the past few years, several new and upgraded wastewater treatment plants have been designed so that recycled water is used within the treatment process in place of potable water. Recycled water is typically used for screenings and grit washing as well as in the sludge dewatering process.

Additionally, Hunter Water is pursuing several new opportunities for recycled water use. These include:

- Eraring Power Station will take a further 1 million litres of recycled water per day as flows become available from population growth in the Dora Creek area. This may increase to a maximum of 5.7 million litres per day, or over 2,000 million litres per year by 2010 if flows become available.
- Throughout Australia there is increasing use of 'third pipe' (or dual reticulation) systems, where recycled water is piped to new residential properties for external use and for flushing toilets. The first of these schemes in the Hunter is currently being planned for Thornton North. This scheme has become possible with the rezoning of farming land for new residential subdivisions reasonably close to the existing Morpeth wastewater treatment plant. The proximity to the treatment plant means that the cost of transporting recycled water to the proposed development is such that recycled water to be provided at a price below that of potable water. The design of the scheme is well advanced and it will ultimately serve around 5,000 houses using 640 million litres of recycled water per year.

Hunter Water is exploring other potential residential development areas that may be suitable for dual reticulation. With the introduction of the BASIX, further dual reticulation schemes may be a viable alternative to rainwater tanks for large-scale residential development close to wastewater treatment plants.

- Hunter Water will commence concept and environmental impact assessment of using recycled water for storage in the coastal sandbed aquifers for later recovery. The technology of artificial aquifer recharge has been successfully adopted elsewhere around the world. With appropriate consideration of health, environmental, financial and legal factors, recharging aquifers in this way can help ensure the sustainable use of water resources.
- Hunter Water is assisting several major water users to assess the potential for ultimately using recycled water in place of potable water in existing industrial processes. Potable water substitution has direct benefits of reducing demand on the potable water supply system and delaying the need for future source augmentation.

Drought conditions throughout much of Australia have led to a significant growth in interest in recycled water in the last year or so. In response to this heightened interest, Hunter Water is currently undertaking a recycled water strategic study, at a cost of around \$500,000, to be completed by December 2006.

The study, which commenced in early April 2006, will identify investment plans and strategies to deliver projects to maximise recycling opportunities across the range of existing and potential applications (e.g. in municipal, residential and industrial uses).

The study is being conducted in two stages. The first stage, completed in mid July by consultants CH2MHILL, is a review of the current uses of recycled water and future opportunities. This review examined the quantity and quality of effluent from the 17 wastewater treatment plants. Potential uses of this effluent across the range of applications mentioned above were then developed. It is worth noting that preliminary estimates by the

consultants suggest that if all opportunities are feasible (independent of cost), recycling would peak at around 17% of average dry weather flows.

The output from stage 1 is being refined into a short list of potential projects that will be further developed in the second stage of the study. These will be prioritised and compared against the costs of source augmentation options as part of the revised IWRP. The study will also look at implementation strategies for the top ranking projects. These strategies will address the risks and issues involved in implementing various types of recycling projects such as:

- Policy elements relating to decision processes, financing, procurement and/or partnering approaches
- Specific guidelines required, e.g. design requirements, management of health and environmental risks
- Specific niche or general product development or marketing
- Requirements for community education and/or promotion

The issues paper canvasses the question of setting recycling targets. Early discussion in this section highlighted how changes in the industrial customer base in the lower Hunter have reduced industrial demand for recycled water in recent years. Because the take up and ongoing use of recycled water is very much dependent on customer demand, arbitrary targets on the volume recycled have potential to force agencies to invest in recycling projects that are uneconomic or have low community support in order to simply meet the target.

Care needs to be taken in framing any targets so that recycling is not pursued without achieving an overall community benefit. Real resource management value in recycling comes from substituting recycled water for existing or projected potable use. Where such targets are simply framed in terms of increasing the volume or percentage of water recycled, the additional recycling may be of little real value to overall water resource conservation. In some cases, recycling to meet a target can have perverse outcomes - such as where recycling diverts treated water discharges that currently provide a contribution to the in-stream needs of inland waterways.

The NWI benchmarking indicators also include a basic measure of the proportion of effluent recycled. This level of benchmarking is very coarse and does not take account of regional climatic differences, which can strongly influence demand and supply for some uses of recycled water, particularly irrigation uses. At this stage, the national indicators do not significantly inform resource management discussion and decisions because they do not measure how much potable water is saved by the use of recycled water.

As with all the other demand/supply measures outlined above, the best future course is to get the mix of options right. Hunter Water does not believe that arbitrary targets are the way to achieve this. The best course is to examine all options side-by-side in the IWRP process so that the various demand and supply measures adopted and implemented reflect the outcome of a multi-criteria assessment.

Hunter Water is investing more than \$500,000 to investigate the best ways to advance recycling in the Hunter. The Corporation believes detailed investigations like this strategy study are more rigorous than, and preferable to, arbitrarily-determined regulatory targets and coarse comparative benchmarks between agencies.

Hunter Water believes the operating licence provisions for recycled water should relate to consideration of recycled water opportunities in the IWRP. Hunter Water does not support the use of arbitrary targets because these can force investment in recycling projects of little resource conservation value. In this context, reporting the level of performance achieved is preferable to targets.

## 5.6 Relaxing the Reliability of Supply Criteria

As outlined in the issues paper, Hunter Water's sustainable yield is determined to ensure that restrictions occur no more than once every 10 years (on a long term modelled basis) and that restrictions apply for no more than 5% of the time (ie six months in any ten year period). Hunter Water also has a mix of contingency options for extended drought period – these include access to additional groundwater and, if necessary, desalination.

Hunter Water's reliability of supply criteria are already less conservative than those of most major metropolitan utilities in Australia. In particular, the restriction duration requirement of 5% is less conservative with limits of around 3% being more common.

As outlined earlier, Hunter Water's next most likely source augmentation will increase its access to flood flows in the Williams River. This augmentation will only improve access to available stream flows but will not increase available storage capacity. It will increase the overall supply to meet population growth but, over time, it will also increase the risk of triggering drought contingency measures. This is because existing storage capacity will need to service a growing population in long periods of very low stream flows. Thus, while relaxing the existing reliability of supply criteria will increase yield from the catchments by introducing more frequent restrictions, it will also increase the vulnerability to even more frequent and severe restrictions as the population grows and to the risk of triggering drought security measures.

The issues paper correctly notes that 61% of respondents to Hunter Water's 2005 perceptions survey supported some form of permanent restrictions. However, permanent restrictions are generally very low-level restrictions (such as no garden watering during set night hours, no hosing of hard surfaces etc) that are of little inconvenience to most people. In that light, it is possible that the same respondents would have quite different views about the more frequent application of restrictions of the type that are necessary to effectively relax the reliability of supply criteria. Thus, the 61% response to the question on permanent restrictions is not a reliable indication that there is general community agreement to relaxing the reliability of supply definitions.

The questions of long-term drought security and restriction policy, including permanent restrictions and those applied as storage levels fall, will be canvassed in the mix of options to be assessed as part of the revised IWRP.

Hunter Water considers that reliability of supply and drought contingency provisions need to be revisited in the coming review of the IWRP with genuine community input into the level of service to be delivered.

## 6 WATER QUALITY

### 6.1 Bulk Water Quality

As reported in section 4.5 of the IPART issues paper, Hunter Water has a memorandum of understanding (MOU) with NSW Health covering management of water quality.

The issues paper refers to bulk monitoring requirements in the Sydney Catchment Authority (SCA) operating licence to monitor health-related water quality parameters determined in conjunction with NSW Health. IPART suggest that a similar approach may be suitable for Hunter Water's operating licence as an alternative to the list of water quality parameters in schedule 3 of the current licence.

Hunter Water agrees that it is appropriate to replace the list of target parameters listed in schedule 3 with parameters developed on risk-based criteria from time-to time.

Under the terms of the MOU with NSW Health, Hunter Water has a water quality monitoring schedule reviewed and approved each year by NSW Health. This monitoring schedule includes the health-related monitoring requirements for bulk water. This requirement has been in place for around 5 years. The annual setting of these monitoring requirements allows for flexibility in terms of contemporary quality issues that may affect bulk water supplies (eg algae, specific pathogens, metals etc). This flexibility is not available in the operating licence which has a term of 5 years.

Hunter Water believes that it is unnecessary duplication of regulation to require the parameters established in the water quality monitoring schedule under the MOU with NSW Health to be incorporated in the operating licence.

### 6.2 Risk-based Approach to Drinking Water Quality

The latest edition of the Australian Drinking Water Guidelines was issued in December 2004, part-way through Hunter Water's current operating licence. The Guidelines were endorsed by the NSW Government in June 2005.

The revised guidelines incorporate a framework for the management of drinking water quality, based on a risk-management approach. This "framework" consists of:

- A detailed analysis of the water supply system from "catchment-to-tap"
- Identification of hazards and risks to the supply
- Management practices adopted to prevent/reduce contamination, and
- Monitoring to assure that preventive measures are effective.

A raft of supporting activities including training, research and consultation is also incorporated into the framework.

Hunter Water's MOU with NSW Health requires the Corporation to comply with the current Australian Drinking Water Guidelines. NSW Health has allowed HWC a 12-18 month "period of grace" (from when the new guidelines were endorsed by NSW Government) to adopt the framework.

Hunter Water has many of the various elements of the framework already in place. Targeted work has commenced on the application and tailoring of the framework, firstly to Hunter

Water's Chichester Dam water supply system. Once this system is complete, it will be provided to NSW Health for review and comment, prior to progressing to the Grahamstown Dam, Tomago and Tomaree water supply systems.

Further, the "Water Quality Compliance Indicators" in the NWI benchmarking indicators require agencies to report on whether they have risk-based drinking water management plans in place. Thus, the requirement to follow a risk management approach is pursued through the 2004 Drinking Water Guidelines and reinforced through the MOU with NSW Health and reporting against the NWI indicators. In this context, it is questionable whether further enforcement via the operating licence is required.

Hunter Water believes that the requirements within the MOU between NSW Health and Hunter Water for the latter to adopt a risk-based framework for the management of drinking water quality are sufficient to ensure the framework is appropriately adopted. Further, the MOU is supported by a requirement to report on such a framework being in place as one of the NWI benchmarking indicators. Consequently, no other specific requirements are required in the operating licence.

### **6.3 Recycled Water**

Guidelines for recycled water are specific to the use of the recycled water. Hunter Water agrees that the existing provisions as set out in 5.4 remain appropriate. As discussed in section 3.3 of this submission, the current customer contract does not cover recycled water. The proposed revision of the contract in 2007/08 will cover recycled water standards for certain customers, such as residential customers receiving reticulated recycled water

### **6.4 Raw Water**

Hunter Water agrees that the provisions for other grades of water be deleted. Raw water sales also account for a very small proportion of water sales and these are largely opportunistic – that is, they are sales to customers who are closer to a raw water source or raw water delivery main than a potable water main and have non-potable requirements for water (eg irrigation, wash down, dust suppression). As a result of this variety of uses, quality requirements vary from customer to customer.

Like the Sydney Catchment Authority, Hunter Water deals with these customers through specific contracts and pricing arrangements that reflect the location, delivery cost and quality of water supplied.

Hunter Water considers that there is no need to cover raw water quality in the operating licence because:

- Raw water sales are very small and only available to a very limited number of customers who can take advantage of being adjacent to a raw water main or source,
- Raw water is handled by non-standard supply agreements that do not guarantee quality or continuity of supply, and
- Raw water is charged at a price, set by IPART, which reflects the agreement conditions.

## 7 THE ENVIRONMENT

### 7.1 Environment Management Plan

Hunter Water is preparing a new environment management plan (EMP). As noted in the issues paper, the EMP is a component of the Corporation's environment management system (EMS).

The current operating licence (section 9.1.1) requires that the EMP be reviewed every five years. It is envisaged that this review will take place in early 2007 with a draft plan available for public exhibition towards the middle of 2007. This timing would enable the plan to include any requirements arising from the operating licence review and for the plan to be completed early in the 2007/08 year.

Hunter Water considers that it would be desirable for the revised EMP to run for six years from 2007 with reviews every 5 years after that. This timeframe would enable future plan reviews to be carried out in the year after a new operating licence comes into force and provide more time to build in requirements from the operating licence review.

The Tribunal also proposed, for consideration, that Hunter Water have its EMS certified to the Australian Standard with a view to ensuring that its environmental management reflects Australian best practice.

Hunter Water supports striving for best practice across all of its activities. While Hunter Water understands that certification would provide some assurance that the EMS meets the standard, certification is an expensive and resource-hungry process for a medium-sized utility like Hunter Water.

Certification requires full auditing annually and even more frequently for some processes. In many organisations, certification as an assurance measure is being replaced by less costly processes that are not as demanding of resources and yet still provide assurance of best practice. This releases funds and resources to focus on environmental management rather than process management.

Hunter Water agrees that there is value in having its EMS subjected to external scrutiny so as to ensure the EMS is delivering best possible environmental management. However, the Corporation believes better value for the Hunter community would be achieved by regular internal audit and an external third-party review once every five years. This process would provide confidence that the EMS is in line with best practice at far less cost to the community than full accreditation.

The Hunter Water EMP is to be reviewed during 2007 with public exhibition around mid 2007 and after any revisions arising from the operating licence review are incorporated in the draft EMP. Hunter Water believes that the operating licence provisions relating to the EMP should be similar to those in the existing section 9.1. However, there would be advantages in extending the term of the next EMP by one year to allow revision of future EMPs to occur one year after future operating licence reviews. This timing provides greater flexibility to build future EMPs around the regulatory requirements of future operating licences.

## 7.2 Environmental and ESD Indicators

The issues paper questions the appropriateness of the Hunter Water ESD indicators and suggests that one option for consideration during this review may be for Hunter Water to report against the Sydney Water's suite of environmental indicators.

Hunter Water introduced the current set of ecologically sustainable development (ESD) indicators in 2002 after a period of public consultation during August and September that year. The indicators have been reported in the Corporation's annual report since 2003/04.

The current ESD indicators were developed in 2002 with the assistance of the Corporation's Community Consultative Forum. The indicators cover a range of environmental, social and affordability measures. Hunter Water's ESD indicators also include regional sustainability measures such as proportion of residential customers in the area served by treated water and by sewer services. In this regard, the Hunter Water indicators differ from the Sydney Water Environmental Indicators, which only measure environmental parameters.

Further, Hunter Water is a fully vertically integrated agency managing delivery of water from source to tap and full wastewater services. This contrasts with Sydney Water, which has very limited source responsibilities. These differences, in part, explain why there are 41 indicators in Hunter Water's ESD indicator set compared to Sydney Water's environmental measures.

Hunter Water believes it is appropriate to revisit the ESD indicator suite but not simply to match the indicators to Sydney Water's environmental indicators. Reasons for reviewing the indicators at this time include:

- The development of the new NWI indicators, the National Performance Framework. A number of the NWI indicators overlap the coverage of existing Hunter Water ESD indicators.
- Assessing the value of the "descriptive" measures in the current ESD indicator set and whether more "quantitative" measures can be used in their place
- Providing an opportunity for the Consultative Forum to update the indicators, and
- Considering opportunities to have more consistency with Sydney Water's environmental indicators.

While some of the measures in Hunter Water's ESD indicators have been published for many years by the Water Services Association in its publication WSAAfacts, this publication was not widely referenced by the community. Hunter Water therefore included a number of the WSAA measures in the ESD indicators to be reported in its annual report. This ensured all the indicators were available to the Hunter community in one place. The new NWI National Performance Framework is likely to have wider community exposure and this may allow some duplicated or similar measures to be removed from the ESD indicators set. However, the value of reporting these overlapping indicators to the community in one place, such as the Corporation's annual report, should be considered.

In reviewing the current indicators, it is important to ensure that their value is not overlooked. This is especially true of trend observations drawn from the indicators over time. While it is often tempting to review and update indicators, their real value may be in monitoring changes over time. This cannot be done if the measures are changed frequently.

Hunter Water considers that a review of the ESD indicators could be carried out in conjunction with the update of the EMP in the first half of 2007. This update would involve considering the appropriateness of measures duplicated in intent by NWI measures, potential refinement for consistency with Sydney Water's environmental measures and consultation



with the Consultative Forum on possible revision of the indicator set. Hunter Water would initiate this process with a discussion at the Consultative Forum meeting in March 2007.

Hunter Water believes that it would be appropriate to review the current ESD indicators, especially in the light of the new National Performance Framework. Hunter Water proposes initiating this review with discussion at the March 2007 meeting of its Community Consultative Forum to be followed by wider community consultation as part of the review of the Corporation's environmental management plan. This consultation would take place around mid 2007.

### 7.3 Energy Management

Hunter Water supports a number of the observations in the issues paper in relation to energy management. As the Tribunal has noted, water and sewer operations are often relatively energy intensive and energy use is largely outside control of utilities.

Hunter Water has been looking at ways to reduce future energy consumption. A recent example is its design for a major upgrade of Cessnock wastewater treatment plant to cater for population growth and improve the quality of effluent discharge.

In the Cessnock case, Hunter Water found that, rather than upgrading to a contemporary activated sludge process, the existing trickling filter and maturation process could be upgraded and modernised to achieve a considerably less energy-intensive operation. The new plant will use around half the electricity required by an activated sludge plant of the same capacity. It will also produce a biosolids product with better handling characteristics for recycling.

In terms of regulation, there are already a number of mechanisms in place for managing and monitoring Hunter Water's energy use. The NSW Government introduced legislation<sup>13</sup> in May 2005 to encourage better understanding of energy use by businesses, government agencies and local councils. One provision of this legislation is a requirement to produce detailed action plans for saving electricity at sites using more than 10 gigawatt hours per year.

As reported in the issues paper, Hunter Water has in place an action plan for energy use at its headworks, treatment and pumping operations associated with Grahamstown Dam and the Tomago groundwater source. The NSW Government's plans for energy management are established under the Energy and Utilities Administration Act 1987 and it is not clear that any mandate exists for the operating licence to duplicate or extend this regulation specifically for Hunter Water.

The current ESD indicators also report on energy consumption associated with water and wastewater services and generation of greenhouse gases due to electricity consumption. Similar measures would be continued in any revision of the ESD indicators discussed above. The new National Performance Framework will also monitor and report publicly on net greenhouse gas emissions from all sources, including those from electricity use, vehicle and plant etc.

Hunter Water considers that energy management is already regulated through the Energy and Utilities Administration Act 1987 and additional requirements in the operating licence would confuse this regulatory arrangement and raise issues of regulatory precedence. There are also existing vehicles for public reporting of energy use and greenhouse gas emissions through the ESD indicators and the National Performance Framework.

<sup>13</sup> Energy and Utilities Administration Act 1987 No 103 Part 6A which commenced on 20 May 2005.



## 8 OTHER AREAS OF THE LICENCE

### 8.1 Area of Operations

The Hunter Water Act 1991 sets out conditions for expanding the area of operations for providing reticulated services into neighbouring local government areas.

Hunter Water's area of operations already includes parts of the Singleton local government area (LGA) that adjoin the Cessnock LGA served by Hunter Water. These areas are near the town of Branxton on the New England Highway. Branxton is predominantly within Cessnock LGA but some development centred on the town is occurring in Singleton LGA.

These parts of Singleton LGA were included in the area of operations many years ago because the Hunter Water supply network is closer to these areas than the Singleton water supply system. Thus the most cost-effective supply option to supply these areas was for Hunter Water to extend its supply network into Singleton LGA.

Further residential and rural-residential development is occurring and is planned adjoining the existing developments in the Singleton LGA served by Hunter Water but outside the existing Hunter Water area of operations. The most cost-effective way to service these areas is by connection to Hunter Water's supply network.

Section 16 (2) of the Hunter Water Act states that the Corporation's area of operations cannot be extended into a neighbouring LGA unless consultations have taken place with the council concerned regarding the proposed expansion and its implications.

Singleton Council and Hunter Water have commenced discussion about possible expansion of the area of operations to cover the proposed developments in Singleton LGA around Branxton and along the New England Highway. These discussions aim to identify areas of potential growth within the Singleton LGA over the next 10 years that would be served best by the Hunter Water supply network.

Both parties aim to conclude these discussions by early 2007 so that new boundaries for the Corporation's area of operations can be published in the NSW Government Gazette and defined in the new licence. This will allow these areas in Singleton LGA to be covered by the operating licence.

### 8.2 Operation Audits

Hunter Water supports the concept that IPART should have the role of arranging audits of Hunter Water's performance in relation to the requirements of the operating licence.

The Corporation also supports the concept of more targeted, risk based performance audits as outlined in the issues paper and now incorporated in the operating licences of other water agencies. However, the Corporation believes that the audit should still confirm basic compliance across the full range of operating licence requirements. Risk-based targeted auditing should be used to focus more deeply on specific areas of community interest or where it is believed there may be scope for performance improvement. In taking such a risk-based approach to the audits, IPART should include Hunter Water in the determination of its risk profiles and in agreeing the approach taken in determining risk levels and ranking.

The issues paper proposes that the first operational audit of the new licence should be a full audit with subsequent auditing being based on the outcomes of the first audit.

Hunter Water believes that the transition to more targeted, risk based audits should be possible from the start of the new licence because IPART now has a detailed understanding of water utility operations and performance, and of the particular considerations and issues relevant to Hunter Water. This experience has been gained through setting and managing operating licence conditions for Hunter Water, Sydney Water, Sydney Catchment Authority and State Water and thus enhancing IPART's ability to prioritise auditable areas based on their relative risk.

IPART also now has over a decade of experience with Hunter Water in price regulation. Since the late 1990s, price reviews have included detailed external reviews of capital and operating costs and drivers, asset management reviews and independent demand projection evaluation. The most recent price review required reporting on price performance indicators, many of which cover the same performance areas as the operating licence performance requirements.

Hunter Water considers that the availability of this comprehensive background data ought to enable the Tribunal to move to risk-based audits immediately – or at least, in the first year, to adopt a limited scope audit that focuses on regulatory requirements that change significantly with the introduction of the new licence.

It would also be beneficial for the Corporation to have input into the scope of audits and IPART's methodology for assessing the risk. In some cases, the Corporation may be able to furnish information that would obviate the need for auditing some targeted areas or enable the audit to focus attention on the higher risk areas.

With the emergence of the new National Performance Framework, it is also important that IPART incorporate auditing of the relevant national performance measures into the operating licence audit. The role of this auditing should remain focused on confirming the accuracy of the data provided rather than commenting on Hunter Water's performance relative to other Australian agencies.

The issues paper also seeks comment on what IPART's obligations should be in relation to the operating licence. Hunter Water believes that it is important that audit results are provided to the community within a reasonable time after the year in question. To this end, IPART should be obliged to conduct the audit expediently. Set timeframes should be established for the start of the audit and for reporting the audit outcome to the Minister for Water Utilities. Appropriate timings would be for the audit to commence no later than 15 September<sup>14</sup> and for the report to be provided to the Minister no later than 30 November each year.

Hunter Water believes that the essential function of the audit should be to confirm basic compliance across the full range of operating licence requirements. The Corporation supports the concept of targeted, risk based audits as a means of focusing on specific areas of community interest or where it is believed there may be scope for improvement.

The operating licence audits should include auditing of data provided for the National Performance Framework and IPART should consider whether a targeted approach also could be used for these audits. IPART should be obliged to ensure that the audit is carried out expediently each year so that the results can be released to the community within an acceptable time after the end of the audit year.

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<sup>14</sup> Hunter Water's current operating licence requires a suite of reports to be provided to IPART by 1 September each year. This timing allows for the reports to inform the audit process.

## 9 REFERENCES

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## 10 GLOSSARY

Term	Meaning
ADWG	The Australian Drinking Water Guidelines (ADWG) have been developed by the National Health and Medical Research Council. The ADWG provide the Australian community and the water supply industry with guidance on what constitutes good quality drinking water.
BASIX	Building Sustainability Index. BASIX is a NSW Government initiative to ensure new and renovated (from 1 July 2006) homes are designed and built to use less potable water and produce fewer greenhouse gas emissions. The water use requirements are determined by the climate of the dwelling's location, not the type of dwelling. The target ranges from 40% to 0% across NSW.
Consumer	Any person who uses Hunter Water's water, sewerage or drainage services, whether or not they are a customer.
Customer	Any person who is an owner of property within Hunter Water's area of operations that is connected to a water main or sewer main owned by the Corporation.
EMP	Environmental Management Plan. The EMP sets out Hunter Water's environmental improvement strategies and objectives and details targets and timeframes for environmental activities to be undertaken over the term of the plan. Preparation of the plan is a requirement of the Corporation's operating licence.
EWON	Electricity and Water Ombudsman of NSW. EWON provides an independent review for customers who may not be satisfied with Hunter Water's response to their complaints.
Gigalitres	1 gigalitre (GL) = 1,000,000,000 litres or 1,000 megalitres.
IWRP	Integrated Water Resource Plan. The IWRP is Hunter water's blueprint for managing demand and supply over the next decade by balancing available resources in a sustainable manner. It treats both demand management and supply development options equally so that optimal sequencing of demand and supply options is identified. Preparation of the IWRP is a requirement of the Corporation's operating licence and the current IWRP will be reviewed in 2007.
Kilolitres	1 kilolitre (kL) = 1,000 litres.
Megalitres	1 megalitre (ML) = 1,000,000 litres or 1,000 kilolitres.
NABERS	National Australian Built Environment Rating System. NABERS is a performance-based rating system for existing buildings. NABERS rates a home or commercial office building on the basis of its measured operational impacts on the environment. Further details at <a href="http://www.nabers.com.au">www.nabers.com.au</a> .
NWI	National Water Initiative. The NWI is Australia's blueprint for national water reform. The NWI Agreement builds on the previous Council of Australian Governments framework for water reform signed by the Australian Government and all State and Territory governments in 1994.
National Performance Framework	Under the National Water Initiative, signatory governments have agreed to report independently, publicly and on an annual basis, to facilitate benchmarking of pricing and service quality for urban and rural water delivery agencies. For urban utilities, the National Performance Framework will build on the WSAAs publication WSAAsfacts through a co-branded publication incorporating WSAAs indicators and new NWI indicators.
PAS	Payment Assistance Scheme. Hunter Water customers experiencing genuine financial difficulty may also be eligible for the payment assistance scheme. The PAS is available to customers through nominated welfare agencies. These agencies assess customers experiencing financial difficulty and may issue \$25 vouchers for use in payment of residential accounts. The amount of assistance and the frequency with which it is required is determined by the agency undertaking the assessment.

Term	Meaning
Smart Approved WaterMark	Smart Approved WaterMark is Australia's water saving labelling program for products, services and organisations which are helping to reduce outdoor water use.
REFIT	The residential REFIT program is undertaken by Hunter Water in conjunction with Energy Australia and the five local councils covered by Hunter Water's area of operations. It provides customers with a fully installed 3-star showerhead, a water audit, a trigger nozzle and efficient light globes. This program has the potential to save householders up to \$150 per year through the use of water and energy efficient products and services. It is estimated that approximately 20-30 kilolitres per year of water can be saved per household as a result of installation of the REFIT kits.
WELS	National Water Efficiency Labelling and Standards Scheme. This scheme applies national mandatory water efficiency, labelling and minimum performance standards to household water using products and appliances. Details at <a href="http://www.waterrating.gov.au">www.waterrating.gov.au</a>
WSAA	Water Services Association of Australia. WSAA is the peak body for the Australian major urban water industry. WSAA's 28 members provide water and wastewater services to more than 15.5 million people in Australia and New Zealand, in addition to many of Australia's largest industrial and commercial enterprises WSAA also coordinates major research programs of common interest to the urban water sector.
Yield	The average annual volume that can be supplied by a water supply system subject to an adopted set of operational rules and a typical demand pattern without violating a given level of service standard.