

Hunter Water Corporation Submission

to the

Review of the Operating Licence for Hunter Water Corporation

by the

Independent Pricing and Regulatory Tribunal

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Overview

Operating licences have been one of the important tools of reform and efficiency improvement in the water industry over the last decade. An important aspect of reform has been the separation of regulatory functions and service delivery. Today, water utilities like Hunter Water Corporation can focus on service delivery while the job of setting standards and performance is handled by a range of external regulators. This external regulation has replaced the subjective assessment by statutory authorities of what was best for the community and environment. It also places the standard setting in the hands of specialists in areas such as environmental management and health.

After being in place for a decade in the Hunter, this model of external regulation is proving to be robust and has delivered benefits for customers, the environment and shareholders.

But it is not a static model – it has evolved and improved substantially over the decade. Environmental regulation has been significantly enhanced by improved standards for wastewater treatment, new licensing arrangements for the sewer transport (pipe) network and the formalising of rules for extracting water from rivers and groundwater systems. For customers, there have been enhancements of drinking water standards, which were based on the 1987 national guidelines in the Corporation's original 1992 operating licence and upgraded to the 1994 national guidelines in the 1995 operating licence.

Hunter Water Corporation's corporate objectives centre on a theme of continuous improvement. During the last decade, the Corporation has introduced a number of improvements over and above the requirements of the operating licence and other regulatory instruments. The most significant of these has been the introduction of the "customer charter", which provides commitments to customers on response to problems and rebates on charges where specified problems occur. And, of course, further opportunities for improvement will evolve over time.

This review of Hunter Water Corporation's operating licence and customer contract is a further part of that evolution. It provides an opportunity formalise a number of developments that have been put in place since the 1995 operating licence review. These include the provisions of the Corporation's voluntary customer charter, which sets a range of service commitments to customers, and rebates where service levels are not met.

With continuous improvement in mind, this review of the operating licence is an opportunity to foreshadow possible future enhancements. It is also an opportunity to put in place data collection and other monitoring initiatives so that future enhancements can be based on objective assessments of their value and importance to the community.

Another feature of evolving regulation is a growing consistency in the form of regulation applying to different agencies. This is desirable to provide increasing consistency among agencies and as a means of promoting benchmarking of agency performance. However, our communities do have regional differences that need to be tailored into the regulatory arrangements for individual agencies and communities. So, while consistency in the format of regulation is desirable, the detail of performance specification needs to take account of both regional differences that are outside the control of agencies and that might affect performances and of differences in local community expectations and aspirations.

This submission includes a number of recommendations for enhancement of Hunter Water Corporation's operating licence and customer contract. In particular, it recommends formalising the rebate provisions of the current "customer charter" by including these in the

customer contract and joining the Electricity and Water Ombudsman scheme (EWON) to broaden the external dispute resolution processes available to the Corporation's customers. It also recommends the collection of a number of additional service performance indicators, an enhancement of the water pressure standard and provides a list of environmental indicators for consideration by the Tribunal. The specific details of these recommendations are set out in the relevant sections of the submission.

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1. BACKGROUND

The Origins of Hunter Water Corporation's Operating Licence

This *Background* section provides a brief history of the evolution of the regulatory arrangement for Hunter Water Corporation since its formation from the former Hunter Water Board in 1992. Looking into the origins of the operating licence illustrates the original intent behind the operating licence and how the maturing regulatory arrangements have focussed the purpose of the licence over the last decade.

Until the early 1990s, the major water urban water utilities in New South Wales were statutory authorities with considerable autonomy in determining their own operating standards and business objectives. The major utilities had statutory rights to water resources and, subject to unstructured Ministerial direction, largely set their own standards of service for customers, the charges for these services and their own environmental management priorities. Protection of customer interests and the environment were statutory responsibilities of these agencies although this was largely subjective with little specification in legislation. Some environmental direction was provided by wastewater discharge licence conditions issued by the then State Pollution Control Commission (SPCC).

The utilities had been progressively adopting more commercial operating environments since the 1970s, which culminated in the 1990s with their transformation into State-owned corporations with a company structure and commercial objectives. With the creation of Hunter Water Corporation as the first of the water corporations in 1992, it was necessary for the Government to put in place new regulatory arrangements to ensure that the interests of the **community, customers and the environment** were protected. The administration of these regulatory arrangements was to be external to the Corporation.

In 1992, the main regulatory instruments were a newly created operating licence for the Corporation and wastewater discharge licences issued by the SPCC. The operating licence was issued by the Government to provide a basic customer level of customer protection. The centrepiece of this licence was the setting of standards for drinking water quality. Other customer protections in the initial licence covered water supply continuity, water pressure, sewer overflows and limitations on price increases. From the beginning, the operating licence has included a requirement for annual independent audit of performance against the performance requirements specified in the licence. Over the years, the responsibility for arranging this audit and reporting to Government has rested with the Department of Water Resources, the Licence Regulator and, since new legislation in 2000, with the Independent Pricing and Regulatory Tribunal (IPART).

Since 1992, the regulatory arrangements for the major urban utilities have continued to evolve and strengthen. As a result, today there is a **comprehensive “regulatory package”** governing the operations of the major utilities and overseeing the protection of **customers and the environment**. This regulatory package for Hunter Water Corporation is made up of:

- **An Operating Licence**, which principally remains a customer protection instrument, setting the standards of service to be provided to customers. As mentioned above, responsibility for the administration of this licence now rests with the Independent Pricing and Regulatory Tribunal.

- **Wastewater System Licences** issued by the Environment Protection Authority (EPA) which protect the environmental values of ocean and inland waterways into which treated wastewater is discharged. Detailed monitoring programs and “pollution reductions programs” (PRPs) specific to the receiving environments are linked to these licences. Transport system licences for the sewerage pipe networks licences are in place with conditions being developed progressively. These transport system licences are included with wastewater disposal licences to make up overall system licences.
- **Pricing regulation** by the Independent Pricing and Regulatory Tribunal, which sets the prices that the Corporation can charge for its services. Currently, for the major water utilities, IPART sets prices for each year of a three-year price path.
- **Water Management Licences** issued under 1997 amendments to the Water Act. An “access license” and “use approvals”, preserving the rights under the current licence but issued under the Water Management Act 2000, are expected to replace the current licence in 2002/03.

These licences protect river and groundwater environments and the rights of other water users by defining the utilities’ rights and responsibilities regarding the taking of water from the natural surface and groundwater sources. Detailed environmental monitoring programs and requirements for annual demand management reports are linked to the licence. The demand management reports are intended to demonstrate to DLWC that the licence holder is maintaining a continued emphasis on demand management and will not seek further access to the resource ahead on implementing reasonable demand management measures

- **Memorandum of Understanding (MOU)** with NSW Health ensures prompt exchange of information between the parties and defines water quality emergency protocols.

Other MOU may exist to support the licences issued by regulatory agencies (EPA, DLWC) to cover specific matters which may fall outside the direct control of licences or to set out agreed arrangements for the day-to-day interaction between the utilities and the agencies.

The Role of the Operating Licence

As outlined above, the operating licence is just one regulatory instrument in a suite of regulatory instruments that cover the activities of water agencies.

The role of the operating licence is principally to operate as a “customer protection “ device by establishing customer service standards. The centrepiece of these was, and still is, the standards to protect the safety and quality of drinking water. The initial operating licence for Hunter Water Corporation, issued in 1992, did include broader regulatory requirements relating to environmental protection and pricing. These aspects were included partly because, at the time, neither IPART nor its predecessor, the Government Pricing Tribunal, was in existence. The regulated water agencies also retained delegated powers for resource access and management from the Water Administration Ministerial Corporation under the Water Administration Act or held similar powers under their own legislation.

Since 1992, other instruments for environmental protection and regulation of the prices charged by the Corporation have evolved and matured. Comprehensive environmental protection is now provided by:-

- The environmental licensing processes of the Environment Protection Authority (EPA) which were strengthened in 1997 by the provisions of the *Protection of the Environment (Operations) Act*. Licensing by the EPA now covers entire wastewater “systems” and includes the wastewater transport, treatment, and discharge.
- A Water Management Licence issued by the Department of Land and Water Conservation (DLWC) under the new Part 9 of the Water Act. The Part 9 amendment to the Water Act was introduced in 1997 specifically to enable the DLWC to set detailed resource management conditions on the water extractions of large water agencies with comprehensive water harvesting infrastructure. For HWC the Water Management Licence built on the recommendations of the Healthy Rivers Commission of the Williams River catchment (including environmental flow criteria, environmental monitoring and recommended operational arrangements) and other environmental studies covering elements such as groundwater protection. A report of demand management on an annual basis was also stipulated.

As mentioned in the previous section, above, a new “access licence” and “use approvals”, preserving the rights under the current licence but issued under the Water Management Act 2000, are expected to replace the current licence in within the next 2 years.

Licences represent the highest level of environmental regulation and involve scrutiny of performance, penalties for non-performance and appeal mechanisms. Licences now issued by EPA and DLWC refer to offences and penalties specified in legislation. Operation outside of licence conditions or breach can lead to higher penalties in some cases even leading to loss of the licence. For example, new offences and penalties are included in the amended Water Act. Penalties may be as much as \$500,000 with further amounts of \$20,000 per day for continuing contravention.

Price regulation was included in the initial 1991 licence. However, in 1992, price regulation became the responsibility of the Government Pricing Tribunal, which later became the Independent Pricing and Regulatory Tribunal. As a result, the price control provisions of the initial licence were not included in the operating licence when it was renewed in 1995.

2. APPROACHES TO LICENCE REGULATION

The Need for Licence Regulation

World-wide there are a variety of models for provision of urban water services - public ownership, privatisation and an array of models in between - including franchises, BOOT schemes, etc. There are also a wide variety of ways in which governments undertake their regulatory obligations.

The importance of regulation arises from the fact that the water industry is a natural monopoly. Unlike other natural monopolies, the defining aspects of the water industry monopoly are such that there has been limited success with policy initiatives to impose competitive regime on the industry. Whilst in the last ten years, internationally, there has been some success at designing competitive markets for a range of other infrastructure services through access regimes for rail, power, etc, the fundamental cost structure of the water distribution network ensures that the relationship between the utility and the consumer is, in the vast majority of cases, a monopoly one.

In establishing a regulatory regime for urban water utilities, it is necessary to create a starting point for performance standards. A pragmatic way to do this is to establish what historic performance has been and **draw a line under it such that there cannot be significant deterioration.** This can create the first set of basic service standards and satisfy the community that whatever were the historic reasons for the service level generated in a particular jurisdiction, that commercial or other pressures will not be allowed to undermine these basic standards. In line with defining standards to maintain performance, section 4 of this submission proposes a change to the water pressure standard to ensure no deterioration of historical performance.

This does not mean there should be no advancement of standards. There has been significant progress in regulation within the water industry over the last decade. For Hunter Water Corporation, higher standards have been introduced for drinking water quality and wastewater treatment. Regulation of access to raw water has been introduced with specification of conditions to protect river flows and groundwater aquifers. This process is continuing with new standards being progressively introduced for wastewater transport. At the same time, the Corporation has voluntarily improved service levels in customer service areas in response to community expectations and to keep pace with other water agencies and service industries.

The next step involves considering the desirability of varying the historical performance by setting higher standards. In doing this, it is important to recognise some of the fundamental facts of infrastructure provision. Firstly, the potential to enhance standards for water treatment, water distribution, wastewater treatment and sewerage transport is almost limitless. Any enhancement can, in isolation, be argued to be desirable to the community. Often, problems experienced with infrastructure are periodic peak capacity or congestion problems – this applies to water and sewer infrastructure in the same way as transport, power and telecommunications. In all these areas, there is potential to spend more on the infrastructure to overcome these problems – for example highways can be upgraded to overcome holiday peak traffic delays. However, the resources used could be made available for other community needs. Many of the conceivable investments by water agencies are attempts at preventative health and environmental expenditure. It is highly desirable that the health and environmental benefits of these investments be compared with those benefits that could be obtained through expenditure on alternative health and environmental initiatives.

There is a range of challenges in making sure that regulation produces good social outcomes and fosters innovative and progressive water utilities. To that end, basic levels of customer protection do have to be rationally established and implemented through regulation. Before changing standards, it is necessary to have a clear understanding of the benefits to the community of doing so and the costs any change would impose through increased investment in infrastructure and operating costs.

At this point in time, a lot of information is being gathered on community expectations and the costs of adjusting standards but there will need to be more progress before firm conclusions can be drawn. Even so, IPART's review of the operating licence does present an opportunity to include requirements in the operating licence for the Corporation to collect and publish more indicator data on current performance.

The next two sections of this submission examine the drinking water quality standards (section 3) and the system performance standards (section 4) applying to Hunter Water Corporation under the current licence. For each of the current operating licence standards, this submission outlines the Corporation's recommendations for these standards in the operating licence to apply from 1 July 2002. These recommendations cover:

- Appropriate **changes to the current standards**
- **New data indicators** that could be reported to aid future standard setting processes.

Principles for Licence Regulation

In establishing licence conditions, the purposes of regulation need to be kept in mind. As regulation evolves, it can be tempting to include more and more parameters in regulation. This can greatly increase the cost of regulation (to both regulated bodies and government) and detailed regulation can be so precise that it stifles innovation and initiative within the regulated agency. In framing regulation and licences, regulators need to be mindful of Thomas Jefferson's words and ensure that regulation is not *'wasting the labours of the people on the pretext of looking after them'*.

Licences as a form of regulatory instrument are widely used in our society. In very general terms, licences are a regulatory control imposed by a regulator on a single party (although there may be many such single parties such as individuals with driver's licences).

Licences do not impose any responsibilities on the regulator or other parties not subject to regulation by that regulator. In this context, there are a number of generic principles that should be applied in formulating operating licences in the water industry. Applying these generic principles and recognising the breadth and strength of the water industry regulatory arrangements in NSW, there are six key principles that should ideally be followed in establishing water agency operating licences. These are:

1. The principal focus of the operating licence should be standards of service and customer protection
2. Regulation should be focussed on outputs and performance
3. Regulated requirements must be important to customers and the community, within the control of the regulated agency, verifiable and able to be audited
4. Licence standards should specify requirements to achieve system performance
5. Licences should not duplicate the requirements of other legislation or regulatory mechanisms

6. Licences should not impose obligations on parties other than the regulated agency.

Standards of Service: Operating licences should focus on service delivery. As discussed earlier in this submission, the regulatory machinery in NSW has matured substantially over the 1990s to the degree that there are now strong regulatory mechanisms for environmental protection through the EPA and DLWC and for pricing through IPART. The area of need for regulatory coverage via operating licences for water utilities is that of standards for service delivery and customer protection.

Output focus: The licences should regulate performance in service delivery not inputs to the service delivery process. In some areas, quality assurance programs may specify inputs. For example, the National Health and Medical Research Council's (NHMRC) drinking water guidelines may specify certain processes to assure quality. This type of input regulation is best left to those specifying the quality assurance requirements, such as the NHMRC, rather than becoming part of the operating licence regulation. However, as a rule, input regulation should only be used where output regulation cannot control serious adverse third-party effects (on persons and environments) of particular input use. A good example of appropriate input regulation is the control of driving hours in long-haul trucking operations.

Regulated requirements: Each performance measure should be important to customers, must be verifiable, auditable and the licence holder must have control over the level of performance.

System performance and customer protection: For agencies with retail operations, regulatory arrangements should not only impose generic system performance standards but, where possible, also ensure standards are maintained for individual customers.

Avoid duplication: The licence should not duplicate the intent or provisions of other legislation or regulatory requirements. Such duplication can lead to interpretation disputes, questions of regulatory priority and potential conflict in implementing and policing regulatory requirements. Often too, slight variations in overlapping or duplicated regulation can impose significant costs on agencies for no benefit – eg slightly differing monitoring and reporting requirements for the same parameter may increase costs with no overall benefit.


It is interesting to note that, in this context, the NSW Auditor-General has commented recently in several public forums that one of the common deficiencies of public sector performance accountability in NSW is that there are often “*multiple approaches to performance measurement, even within jurisdictions, which can be confusing and may be wasteful of effort.*”

Avoid third party obligations: Licences should not include third-party obligations. Operating licences are intended to regulate the activities of the **regulated utility only** and should not impose requirements on other agencies or parties. The activities of third parties are outside the control of the regulated utility and a licence issued to one party cannot be regulatory instrument on any other party.

A particular problem with requirements for third party agreements is that the third party may have no incentive to be part of the agreement resulting in delays and/or costly and wasteful protracted negotiations.

This does not preclude licence requirements requiring the provision of information to a third party or consultation as this generally does not impose a performance “obligation” on the third party. The establishment of community consultation committees and other consultative mechanism generally do not impose performance or other obligations on committee members and requirements to establish and maintain such mechanisms are appropriate to an operating licence. Also this requirement does not preclude a licence requiring certain prerequisite commercial third party arrangements such as insurance cover.

3. DRINKING WATER QUALITY STANDARDS

Standards Snapshot	 Drinking water quality
Current standard:	<i>Draft 1994 NHMRC Drinking Water Guidelines</i>
Achievements - last 5 years	<i>The NHMRC issued new guidelines in 1996. Although the licence specifies 1994 guidelines, the Corporation has adopted the 1996 guidelines since they were issued.</i>
Actions - last 5 years	<i>Over \$13 million spent on an extensive capital works program to ensure protection of drinking water quality. This program including roofing of all service reservoirs, upgrade of the Lemon Tree Passage water treatment works and works to provide more flexibility in drawing on different sources of water in the event of source contamination or drought.</i>
Future strategies	<i>Upgrade of disinfection and further protection of source water quality. External quality assurance certification of water treatment plant operations.</i>

The National Health and Medical Research Council (NHMRC) Drinking Water Guidelines outline both health and aesthetic related parameters for drinking water quality. The NHMRC drinking water guidelines draw on international research and the drinking water guidelines published by the World Health Organisation. Where the NHMRC guidelines depart from these international standards, they do so to meet Australian conditions such as climate, prevailing temperature etc.

Generally, however, the prime concern for customers when they turn on a tap to use water (to drink, shower, cook etc) is that water is safe to drink and for bathing and other household uses. That is, it is of acceptable quality in both a microbiological and a physical/chemical sense.

Generally, it is not possible for customers to assess the quality of water in terms of health implications. For this reason, the National Health and Medical Research Council drinking water guidelines specify a monitoring regime that allows a statistical analysis to be undertaken that provides an assurance that water quality is being maintained across the supply network. For many of the quality measures, the guidelines are based on “lifetime” exposure rather than exposure at a single point in time. Thus, the guidelines set out statistical assessment procedures using time series data and multiple sampling. Exceeding a guideline value should be a signal to investigate the cause and, if appropriate, take remedial action. More detailed background information on the guidelines is provided in Appendix 1.

Aesthetic related aspects of water quality (eg high turbidity) generally can be recognised by individual customers. Such aspects are also monitored on a regular basis with a statistical analysis of water quality carried out. In addition, Hunter Water customers can advise the organisation of any aesthetic issues that arise. These can then be logged on a complaints/asset performance database and action initiated by Hunter Water to locate and rectify the cause.

Hunter Water Corporation's current operating licence specifies the draft 1994 NHMRC Drinking Water Guidelines, which were the latest available when the current licence was issued in 1995. The 1994 draft was later issued as the 1996 guidelines. Hunter Water Corporation has regarded the 1996 Guidelines for microbiological parameters and specified chemical and physical parameters as its operating licence standards since these new guidelines were issued in 1996.

The NHMRC guidelines are supported by a direct relationship between Hunter Water Corporation and NSW Health via a memorandum of understanding. This memorandum details of responsibilities and obligations of both parties. The coverage of the memorandum includes:

- Preparation by Hunter Water of an Annual Water Quality Monitoring Plan for review by NSW Health
- Preparation by Hunter Water of a Water Quality Improvement Plan arising from water quality results/issues in previous years
- Hunter Water to submit a comprehensive Strategy Plan for Water Quality Management
- Hunter Water to develop and submit to NSW Health a comprehensive Incident Management Plan
- Preparation by Hunter Water of an Annual Report on Water Quality to be made public. Hunter Water and NSW Health to jointly develop a public education campaign.

The NHMRC proposes to continually update individual parameters within the drinking water guidelines as new information is available. This will be done by issuing "fact sheets" containing new guidelines and will replace the periodic update of the whole set of guidelines that has occurred to date. (The last two updates of the guidelines occurred in 1987 and 1996).

To accommodate the new process of continual review, an arrangement will be established with NSW Health to review how any changes to NHMRC drinking water guidelines, which will now occur on a rolling basis, should be incorporated into the operating licence. In some cases, such changes may be best added to the operating licence as an immediate amendment while others may best be left to a mid-term review or Licence renewal stage. In some cases, changes may require new or modifications to infrastructure (eg treatment plants, chemical dosing facilities, reservoirs) and depending on the extent of these infrastructure changes, some lead time may be required before the standard is enforced.

For drinking water quality standards, Hunter Water Corporation recommends:

- ***Licence Standard - The 1996 NHMRC drinking water guidelines for microbiological water quality and the specified physical and chemical water quality parameters subject to the clarifications in Schedule 3 of the current operating licence***

HWC to comply with revised drinking water parameters issued by the NHMRC and endorsed by NSW Health with an appropriate lead time for adoption agreed with NSW Health

HWC to undertake a program of monthly and annual public reporting of compliance with the operating licence requirements for drinking water quality.

- ***New Indicator – record the number of proven dirty water complaints per year.***

The operating licence to apply from 1 July 2002 could also include the key requirements from the Corporation's MOU with NSW Health regarding five-year drinking water quality plans and drinking water incident management plans. However, as outlined in section 2, care needs to be exercised to ensure that there is not conflicting and confusing regulation as a result of replicating provisions from the MOU in the operating licence. Confusion could arise if the MOU provisions change at any time during the period of the operating licence. To avoid any such confusion, the licence requirement should be limited to requiring the Corporation to comply any requirements for such plans as set out in any MOU or other between the Corporation and NSW Health.

4. SYSTEM PERFORMANCE STANDARDS

Standards Snapshot



System service standards

In addition to drinking water quality standards, Hunter Water Corporation's current operating licence sets customer service standards for water supply reliability (period without supply interruption), pressure, drought security and reliability for the sewer transport system. Performance against the operating licence standards is made available each month to the community and independently audited for the Government each year.

In 1995, the Corporation adopted a voluntary "customer charter". The charter sets objectives covering the Corporation's response times to service interruptions at individual customer's properties. It also sets out conditions for rebates to be paid to individual customers where specified standards are not met over the course of a year. A copy of the customer charter can be found in Appendix 2.

Introduction

Establishing system performance standards is a complex issue that requires careful evaluation of social costs and benefits. Small improvements in standards can often require substantial expenditure of community resources for very little gain. Further, there are no universally agreed levels for system standards and standards vary across Australia and the world.

Local factors are also important. Geographical differences (eg hilly terrain vs predominantly flat areas) can require quite different specification of system performance measures such as 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.

Changes to customer service standards can involve major expenditure of community funds with minimum community benefit through a higher level of service. Because of this, it is important that the social cost benefit of any system service enhancement is considered carefully before major service level changes are made. Hunter Water Corporation 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.

Hunter Water Corporation, through discussion with its consultative forum, has developed a number of options to further enhance customer protection. These are:

- Elevating the voluntary "customer charter" rebate provisions to become mandatory requirements and for these requirements to be set out in the Corporation's customer contract. The Corporation's current rebates are structured to provide an incentive for the Corporation to address repeat occurrences that affect individuals but that are not highlighted by the global customer service standards in the current operating licence. Including rebate provisions in the customer contract would formalise the present

voluntary system of rebates and thus provide a further element of protection to customers against repeat problems with water supply, discontinuity, low pressure or sewer overflows. This is discussed in more detail in Section 7, *Customer and Consumer Rights*, of this submission.

- Where the present standard is well below historical performance, the standard should be raised to effectively “draw a line under” historical performance.
- Introducing additional measures of performance as indicators. These indicators could be included as mandatory reporting requirements in the operating licence.

In the long term, detailed study of customer service standards is needed to provide a better and more uniform basis for setting standards. One such study currently under way is being carried out by CSIRO for the Water Services Association of Australia (WSAA). Hunter Water Corporation believes that, in the absence of any other objective work of this type, it is desirable to hold off proposing changes at this licence review until the results of this national work, at least, are available. The outcome of this work and other studies could be considered when the new operating licence is reviewed prior to renewal.


The Corporation notes that the *Issues Paper* states that “*the Tribunal believes it is not appropriate to set higher compliance targets for the performance standards which would impose substantial new costs on Hunter Water and therefore customers*” (section 4.7). The Corporation’s recommendations in this submission are framed in that context and enhancements to standards are recommended where they can be achieved without an ultimate price imposition on customers.

For each of the current system performance standards, the following outlines Hunter Water Corporation’s recommendations. These cover:

- Appropriate **changes to the current standards**
- **New data indicators** that could be reported to aid future standard setting processes.

Water System Performance

Water Supply Reliability

Standards Snapshot	 Water Supply Reliability
Current standard:	<i>Less than 8% of properties will incur total cumulative supply interruptions greater than 5 hours.</i>
Achievements - last 5 years	<i>Between 3.7% and 7.3% of properties have been affected.</i>
Actions - last 5 years	<i>Over \$4 million spent on ongoing program of watermain replacement and designs for duplication of critical mains.</i>

The amenity of the water component of the Corporation’s service has the following two dimensions.

- Availability of supply on a day to day basis, and
- satisfactory pressure.

Consumers expect that the distribution network will be maintained to avoid excessive water main breaks that interrupt supply and designed to a standard that can maintain adequate pressure for customer needs. Drought security is also an availability issue and this is discussed later in this section under the heading “Security of Supply”.

To address these consumer expectations, the current operating licence includes the following requirement:

- Less than 8% of properties will incur total cumulative supply interruptions greater than 5 hours in one year. (Cumulative interruptions of 5 hours per year affecting 8% of properties equates to an overall system reliability of 99.995%)

Hunter Water’s customer surveys show that over 90% of customers are satisfied with the availability of supply. Over the last 5 years, Hunter Water Corporation has spent over \$4 million on works to ensure continuity of supply and a further \$20 million is proposed in the coming 5 years. Also, as discussed earlier, there is no available quantitative research to suggest that there is a desirable gain for customers in further spending on improvements to reliability.

There are various ways of measuring supply outages. The current Hunter Water Corporation measure counts all discontinuity events regardless of duration on the basis that all events contribute in some way to customer inconvenience. Hunter Water Corporation would prefer to keep this measure because it believes that it is the most appropriate measure and one that is supported by our customers.


However, the Corporation acknowledges the Tribunal’s comments that consistent specification of standards would enable some additional regulation through benchmarking. This could be achieved by leaving the current Hunter Water standard in place as recommended below along with an additional requirement to report on properties affected by the criteria proposed for SWC – ie shut offs of 5 hours or more.

For water reliability performance, Hunter Water Corporation recommends:

- ***Licence Standard - It is premature at this stage to consider a change to this standard.***
- ***New Indicators - Further data collection could be undertaken to assess how many customers experience more significant reliability problems. To this end, an indicator of longer outages could be included in the operating licence indicator requirements such that the Corporation is required to monitor and report on the number of properties with cumulative interruptions exceeding 12 hours per year.***

For consistency with the proposed SWC standard, the Corporation could also report the percentage of properties affected by individual once-off supply interruptions exceeding 5 hours duration.

Water Supply Pressure

Standards Snapshot	 Water supply pressure
Current standard:	<i>Less than 5% of properties will incur verified low pressure incidents.</i>
Achievements - last 5 years	<i>Only between 1% and 2.5% of properties have been affected.</i>
Actions - last 5 years	<i>Over \$10 million spent on construction of South Wallsend reservoir, watermain augmentations, pump station upgrades and main replacements.</i>

For water pressure at the customer's meter, the current operating licence requires that no more than 5% of properties incur verified low-pressure incidents.

However, the Corporation has generally met this standard and proposes that this standard could be enhanced in the new operating licence by reducing this target from 5% to 2%, provided that future compliance is assessed on a rolling three-year basis to account for climate influences.

In 2000/2001, 2.5% of properties were affected by verified low pressure. This was largely due to stresses on the distribution system during a long period of extreme hot and dry weather. The system problems that contributed to this higher-than-usual number of affected properties have been, or are being, addressed. With the three-year rolling compliance, the pressure standard in the operating licence could ensure a continuation of historical performance by reducing the level to 2% of properties even though 2.5% of properties were affected in 2000/01.

Given the very high level of standard proposed (ie that 98% of customers not be affected by a verified low-pressure event per year), the Corporation is not recommending that any additional data indicators be included in the operating licence at this time.

For water pressure performance, Hunter Water Corporation recommends:

- ***Licence Standard - The pressure standard could be enhanced to less than 2% of properties will incur a verified pressure event of less than 20 metres resulting from system capacity problems***

Because performance can be affected by climatic conditions, it is recommended that performance in each licence period of 12 months be reported, but that compliance be assessed on a rolling 3-year basis.


Sewer System Performance

The regulation of sewer service performance is addressed in the current HWC operating licence by a three-tier regulatory structure as follows:-

1. **Customer service standards** – for the collection and removal of wastewater from individual properties.
2. **Minimising customer and environmental impacts** in transport of wastewater to treatment facilities.

3. **Public reporting of wastewater treatment performance** against EPA discharge licence conditions.

Sewer Surcharges on Private Property

Standards Snapshot	 Sewer surcharges on private property
Current standard:	<i>Less than 4% of properties will be affected by a sewer surcharge in any 12-month period.</i>
Achievements - last 5 years	<i>Between 1.3% and 2.9% have been affected.</i>
Actions - last 5 years	<i>Over \$22 million spent on sewer surcharge reduction program, upgrading capacity in wet weather problem areas, upgrade of Cardiff carrier main and pump station and ongoing main and pump station rehabilitation.</i>


Customers expect that when internal wastewater facilities (eg showers, sinks, toilets etc) are used, the wastewater will be removed quickly. Also that it will be removed from the property without overflowing due to capacity problems or blockages in the Corporation's pipe network.

The current operating licence provides that, in any 12-month audit period, less than 4% of customers' properties will be impacted by a sewer surcharge.

For sewer surcharge performance, Hunter Water Corporation recommends:

- ***Licence Standard - The existing standard be retained. Because performance of the wastewater system can be heavily impacted by climatic conditions, it is recommended that performance in each licence period of 12 months be reported, but that compliance be assessed on a rolling 3-year basis.***
- ***New Indicator – Measurement of properties affected by more than 1 surcharge in a 12 month audit period.***

Sewer Transport System Performance

Standards Snapshot	 Sewer transport system performance
Current standard:	<i>Total number of surcharges not exceed 1.4 per kilometre of main (including customers' branches and shafts).</i>
Achievements - last 5 years	<i>Between 0.92 and 1.4 surcharges per kilometre.</i>
Actions - last 5 years	<i>In addition to spending over \$22 million on reducing sewer surcharges, the Corporation worked with the EPA on the development of system licences including environmental assessment of likely impacts.</i>

Individual consumers and the general community expect that wastewater will be transported to treatment facilities in a way that minimises any impact on both customers and the

environment. Effectively this means that overflows from the system should be minimised and that odours should be appropriately controlled.

In addition to the surcharges on private land discussed above, the current operating licence includes a standard that involves counting all surcharges from the entire sewer transport system. This standard requires that the total number of surcharges not exceed 1.4 surcharges per kilometre of sewer main. Any surcharge (not just those on private lands) from the transport system is counted in this standard. If such a surcharge occurs on private property it is also included in the 'customer service' indicator discussed above.

The 1.4 surcharges per kilometre standard is nominally a combined customer and environmental impact measure.

This standard was introduced in 1991 when the sewer transport system did not directly fall under the regulation of the State Pollution Control Commission (now EPA). However, under the *Protection of the Environment Operations Act, 1977*, the EPA now regulates sewer "systems" (covering both transport and treatment) performance. Thus, the evolution of the operating licence and EPA regulation is reaching a stage where the value of retaining the 1.4 surcharges per kilometre indicator is questionable as it effectively duplicates EPA regulation.

The new EPA system (transport network and treatment facility) licences provide a regulatory mechanism that ensures that appropriate standards of customer and environmental protection are achieved. They also provide a framework via the capacity to include "pollution reduction programs" (PRPs) for ensuring works are implemented to cater for new growth and to cater for higher standards if so determined by the regulator.

The system licences are comprehensive documents that will incorporate a range of protection mechanisms as follows:

- A suite of monitoring and reporting requirements covering not just annual performance but also, under defined circumstances, specific incident reporting
- Inclusion of pollution reduction programs (including both studies/investigations and new works) to achieve higher standards where necessary or to maintain required standards as growth takes place
- A requirement for "Operational Management Plans" that outline how system performance is to be maintained through operating strategies, maintenance regimes, system condition monitoring etc
- Provision of "Emergency Response Plans" and "Incident Management Plans/Protocols".

Odours from the sewer transport system are a matter of concern to the community. By its nature, sewage can generate odours if there are long travel times in the sewerage system. The control of odours achieves environmental and economic benefits in:

- the removal of a community nuisance, and
- protection of the sewerage system, which can be corroded by hydrogen sulphide gas.


Hunter Water Corporation has developed odour control strategies that address entire sewerage systems rather than odour problems in isolation. A register of odour complaints relating both to treatment plants and to the wastewater transport system has provided valuable data that identifies and prioritises problem sites. This data shows that, as a result of new control strategies, complaints are declining significantly. The new licence could include this data as an indicator requirement.

For sewer transport system performance, Hunter Water Corporation recommends:

- **Licence Standard** - *That the operating licence not retain the existing standard of no more than 1.4 surcharges per kilometre of sewer main.*
- **New Indicators** – *That the number of surcharges per kilometre of sewer main be retained as an indicator to maintain a continuity of comparison with past performance.*

That data on confirmed odour complaints arising from the sewer transport system each year to 30 June be included as an indicator requirement and published in the Corporation’s Annual Environmental Report

Wastewater Treatment Performance

Standards Snapshot	 Wastewater treatment
Current standard:	<i>That the Corporation comply with licences issued for wastewater treatment plants by the Environment Protection Authority.</i>
Achievements – last 5 years	<i>Very high compliance has been achieved in each year.</i>
Actions – last 5 years	<i>Almost \$90 million spent on upgrades and replacement of various treatment plants and new plants for Hunter Sewerage Project areas.</i>

The process of treating wastewater at the various treatment facilities generally does not have any direct impact on customers with the possible exception of a minor number of odour complaints. As outlined above, the Corporation has odour control strategies that address entire sewerage systems, including treatment plants. In addition, odour reduction targets are included in the Corporation’s Environmental Management Plan.

The main potential impact of wastewater treatment is on receiving waters where treated effluent is discharged. This is regulated by wastewater system licences issued by the EPA.

The community expects that treatment facilities will be operated in a way that minimises any environmental impact and expects assurance that this does, in reality, occur. There is also an expectation within the community that setting of performance standards is independent of the service provider. For this reason, performance reporting needs to be against standards or criteria established by the EPA.

The Corporation’s current operating licence requires that the Corporation to comply with licences issued under environmental protection legislation.

For wastewater treatment performance, Hunter Water Corporation recommends:

- **Licence standard** - *That the operating licence continue to require HWC to comply with licences issued by the EPA.*
- **New indicators** - *The licence require Hunter Water to publish the performance of the wastewater treatment facilities against EPA licence criteria at least once each month and performance each year to 30 June in the Corporation’s Annual Environmental Report.*

Require Hunter Water to publish details of odour complaints received in relation to

Security of Supply

For the past ten years, Hunter Water Corporation's operating licence has included a drought security indicator which requires that, *on average* customers should not *enter* a period of restrictions more often than once in every 10 years. A single, simple measure of this type **is not replicated in any other licence or operating rules for any other major water authority** in Australia.

To effectively measure compliance against this standard, the Corporation has produced a computer model that simulates storage performance against varying runs of rainfall and stream flow. In order to average out the effects of a wide range of climatic sequences, the Corporation uses the available 70 years of rainfall and stream flow data and simulates 10,000 year runs of monthly rainfall and stream flow events. It is recognised by the Corporation that in doing this, the model brings with it levels of uncertainty about the following:

- *Climate* - As each year progresses and the Corporation builds on its 70 years of actual data, the simulated runs of data are modified which impacts on model results.
- *Changes in community response to restrictions* - The model has to simulate the expected reductions in demand achieved through increasing levels of restrictions on customers. Community response has changed over time. With greater emphasis today on water conservation, the savings experienced in times of restriction are often less than in the past.
- *Modelling uncertainty* - While the Corporation undertakes to use best practice modelling techniques which are state of the art, it is recognised by the experts that all models bring with it some uncertainty, particularly when extrapolating a small actual data set of 70 years to major time runs of rainfall and stream flow of some 10,000 years.

The Sydney Catchment Authority operating licence includes long-term standards of service performance criteria for the Authority's catchment infrastructure works. However, IPART further considered the question of security of supply standards as part of the Sydney Water Corporation standards review earlier this year. The Tribunal concluded that this is a complex issue and further work is required before a standard can be established.

Hunter Water Corporation agrees with this conclusion. The Corporation proposes that, given the uniqueness of the Corporation's 1 in 10 year rule, the variety of indicators used around Australia and the uncertainty in the use of modelling, the Corporation prepare a security of supply plan. This plan would replace the present indicator.

This plan would be updated every five years in line with the operating licence period and would review Hunter Water Corporation's performance against a range of benchmarks that could include the following:

- Yearly supply over total storage (an indicative measure of backup storage)
- Maximum 1 month drop in storage in the past 5 years (a measure of volatility)
- Percentage of time customers are in restrictions (eg 3% 5% or 8% of the time – a restriction duration rule)
- Chance of entering restrictions in any 1 year (current Hunter Water Corporation rule)
- Chance of being in restrictions in any 1 year (commonly used indicator as part of a set)

- Chance of dropping below 5% in any 1 year (effectively running out of water).

It is expected that together with the above scoreboard, the security of supply plan would also put together a program of any storage upgrade requirements including coverage of any environmental and social issues. However, criteria based on the above scorecard would need to be developed for this and setting the criteria would, in part, involve assessment of criteria and practices in place elsewhere in Australia.

At this stage it is envisaged that a case could be made for a security of supply plan which is on a 5 year + 5 year basis. The first 5 years would cover a definite plan of necessary actions and improvements required from a security of supply viewpoint, while the second 5 year period (years 6 to 10) would cover necessary investigations and studies (monitoring river quality/industrial growth etc) that would be necessary to provide major input into the planning process.

It would also be necessary for the plan to have some explicit coverage of the Corporation's progress on overall demand management, including levels of recycling. The security of supply plan produced by the Corporation, of necessity, would have as an underlying document a drought management plan which set in place the necessary steps that the Corporation would take (including imposition of restrictions) at various levels of storage decline in drought conditions.

The Corporation proposes that the security of supply plan with underlying drought management plan would be reviewed and updated by the Corporation every five years. The strength of the document as a planning tool would be prior to major expenditure by the Corporation on drought security through storage augmentation. Given this it is expected that before major price path determinations which occur every 3 to 5 years, IPART may consider engaging an external independent consultant to review the Corporation's security of supply plan and provide commentary. This would be particularly important before a price paths period during which major expenditure by the Corporation on drought security is planned.

For security of supply, Hunter Water Corporation recommends:

- *That the current operating licence measure be replaced by a requirement for the Corporation to prepare a security of supply plan every five years (in line with the operating licence period). This plan to include, but not be limited to reporting:*
 - *Yearly supply over total storage (an indicative measure of backup storage)*
 - *Maximum 1 month drop in storage in the past 5 years (a measure of volatility)*
 - *Percentage of time customers are in restrictions (eg 3% 5% or 8% of the time – a restriction duration rule)*
 - *Chance of entering restrictions in any 1 year (current Hunter Water Corporation rule)*
 - *Chance of being in restrictions in any 1 year (commonly used indicator as part of a set)*
 - *Chance of dropping below 5% in any 1 year (effectively running out of water).*

Specification of Performance

Hunter Water Corporation's current system standards are specified as in terms of percentage of properties affected (eg the water continuity standard in the current licence requires that less than 8% of properties will incur total cumulative supply interruptions greater than 5 hours per

year). Use of percentages has the advantage that it easily caters for growth in the number of properties served.

The *Issues Paper* (section 4.5) indicates a preference for absolute measures, rather than percentages, stating those absolute measures (eg number of properties rather than a percentage of properties) are easier for customers to understand.

Hunter Water Corporation considers that the use of percentages enables the standard to automatically adjust for growth over time and to draw a line under historic performance. If absolute numbers are used in the standard, these would need to be reviewed and adjusted periodically. If they are not adjusted appropriately, then absolute numbers could become a *de facto* tightening of standards with significant and unintended infrastructure cost implications.

Stormwater

Hunter Water Corporation maintains limited stormwater assets in the lower Hunter and these are not in all local government areas in the Corporation's area of operations. Where the Corporation does maintain drainage systems, these are the larger drainage systems that are fed by drainage networks maintained by local government. Thus the drainage networks are integrated systems maintained and under the control of both councils and the Corporation.

In addition, Hunter Water Corporation has no control on the extent, location or type of development in drainage catchments. New development can alter the hydrologic characteristics of the catchment resulting in higher volumes and peaks in storm flows to be carried by the Corporation's drainage system. Development control is a matter for local government. One of the principles outlined in section 2 of this submission is that regulated requirements must be within the control of the regulated agency.

Because of the Corporation's limited and shared involvement with local government and because development control rests with local government, it is impractical to include operational performance requirements related to flooding in the operating licence. The *Issues Paper* quotes examples where agencies have flood performance requirements – however, these agencies have more universal responsibility for stormwater systems.

This issue was raised during the IPART workshop for the review of Sydney Water Corporation's system performance standards in February 2001. Workshop participants concluded that such standards are inappropriate and that the way forward is for institutional reform of stormwater management. Where property flooding is an issue, avenues other than simply attempting to make these problems the responsibility of one player need to be explored. The establishment of the Upper Parramatta River Catchment Trust, with its own revenue raising powers, to address urban flooding in western Sydney is an example of one successful approach to institutional reform that could be adopted elsewhere where flooding problems are an issue.

For stormwater, Hunter Water Corporation supports:

- ***The conclusion of the Sydney Water standards review workshop participants that institutional reform of stormwater management is the preferred way forward and that it is inappropriate for standards to be included in the operating licence when control and responsibility for stormwater management is shared with local government.***

Asset management

The strength of Hunter Water Corporation's operating licence over the last ten years has been the focus on a small number of key customer service standards that are subject to external scrutiny by independent external audit on an annual basis.

In response to key output standards, water utilities must put asset management processes in place to ensure the minimisation of infrastructure life-cycle costs while meeting the regulatory key customer system measures. To do this, the utilities develop asset management strategies and detailed asset management plans covering among other things, the following:

- Asset information systems covering financial information, asset registers, plans and records, GIS, maintenance management information and condition management; information
- Asset data and knowledge covering identification and categorisation of assets, location, physical attributes, condition, cost and maintenance histories and valuation
- Asset management processes covering knowledge of assets, asset accounting, asset costing/valuation, strategic life cycle planning, asset creation/disposal strategies, asset operation plans, asset maintenance regimes, job/resource management and review/audit processes.

These asset management processes go down to the very heart of management of individual assets which in Hunter Water Corporation's case covers some 8,000 kilometres of pipelines, over 400 pumping stations and over 70 water reservoirs.

As a principal, the Corporation believes that best practice operating licence regulation involves the use of **output standards** rather than a detailed review of inputs (such as the numerous components of asset management plans). Notwithstanding this, it is recognised that a price regulator needs to ensure that customer system standards are being achieved in a cost-reflective manner. Given this, it is considered that, rather than an operating licence requirement, it is appropriate that price path reviews should be the appropriate vehicle for an assessment of an organisation's asset management strategies/plans. This was, in part, the focus of the review by Halcrow Management Sciences Limited at the last price-path review in 1999.

While benchmarking of asset management has been considered in the past, the difficulty within the industry is that there is no one agreed framework for assessing where a water authority's asset management processes are in relation to best industry practice.

This is an issue that is currently being tackled by the Water Services Association of Australia (WSAA) which represents all major metropolitan water authorities in Australia. WSAA is establishing a framework to allow benchmarking of asset management processes by water authorities against agreed best practice. The current proposal involves setting up the framework and each member organisation undertaking an annual self assessment of progress. However, it is also proposed that, on a 4 to 5 year cycle, WSAA would engage an external consultant to provide an independent assessment of each water authority's progress against the agreed framework.

Hunter Water Corporation considers that it would also be appropriate to provide a copy of this information to IPART at that time or alternatively IPART could commission separate independent reviews of a water authority's asset management system at an appropriate time to suit price path determinations.

For asset management, Hunter Water Corporation recommends:

- *That because optimum asset management is closely linked to issues of capital investment in infrastructure and operating costs and because output standards are protected by other measures in the operating licence, it is more appropriate for IPART to review asset management strategies as part of price path reviews.*

5. ENVIRONMENTAL REQUIREMENTS

Environmental Indicators

The Tribunal's *Issues Paper* seeks comments on environmental requirements for inclusion in the operating licence (Section 5).

Section 2 of this submission outlined the principles for licence regulation. One of these principles is to avoid duplication with other regulatory instruments. Hunter Water Corporation now has a comprehensive suite of environmental regulation governing its activities. In particular, the Environment Protection Authority (EPA) and the Department of Land and Water Conservation (DLWC) have issued licences, supported by legislation, to the Corporation with the specific intention of environmental and water resource protection. If, however, there is a perceived need to enhance the existing EPA and DLWC regulation, supplementary indicators could be made a requirement of the operating licence.

Hunter Water Corporation already monitors a wide range of environmental indicators, particularly to meet the requirements of the EPA discharge licences, the DLWC's water management licence and the existing operating licence standards. Thus, important environmental and ESD indicators are already monitored. It is possible to add many other indicators to these but this needs careful assessment of the costs of doing so against the likely benefits to the environment and local community.

The Corporation publishes a number of environmental indicators in various formats each year. For example, beach bathing water quality is published weekly during the bathing season as paid advertisements in local newspapers. Similarly water quality in the lower Williams River is published monthly in local newspapers. All indicators relating to operating licence standards are reported monthly to open meetings of the Corporation's board of directors, posted monthly on the Corporation's website and published annually in the annual environmental report. The annual environmental report also reports on indicators relating to the targets in the Environmental Management Plan such as effluent reuse and odour reduction.

While a range of indicators is monitored, not all are reported publicly, particularly those required by the EPA and DLWC. This is because a large number of parameters are measured at a number of locations. For much of this monitoring, EPA and DLWC have an "exception reporting" regime where data is to be accessible but not reported directly to the regulating agencies unless the results are outside defined exceedance limits. The Water Management Licence makes specific provision for the results of much of the monitoring to be made available to DLWC electronically to reduce the need for paper reporting. However, some of this monitoring does provide indicators of environmental condition – for example, the Water Management Licence requires extensive monitoring of groundwater conditions at Tomago and Anna Bay.

Hunter Water Corporation notes that the operating licences for Sydney Water Corporation and Sydney Catchment Authority include requirements for separate environmental and ecologically sustainable development (ESD) indicators (see Part 9 of the SWC licence). In part this has come about because Sydney Water Corporation's 1995 legislation included a requirement for "Environmental Indicators" to be collected and published.

Hunter Water Corporation has no similar requirement for environmental or ESD indicators in its legislation. Hence the opportunity exists to start with a clean sheet of paper when considering the need for indicators for the Corporation's licence. In particular, the opportunity exists to:

- Address a range of environmental requirements through a set of environmental/ESD indicators, and
- To have only **one set** of environmental/ESD indicators.

The Tribunal's *Issues Paper* seeks comments on whether the operating licence might include environmental requirements such as:

- Demand management, water efficiency and reuse
- Environmental and ecologically sustainable development indicators
- Energy management and
- Water resource and catchment management.

The Corporation believes that, rather than having separate requirements in the operating licence for these areas of environmental management, all these areas can be satisfactorily handled in the licence through one set of environmental/ESD indicators. This is especially so as some areas overlap the interests of EPA and DLWC and the *Issues Paper* acknowledges the primacy of these agencies in environmental regulation. In this context, requirements in the operating licence for any areas that are primarily covered by EPA or DLWC regulation should be limited to indicator reporting. In this way, duplication of regulation is avoided.

The SWC and SCA licences required the ESD indicators be prepared with input from the community. Hunter Water has monitored the development of the SWC and SCA indicators and the public processes. Officers from Hunter Water Corporation participated in the stakeholder workshop process for developing the SWC ESD indicators.

While it can be argued that SWC and HWC should have similar ESD indicators due to the similarities between the two organisations, differences in the scale of operations, the format of environmental regulation, environmental interactions and the magnitude of environmental impacts should be taken into account.

As discussed above, the operating licences for SWC and SCA requires these agencies to collect separate "environmental" and "ESD" indicators. However, a comprehensive list of ESD indicators incorporates environmental indicators (as well as social and economic indicators). Hunter Water Corporation proposes having only a set of environmental/ESD indicators.

The Corporation has drawn on the SWC and SCA indicators to develop a set of indicators relevant to its circumstances and the existing licences issued by EPA and DLWC. These indicators draw on information that the Corporation already collects, either voluntarily or under various regulatory arrangements. Not all are currently reported publicly but rather made available to regulatory agencies such as EPA and DLWC. Thus, the proposed set of indicators is pragmatically derived. They cover all key areas of environmental interest, similar to the areas covered by the SWC indicators and have the potential to display meaningful time series trends.

Hunter Water Corporation's draft set of environment indicators is provided as Appendix 3 to this submission. It is proposed that the indicators would be reported annually in the Corporation's annual Environmental Report.

This set of indicators will be discussed with the Corporation's community consultative forum at its September 2001 meeting and comments and input from forum members will be taken into account in finalising the indicators. The community consultative forum comprises

representatives from business, community, environmental, catchment management and landcare groups from the lower Hunter region.

For environmental indicators, Hunter Water Corporation recommends:

- *That the operating licence require Hunter Water to report on a set of environmental indicators in its annual environmental report.*

The indicators are to be derived from information that the Corporation already collects, either voluntarily or under various regulatory arrangements and cover key areas of environmental interest.

The indicators are to be approved by the Corporation's community consultative forum.

Environmental Management Plan

An Environmental Management Plan is a key component of the Hunter Water Corporation's environmental management system. The plan contains specific objectives, targets and actions that Hunter Water needs to address to achieve its environmental management objectives.

The plan is prepared every five years. The Hunter Water environmental management plan is essentially an internal management plan that links the environmental requirements of other agencies and instruments (eg those in EPA and DLWC licences) to the Corporation's annual business planning process. In the past, Hunter Water has sought comment on the plan's content from other agencies and environmental groups at the development stage.

The current operating licence includes a requirement the annual operating licence audit to assess progress against targets and objectives in the Environmental Management Plan. This enables the Corporation to set ambitious goals beyond those stipulated by regulators. For example, the current plan includes ambitious, or "stretch", targets in areas such as effluent reuse and the annual audit reports on actions the Corporation has taken to move towards these targets. On the other hand, a regulated approach – which would require the annual audit to assess *compliance* with the plan - would need to adopt rigid targets that are not as ambitious or flexible and are knowingly achievable.

Flexibility is important with some targets. Effluent reuse is a good example. In recent years, Hunter Water has greatly increased the use of treated effluent by major industries in the lower Hunter. However, a range of other factors, particularly international economics, influence the business decisions of these companies and flow on to the demand for effluent. For example, in recent years, agreement had been reached with two major industrial customers (including the Corporation's then largest industrial customer, BHP) for substitution of potable water with effluent for use within their operations. However, both companies withdrew due to business changes as a result of changes in the international business climate, amongst other factors.

Climate also has a major impact on effluent reuse as does other environmental policies. For example, over recent years there has been a growing awareness in the community of the environmental impacts of stormwater runoff. In response to this, some industries have put in place stormwater management plans which may involve capture of stormwater on site through detention ponds and use of stormwater in industrial processes where possible. While this is supported, it has resulted in a reduced actual and potential demand for effluent by some industries. If, for example, an effluent reuse compliance target was set in the EMP and if, for a number of reasons, it could not be achieved (closure of industry, seasonal conditions, use of stormwater rather than effluent), Hunter Water's customers may be faced with significant

expenditure to achieve the target. Such expenditure may be on unjustifiable and uneconomic distribution systems to transport effluent long distances to potential customers. Another factor to consider with effluent reuse targets are the provisions of the *Water Management Act, 2000*, which recognise benefits of return flows to natural waterways. In future, the benefits of reuse will need to be carefully considered against the benefits of returning highly treated effluent to waterways to maintain streamflow and/or meet other extractive demands such as irrigation.

The Corporation's environmental management plan has a strong focus on the water cycle and the core activities of Hunter Water. It is revised every 12 months to ensure that it remains dynamic and able to meet the Corporation's environmental objectives and targets. This process involves the removal of actions that have been completed and the addition of new actions, where appropriate.

Progress against the plan's objectives is reported to the public in the annual operational audit report and in the Corporation's annual environmental report.

In the context of the recent enhancement of other environmental regulation through the EPA and DLWC licences, it is appropriate to require that the new operating licence continue to include performance against the Environmental Management Plan and for progress to be independently audited each year.

For environmental management plan, Hunter Water Corporation recommends:

- ***That the operating licence include a requirement for the Corporation to produce an environmental management plan every five years and for performance and progress in relation to the plan and its "stretch" targets be assessed in the annual operational audit.***

6. Demand management, water efficiency and reuse

Interest in water demand management in New South Wales first emerged in the late 1970s and early 1980s with the recognition that many of the best dam sites in the State already had dams. This meant that further storage development for both urban use and irrigation would come at increasing unit cost. This process prompted a number of major policy initiatives at a State level with a focus on resource “management” rather than resource “development”. A feature of the new interest in management was increasing interest in managing demand and pricing initiatives.

In the lower Hunter, the late 1970s and early 1980s were characterised by rapidly growing demand for water and prolonged drought conditions - both pointing to a need for further major source development by the mid 1980s. Pricing of urban water based on property value meant that customers received no incentive or signal about the cost of further resource development. In response, the then Hunter Water Board introduced pay-for-use pricing in 1982. This initiative reduced overall demand from its sources by 30% and peak demand was also reduced. This enabled construction of the dam planned for the mid 1980s to be deferred until well into the 21st century.

Today, demand management continues to be an important aspect of water resource management – not just because of the higher financial costs and social costs of building more dams but also because of the environmental costs associated with water extraction from river systems and groundwater aquifers.

The question arises as to whether the operating licence should include demand management targets. There are several important factors that need to be taken into account when considering the appropriateness of demand management targets to the Hunter. These are:

- Current residential water consumption in the Hunter is already 20% lower than that in Sydney where targets are in place
- A long history of pay-for use charging
- A large industrial customer base with a small number of very large volume customers
- A successful effluent reuse program among industrial customers
- Low environmental impact of the next stage of source augmentation
- The availability of alternative industrial supplies from State Water.

Residential customers in the Hunter use much less water than do consumers in other comparable areas of Australia. The most recent assessment available from the Water Services Association of Australia (WSAA) shows that the average household use by Hunter Water’s customers is equal lowest with one other agency for the nineteen major Australian authorities and that this consumption is 23% lower than the average. Hunter Water has ranked lowest since 1993 (when WSAA first compiled residential water use statistics).

As mentioned above, residential consumption in the Hunter is already 20% lower than in Sydney. In this context, the imposition of demand management targets on Hunter Water Corporation would mean that Hunter residents would be asked to save even more water than their Sydney counterparts and this raises an important question about the equity of Government regulation.

Pay-for-use pricing was introduced in the lower Hunter in 1982 and its introduction was accompanied by a well-publicised public debate over many months. This debate greatly increased the community's awareness of the implications of pay-for-use pricing and encouraged rapid community adoption of water-saving practises. As a result, water-efficient appliances and household fittings have been progressively adopted by the Hunter community for 20 years – for example, fittings such as low-flow shower roses and dual-flush toilets have been fitted to all new and renovated buildings over this period. This means that retrofit programs are likely to have less impact in the Hunter than in Sydney where the pricing incentive has been in place for shorter period and was introduced with much less public attention. In addition, local government development control plans now focus on water and energy efficiency and require water-saving devices in new buildings.

Newcastle's large industrial base must be taken into account when considering consumption issues and the introduction of demand management targets. In a city that relies heavily on industry, it is unrealistic to measure consumption according to population. Even if industry adopts the most water efficient practices, its water use is going to be a substantial proportion of total water use. The domestic sector is simply not large enough to absorb large increases in industrial consumption.

Water use by industry falls in two broad categories – water used as a direct input to the final product (ie water or its chemical components are used in, or make up, part of the final product) and water used in the production process (ie water used in ancillary processes such as washing or cooling). Where water is used as a direct input to the final product, the only opportunity to reduce water use is to reduce the output of the final product. Tangible water use efficiencies can only be pursued where water is used in an ancillary process. After 20 years of pay-for-use pricing and relatively high usage charges, many of Newcastle's industries are already using highly efficient practices.

Unemployment in the lower Hunter trends at 3% to 4% more than the NSW State averages. Given this high unemployment rate, the closure of more industry and discouragement of new industry in order to meet demand management targets is economically and socially unappealing.

If industries are discouraged from setting up in Newcastle, where will they go? Water is also available to Hunter industry from DLWC's commercial operation, State Water. State Water operates three major storages in the Hunter with seven times the storage capacity of Hunter Water Corporation's storages. These storages supply regulated river supply for irrigation and industrial use. Demand management targets applying only to Hunter Water may simply force major industries to locate just outside the Corporation's area of operations and obtain water from State Water. Such a move effectively negates any perceived environmental gain to the Hunter Region by setting a target on one supply agency only.

Hunter Water Corporation's future resource capacity is based on accessing more high flows at the tidal interface of the Williams River - the Hunter River's most downstream tributary. This location means that high flows from the Williams River do not serve to sustain main river flows, as is the case for western flowing rivers and for the upstream tributaries of the Hunter River. Further, the Corporation's extraction has no impact on flood flows to the Hunter estuary. The Corporation's extraction capacity does not enable it to take significant proportions of high flow events and it is not uncommon for flood flows in the lower Williams River, in one day, to exceed the Corporation's annual demand. Thus the Corporation can extract from these high flows with no, or very little, potentially adverse environmental impact.

Furthermore in terms of demand management, Hunter Water Corporation has an impressive record of encouraging industries to use recycled water in the form of treated effluent as a means of reducing industrial demand for potable water. This effluent reuse is now around

10% of average dry weather flows, which compares favourably to around 3% for Sydney Water Corporation. Use of recycled water by industry is a cost-efficient and effective way of achieving demand management because effluent can often be supplied to industries at reasonable cost. It can often replace an industry's use of potable water, which may be equivalent to the consumption of many thousands of households. On the other hand, options for domestic reuse would involve expensive dual reticulation schemes. Domestic reuse mainly supplies water to meet outdoor demand, which may be almost negligible in wet periods and winter while use of effluent by industry is generally consistent all year.

In terms of regulation, Hunter Water Corporation already has a requirement in its Water Management Licence to have in place a demand management strategy and to report annually to DLWC on progress with this strategy. The incorporation of this requirement in the Water Management Licence rightly links demand management and management of the water sources from which the Corporation draws its raw water supplies. Incorporation of demand management requirements in the operating licence as well as the Water Management Licence effectively amounts to duplication of regulatory requirements.

It should also be noted that, under the provisions of the *Water Management Act, 2000*, the Water Management Licence will be replaced by a new "access licence" and a "use approval" over the next 2 years. The DLWC has indicated that it is looking to incorporate common principles in "use approvals" for all licensed urban users (towns and major utilities) and that these principles will include requirements for demand management measures to be in place. If there is to be further regulation focussing on demand management, it would seem appropriate that it should be built into the new use approvals under the *Water Management Act*.

It is recognised that this is a different approach to that taken for Sydney Water Corporation and Sydney Catchment Authority. However, as SWC is no longer involved in significant extraction of water from natural sources, it is impractical for DLWC to regulate demand management in Sydney in any substantial way. Similarly, as the SCA has no direct retail responsibilities, it is impractical for it to have comprehensive demand management requirements in its water management licence. However, Hunter Water Corporation does have direct responsibility for both extraction and retailing of water services and, in this context, demand management is best regulated through the provisions of the *Water Management Act*.

The Corporation has developed a comprehensive demand management program to meet the requirements of the Water Management Licence. This program is based on continuing the strategies that are already in place and on supplementing current activities with strategies that continue to provide overall community benefits when compared to the costs incurred. Given this, the key elements of our current strategy are:

- Continuing to provide economic signals via pay-for-use pricing
- Awareness and education programs
- Potable water substitution via effluent re-use initiatives
- Leakage management.

In the 1999/2000 operational audit of Hunter Water Corporation's performance against the operating licence, the external auditor recommended that Hunter Water Corporation should "*continue to develop a water conservation strategy for its area of operations and encourage the community to achieve a reduction in water usage.*"

In the light of the auditor's recommendation, the Corporation believes that such a strategy should be the focus of any future operating licence requirement on demand management

rather than specific targets as in the current Sydney Water licence. This strategy could become a component of the demand management strategy required under the DLWC Water Management Licence and later under DLWC “use approvals”. This approach would be more consistent with the Corporation’s demand management achievements and the Hunter community’s current consumption levels.

For demand management, Hunter Water Corporation recommends:

- *That demand management regulation should be linked to resource management regulation and as such appropriately belongs with the current Water Management Licence and subsequently with the DLWC use approvals, which will succeed the current licence.*
- *That the operating licence includes a requirement for the Corporation to develop a water conservation strategy for its area of operations that encourages the community to continue to reduce water usage. This conservation strategy would become a component of the Corporation’s overall demand management strategy reported on annually to DLWC.*
- *That demand trends be monitored and reported on through environmental indicators set out in Appendix 3 to this submission.*

Reduction of water leakages

Leakage control of water infrastructure is only one component in the bigger area of demand management. To be effective, demand management requires a holistic approach by measuring and managing the following:

- Household demand for water which can be impacted on by pricing policy, education and use of water efficient devices;
- Support for water sensitive urban design;
- Levels of water loss within a distribution system which can be driven by customer meter inaccuracy (meters reading slow), leakage, breaks and overflows, unmetered external use (eg firefighting) and water authority unmetered usage (eg flushing of mains);
- Water reuse/recycling (use of treated wastewater effluent as part of an industrial process).

To achieve the best overall demand management results, water utilities need to have flexibility to balance each of these elements to achieve the best overall community benefit. For this reason, individual component targets (eg for leakage) are not favoured. This is particularly the case where debate on appropriate measurement still exists and where there is uncertainty on the community benefits and costs of setting a target.

The water industry has recognised the need to improve the measuring/assessment framework for each of the individual components. In the area of system leakage estimation, the Water Services Association of Australia (WSAA) has moved to adopt the International Water Association (IWA) work in this area including definitions and use of specified water loss software as an industry standard.

Since release of this information, Hunter Water has undertaken a complete and rigorous review of its water system management and our current best estimate of system loss (using the newly specified IWA software) is around 8% which is a substantial reduction on previously estimated values. Overseas experience indicates that efforts to minimise water loss to a level of less than 10% to 15% of system input may not be cost effective.

Notwithstanding this, the Corporation has put in place, for the next 12 months, a range of initiatives so that the Corporation can gain an understanding, on a site-specific basis, of a true economic level of leakage. That is, a point is eventually reached where the value to the community of the water that is lost is less than the value of the resources committed to reducing losses.

Given the above progress and the movement by the water industry to determine an appropriate framework for water loss, leakage reduction is just one tool in a suite of approaches to demand management. Individual components in this suite need to be able to be flexibly adjusted for the utility's specific circumstances (in terms of geography, system configuration, supply/source availability, demand growth etc).

For leakage management, Hunter Water Corporation recommends:

- ***That leakage management is best covered in the operating licence by the collection of appropriate indicators/data and for the provision of these indicators/data to IPART on an annual basis. The environmental indicators discussed in section 5 and provided in Appendix 3 include leakage indicators.***

Water recycling and reuse

As mentioned earlier, Hunter Water Corporation has an impressive record of encouraging industries to use recycled water in the form of treated effluent as a means of reducing industrial demand for potable water. The Corporation has achieved this record through the “stretch” targets set in its environmental management plan.

A key objective in Hunter Water's Environmental Management Plan is to seek productive reuse of effluent where this reuse is environmentally and economically feasible.

One of the factors often overlooked in the recycling debate is that, for some potentially recyclable materials, substantial resources must be consumed to convert the material from a by-product into a useable product or to transport it to a location where it can be re-used. The environmental costs of conversion or transport, particularly energy use and its associated greenhouse gas issues, need to be considered when developing sustainable management plans. If the costs of converting, transporting and reusing a material are too high, then reuse may not be the best environmental solution. In particular, as a community we need to be conscious of the consumption of non-renewable or polluting resources in the process of reusing another resource.

The water cycle needs to be managed in such a way that optimises overall environmental benefit. In some circumstances reuse may not be the best environmental outcome. The return of highly treated effluent to some waterways, for instance, may help to compensate for water extracted by other users. In Australia's variable climate, returning treated effluent to rivers and creeks can itself be of environmental value in increasing flows and diluting salinity.

There are a number of environmental benefits associated with effluent recycling:

- It reduces the demand on drinking water supplies.
- It reduces the need to harvest and treat river and underground water.
- Ultimately, it helps to defer the construction of dams and other infrastructure.
- It reduces the need to discharge treated effluent to waterways. For example, no effluent is discharged into Dora Creek from Dora Creek wastewater treatment plant (WWTP), as it is pumped to Eraring Power Station for industrial reuse.

In 2000/2001, around 4850 megalitres of effluent was recycled or 10% of dry weather effluent flows. This is equivalent to 24% of the volume of Chichester Dam. Of this recycled effluent, irrigators along inland creeks indirectly used approximately 1550 megalitres. Hunter Water's reuse of treated effluent compares favourably with the average of 8.8% reuse by other major water authorities.

In the Hunter, the greatest percentage of effluent recycling occurs with industry, where there is often no real need for water of drinking quality. Industrial use in 2000/2001 included 1152 megalitres at Eraring Power Station, 561 megalitres for coal washing at Edgeworth coal washery and 1162 megalitres at Rhondda Colliery for controlling a long-established underground fire. The user-pays water pricing system provides an added incentive for industry to substitute effluent for drinking water and achieve real savings.

Effluent was also used for:

- Golf course and bowling green irrigation (251 megalitres)
- Irrigated tree plantations at Branxton and Paxton (30.5 megalitres)
- Agriculture (138 megalitres)

As indicated in the *Issues Paper*, the Corporation has found that the market for recycled water in industry is heavily dependent on economic conditions and fluctuates as a result of changes in international markets (this can affect local manufacture of both export products and import competing products) and new industry establishment and closures. Demand for effluent for irrigation uses (agricultural and municipal irrigation and industry dust suppression) is also weather dependent. These conditions are beyond the control of Hunter Water Corporation and illustrate the difficulties of setting **fixed** rather than **stretch** targets. The only other option to expand water recycling is via dual reticulation to households and smaller industry. This has been examined and is extremely expensive. Household demand is also limited in its capacity to provide year-round use of recycled water. Potential household use of recycled water is mainly for garden use and this would be very limited in winter and the extended periods of wet weather which are experienced in the lower Hunter from late summer and through autumn.

Hunter Water Corporation has commenced construction of a wastewater treatment plant at Karuah. The scheme, expected to be operational in late 2002, has been designed to incorporate an effluent irrigation system that will provide irrigation for fodder crops and trees. At least 98% of effluent from the plant will be reused in this way.

Discussions are progressing between Hunter Water and Department of Education and Training regarding the conditions for the supply of effluent to the Kurri Kurri TAFE Campus. The TAFE proposes to use effluent from the new WWTP at Kurri that will be commissioned in late 2003. The tertiary treated effluent may be used for various irrigation purposes such as watering lawns and sports fields.

For recycling and reuse, Hunter Water Corporation recommends:

- ***That recycling and reuse be addressed by "stretch" targets in the Environmental Management Plan and reported on through the published environmental indicators discussed in detail in section 5.***

Promotion of water efficient appliances

The *Issues Paper* suggests that it may be appropriate to include in the operating licence a requirement for the Corporation to participate in the National Water Conservation Labelling Scheme.

The Water Services Association of Australia (WSAA) conducts the National Water Conservation Labelling Scheme on behalf of its members in order to further the community's goals of protecting the environment. Hunter Water Corporation is a full member of WSAA and, as such, it contributes financially to the cost of running the National Water Conservation Labelling Scheme through its annual WSAA membership contributions.

The scheme is designed to assist in the conservation of water by providing consumers with reliable information on the relative water efficiency of various appliances. The information is available to consumers at the point of sale via rating labels displayed on the appliances.

For a product to be labelled under the scheme, its manufacturer or distributor must have the product tested by an independent approved laboratory for both water efficiency and conformance to appropriate Australian Standards for performance.

The scheme currently covers clothes washers, dish washers, shower roses, toilet suites, taps and commercial urinals. Other water using appliances will be added to the scheme in the future. The scheme primarily targets domestic devices as domestic water consumption accounts for about 80% of all potable water use in urban Australia. Reducing domestic water consumption will assist in protecting the environment by reducing our interference with the natural water cycle.

In addition to its involvement with National Water Conservation Labelling Scheme through WSAA, Hunter Water promotes use of efficient appliances and water conservation techniques through:

- Joint sponsorship of two demonstration homes in the region (one features measures suitable for incorporation in existing homes, the other features measures suitable for new homes). The Corporation is also assisting a community group that is setting up an "ecovillage" at Shortland that will feature water saving and recycling initiatives.
- Assistance to major industries and businesses in relation to effluent reuse and water conservation opportunities. This is provided for new and existing major customers.
- Cleaner Production with the NSW EPA, the Department of State and Regional Development and a number of other local organisations which involves an holistic approach to energy, water and waste management within local businesses.
- Water conservation programs, in conjunction with the Master Builders Association and local councils, aimed at residential, industrial and commercial customers involving demonstration projects, educational material, and advisory services.
- Advertising during summer peak periods
- Displays at local events
- Provision of educational material, information and guest speakers to community and business groups and students in relation to water conservation.
- Free tap washing for pensioners.

In addition, the Corporation is actively supporting research at the University of Newcastle into Water Sensitive Urban Design. In particular, this research is focussing on the use of rainwater tanks in medium and low-density housing developments. The primary benefits of the rainwater tanks, which are used to supply toilet flushing, hot water and outdoor water, are reduced potable water consumption and reduced peak runoff (with potential savings in stormwater infrastructure).

Regarding regulating requirements to promote water efficient appliances, Hunter Water Corporation recommends:

- *There is little merit regulating participation in the National Water Conservation Labelling Scheme given the Corporation's direct involvement in funding the scheme through its membership of the Water Services Association.*

7. Customer and Consumer Rights

This section refers to “customer systems” – the administrative relationship (as distinct from delivery of core water, sewer and drainage services) between Hunter Water Corporation and its customers.

Operating Framework

Hunter Water’s services to customers are provided under the terms of an operating licence and a customer contract. The contract, which is Schedule 2 to the current licence, sets out the rights and responsibilities of customers and the Corporation. It is legally enforceable. Together, the operating licence, the contract and the Hunter Water Act 1991, are the key instruments in Hunter Water’s regulatory framework.

The role of each of these important legal instruments is as follows:

- The *Hunter Water Act, 1991* is the primary legal instrument governing the Corporation and its operations.
- The operating licence establishes the minimum operational standards for customers on a generic, system-wide basis.
- The customer contract specifies the utility’s accountabilities to individual customers (and customers’ accountabilities to the utility). For the purposes of the contract a *customer* is essentially the person with whom the utility has a financial arrangement, that is the owner of the property connected to the Corporation’s services. Customers are informed of the availability of the customer contract on every bill they receive from Hunter Water.

The rights and responsibilities that are specified above are additional to common law rights and general legal consumer rights such as those provided by the *Trade Practices Act, 1979*, the *Fair Trading Act, 1987* and the *Sale of Goods Act, 1923*.

It is important to note that the way in which Hunter Water manages its relationship with customers and the community is, however, much broader than simply meeting these regulatory requirements. In essence, the regulatory framework underpins Hunter Water’s service delivery in that it sets minimum performance standards. However, it is not the “*be all and end all*” of what the organisation does. It is simply not possible to regulate every aspect of a service provider’s interaction with its customers and the broader community. To attempt to do so would send the wrong signals, and could in fact constrain an organisation from moving forward in terms of innovative customer relationship management. An appropriate operating framework for an organisation like Hunter Water therefore needs to achieve the right balance between regulation and management practices.

Our philosophy and our aim is to provide a level of service that meets customer expectations and is comparable to other similar service providers. In this regard, there are a range of management policies, commitments and activities that are over and above what we are required to do to simply meet regulatory requirements. These processes supplement the regulatory framework to ensure that the Corporation interacts with customers and the community in ways that are in line with modern business practice and community expectations.

Customer Contract

Hunter Water supports a view that as much as possible the customer contract should be simple and easy to understand. Where at times it may be necessary for the contract to cover some points in detail to maintain legal integrity, clarification for customers should be provided via other documents (eg explanatory pamphlets, website information, etc).

In addition to outlining customers' rights, a customer contract should also outline customers' obligations (essentially the Corporation's rights). This is to ensure that there is a clear understanding by both parties to the contract of the terms and conditions under which the services are provided.

The Hunter Water's current customer contract includes the following provisions:

- Customers' rights:
 - to water, sewerage and other services, under the terms and conditions specified in the contract and the operating licence
 - to be charged for services in accordance with IPART determinations
 - to be notified of interruption to supply, where possible
 - to be compensated by the Corporation for any damage caused as a result of the Corporation entering and occupying the customer's property in the course of its operations
 - to have the supply of water and/or sewerage services to their property disconnected and reconnected on request
 - to be notified of any variations to the operating licence and/or customer contract
- Corporation's rights:
 - to install, read, test and exchange meters on the customer's property
 - to levy charges for services provided
 - to be paid within the specified timeframe by customers for services provided
 - to charge interest where payment is not made by the due date
 - to interrupt or limit supply under specified circumstances
 - to enter property under specified circumstances

It should be noted that many customer rights specified in the contract also apply to consumers including those who occupy, but do not own, property (ie tenants). From an operational perspective, the only distinctions that apply between customers and consumers are for financial purposes. Only property owners have financial obligations to the Corporation for bill paying and therefore have entitlement to bill rebates. Similarly, property owners have primary responsibility for customer obligations relating to the protection of the utility's infrastructure and service delivery (eg backflow prevention, illegal stormwater connection to sewer, trade waste permit violations, etc).

The Corporation's relationship with customers is explained in Customer Care - a booklet that is available at www.hunterwater.com.au. Customer Care is aimed at providing information to customers on a broad range of aspects of the Corporation's service delivery, including:

- an explanation of how the water and sewer systems operate
- advice on what to do in the event of an operational problem
- operational response standards
- payment options and assistance
- charges and billing information
- notification processes

- complaints handling processes
- customer redress
- internal and external appeal processes

Customer Charter

Social infrastructure (such as water and sewerage systems) is built to serve the broader community in the most cost-effective and efficient manner. It is simply not possible at acceptable cost to create infrastructure that is fault-free or that, at times, does not suffer a diminution of service due to peak congestion (eg as a community we do not build, and could not afford to build, a highway system to avoid congestion in peak holiday periods). The Corporation's operating licence service standards provide for this fact of life by requiring compliance with statistically based standards (eg "*less than 8% of properties will incur total cumulative supply interruptions greater than 5 hours*"). However, this does not necessarily recognise the individual property owners who may be part of the 8%.

To address this, in addition to the regulatory framework outlined above, the Corporation also has a **customer charter** which sets out commitments to individual customers in terms of our response to operational matters, including the payment of rebates where specified standards are not met. While the charter currently sits outside the regulatory framework, it is nonetheless a very important part of Hunter Water's operating framework. It is also incorporated in the annual operational audit.

Hunter Water introduced the customer charter in 1995 to complement the operating licence/customer contract framework. A copy of the charter is at Appendix 2. The charter represents Hunter Water's commitment to individual customers whose properties are affected by service interruptions, as distinct from the global service standards contained in the operating licence.

The charter has two main components. Firstly, it sets out Hunter Water's:

- service delivery objectives to individual customers,
- intentions regarding the reinstatement of interrupted services, and
- actions that may be taken if services are not reinstated within established timeframes.

Secondly, it provides for rebates to be paid to individual customers where specified standards of service are not met. These standards relate to water supply interruptions, low water pressure and sewer system overflows (surcharges). The rebates are an acknowledgment that customers may have been impacted or inconvenienced by our failure to meet the specified standards. Rebates are based on specified cumulative "events" over a 12-month period, are paid **automatically** when such events have been confirmed. There is **no** onus on the customer to apply to the Corporation for the rebate.

Since the introduction of the charter, the philosophy behind the rebates has been to focus attention on system performance at individual properties, such that actions are taken to avoid reaching the point where a rebate is payable. In line with this philosophy, there is a range of recording and system investigation and remediation processes underpinning the charter to minimise the risk of problems recurring. This ensures that Hunter Water attends to service problems in a timely manner, and just as importantly, that expenditure is particularly directed towards problems that are causing individual customers inconvenience.

Examples of expenditure over and above rebate payments include:

- closed circuit television inspection of sewers and jet cleaning and chemical root treatment of sewer lines where tree root blockages have occurred;
- Replacement of damaged sewer shafts (*which are assets owned by the customer*) where blockages may be occurring;
- Investigation and implementation of site-specific solutions for operational issues, eg in-line boosters to improve water pressure, construction of additional water mains to improve supply security.
- Cleaning and disinfection of properties affected by sewer overflows.
- Provision of bottled water, tankers and portable toilets to affected properties, wherever possible.

It is important that the payment of rebates is not considered in isolation, but rather is examined in the context of the overall picture, as shown in the following table:

<i>Year</i>	Total Rebates Paid	Total expenditure on Rectification Work (over and above normal maintenance activities)
1995/96	\$ 6,523	\$800,000
1996/97	\$117,607	\$615,000
1997/98	\$ 40,753	\$1,500,000
1998/99	\$ 6,291	\$1,700,000
1999/00	\$ 39,279	\$1,300,000
2000/01	\$ 18,111	\$1,300,000

Under the current system rebates are paid if, over the course of a financial year, as a result of a failure of Hunter Water's system a customer's property experiences one of the following:

- **Water Discontinuity:** total confirmed water supply interruptions exceeding 24 hours. The rebate payable is equivalent to the standard annual water service charge (currently \$25.80).
- **Water Pressure:** confirmed low water pressure (defined as less than 12 metres head at the water meter) on more than five separate occasions. The rebate is currently \$50.
- **Sewer Overflows:** more than three sewer overflows (surcharges) on the property. The rebate is equivalent to the standard annual sewer service charge (currently \$216.09).

Merging the Customer Charter and the Customer Contract

As outlined above, while it is incorporated in the annual operational audit, the charter is currently not part of the Corporation's regulatory framework. Notwithstanding the charter is a voluntary commitment (as distinct from a regulatory requirement), Hunter Water sees it as a fundamental component of our service delivery. The Corporation **proposes that the rebate provisions of the charter be incorporated in the next customer contract.** In this way the provisions will have the legal status afforded by the contract and operating licence.

Customer rebates

In terms of future directions for rebates, it is worth noting there are many variations worldwide in how utilities approach rebate policies. In the Corporation's view it is important that the process is not simply seen as compensation for ongoing problems, but rather as an incentive for the utility to fix the problem and hence minimise rebate payments. In Hunter Water's view, small single event rebates tend to be regarded as compensation only and may not trigger appropriate rectification of ongoing problems. **Higher rebates linked to cumulative events affecting individuals tend to focus utilities on rectification of recurring problems.** This is necessary because the system performance standards discussed in section 4 of this submission only govern overall system performance. It is possible to achieve very high overall system performance yet have a small number of problems affect some customers more than once.

It is the Corporation's view, as well as a generally held customer view, that rebates are not the highest priority. Rather they want to see the problem rectified. For these reasons, Hunter Water is strongly of the view that the current cumulative framework for rebates should remain in place. This will maintain the current processes to ensure investigation and remediation of individual system problems, and provide the incentive to improve the performance at individual properties before they reach the rebate stage. In particular, **this approach is aimed at avoiding as much as possible repeat events at individual properties.** It is worth noting that over the years since the charter was introduced, this approach has been successful as evidenced by a significant decline in repeat events at individual properties.

Regarding customer charter rebates, Hunter Water Corporation recommends:

- *That the current cumulative approach to rebates remain in place*
- *The present charter rebate provisions be included in the customer contract with the following changes*
 - *Eligibility period - The timeframe for eligibility for all rebates be changed from a financial year basis to a rolling 12 months.*
 - *Water Discontinuity - Customers who experience more than five unplanned water supply interruptions each in excess of half-hour duration be entitled to the discontinuity rebate. This supplements the rebate for the cumulative interruption, and recognises those instances where a property may be impacted on a number of occasions, but where the total number of hours does not meet the 24-hour criteria.*
 - *Low Water Pressure - The current rebate requirement of less than 12 metres head be raised such that any customer who experiences confirmed low water pressure of less than 15 metres head as measured at the water meter on more than five separate occasions will be entitled to a rebate.*
 - *Sewer Overflows (Surcharges) - The rebate be payable to any customer whose property is impacted by more than two overflow incidents as a result of failures in the Corporation's system. This tightens the eligibility criteria from more than three events, to more than two.*

Additional Obligations

In addition to the above, there are a range of additional service delivery activities undertaken by Hunter Water in our daily interaction with customers and the broader community. These include:

- complaints and disputes
- debt and disconnection
- community consultation, and
- standards of customer service.

Each of these elements, as well as a number of improvements that Hunter Water believes appropriate to include in the new customer contract, are discussed below.

Complaints Handling and Dispute Resolution

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

The current complaints handling system has been 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 available should the customer not be satisfied with Hunter Water's response. The process is outlined to customers in "customer care" on the website, www.hunterwater.com.au. As indicated previously, consumers (eg tenants) are treated in the same way as customers in everything other than financial transactions, and existing policies do not differentiate between a *customer* and a *consumer*.

For the new customer contract, Hunter Water proposes the inclusion of the following commitments to customers:

- to have in place complaint handling procedures
- to have in place a system for recording and tracking customer complaints
- to publish information for customers on their rights in regard to redress
- to publish details of internal and external appeal mechanisms
- to provide information on the website advising customers how they can make a complaint to the Corporation, and how they can expect it to be handled
- to participate in an established external dispute resolution mechanism.

The majority of these commitments are currently in place. The Corporation intends joining the Electricity and Water Ombudsman of NSW (EWON) on 1 July 2002. EWON has accepted the Corporation's proposal, and arrangements are currently in train for this to occur concurrent with the new operating licence and customer contract.

Regarding complaints handling and dispute resolution Hunter Water Corporation recommends:

- ***The current provisions outlined above be incorporated in the customer contract, thereby according these provisions legal status.***

Debt and Disconnection

From a whole-of-community perspective, it is important that customers be obliged to pay their accounts on time as this reduces the Corporation's costs and flows on to prices. For this reason, the Corporation 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, in using those rights, the Corporation is mindful that some customers experience genuine hardship from time to time. For this reason, Hunter Water has well-established policies and procedures that ensure customers have 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. Before a customer reaches the point that restriction or disconnection is being 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 (such as restriction or disconnection). These steps are:

- Initial 21-day payment period
- For customers with a good payment record, a reminder letter is sent allowing a further 7 days for payment
- A letter is sent advising that recovery action will be initiated unless payment is made within 7 days
- 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
- Where the notice of impending restriction or disconnection remains unpaid or no arrangements to pay have been made, the water supply will be restricted. In some extreme cases the water supply may be disconnected
- Properties to be restricted or disconnected are issued a further notice to the property advising of the impending action
- At all stages throughout this process, customers in financial difficulty are encouraged to contact the Corporation to negotiate a suitable payment plan. Obtaining a payment arrangement and adhering to its conditions will prevent any recovery action occurring.

In line with Hunter Water's view that the customer contract should clearly outline the rights and obligations of both parties (*that is the Corporation and the customer*), it is proposed that the new Contract outline the Corporation's approach to debt and disconnection.

Regarding debt and disconnection procedures, Hunter Water Corporation recommends:

- ***That the new contract outlines the Corporation's approach to debt and disconnection.***

Additional Customers' Obligations

In addition to the above rights and obligations relating to debt and disconnection, it is also in the broader community interest that customers' obligations include the following:

- ensuring access to meters and other facilities, such as sewer manholes (on private property)
- ensuring they comply with any restrictions or limitations that the organisation may impose from time to time on the use of water (for example during a period of shortage caused by drought or water quality problem)

- ensuring they do not make illegal connections to the water and/or sewerage systems
- ensuring they do not interfere or tamper with water meters
- ensuring their actions do not lead to an adverse impact on the Corporation's infrastructure and service delivery (eg failure to install the appropriate backflow prevention devices, connection of stormwater into the sewerage system, trade waste non-compliance, and so on).

Failure to provide for obligations such as those outlined above could impact on the Corporation's service delivery from a whole-of-community perspective, and this in turn could have flow-on impacts in terms of system performance and increased costs to the Corporation (*and ultimately all customers*).

Regarding customer obligations, Hunter Water Corporation recommends:

- ***That the customer contract should clearly define customer obligations, such that the basic rights of the Corporation to protect its infrastructure and system performance are maintained.***

Community Consultation

Hunter Water has well-established processes in place to consult with the community. Some of these are outlined in the current operating licence, which requires the Corporation to consult with its customers at regular intervals and to conduct and publish customer surveys. In addition, the annual operational audit reports on Hunter Water's compliance against the objectives of its Environmental Management Plan (EMP). One of the primary objectives of the EMP relates to community consultation and information.

The range of activities that Hunter Water utilises to consult and interact with its community include:

- *Consultative Forum* – Representatives of a broad range of key community, environmental, business and local government organisations meet quarterly with Hunter Water senior management to discuss and raise issues related to Hunter Water services. Formal agendas and papers are made publicly available, and meetings are open to members of the media.
- *Open Board meetings* – Each month an open session of the Board of Director's meeting is conducted. Agendas are advertised in the major local newspaper, and the meetings are open to members of the media and the community. The business papers for each session are available from Hunter Water or public libraries.
- *Community Events*: - Hunter Water participates in annual events in a range of locations and for a variety of audiences across the lower Hunter.
- *Sponsorship program*: - Hunter Water sponsors organisations and community projects that contribute to improvement of the environment or greater environmental awareness.
- *Talks, Tours and Publications*: - Hunter Water provides tours of its facilities and speakers on a range of topics primarily relating to customers and environmental matters. A range of publications are also produced, aimed at informing the community of Hunter Water's operations, as well as raising awareness of key issues.
- *Website*: - Hunter Water's website is designed to inform the community on key aspects of the Corporation's operations. Our interactions with customer and the environment (eg performance against operating licence requirements, beach water results, customer information).

- *Customer Research:* - Hunter Water undertakes a major customer perception survey with residential and non-residential customers to identify trends in customer's views of the Corporation and its services. We are also in the process of developing a satisfaction survey to be conducted on an ongoing basis with customers who have a service "contact" with Hunter Water.
- *Community Consultation for Capital Works:* - An important component in the delivery of any successful capital works project is effective consultation with all stakeholders. For all capital works projects, which involve any level of consultation, Hunter Water incorporates an internal consultation plan. The plan aims to identify all stakeholders whom may have an interest in the project, what issues are likely to be of interest to each stakeholder group, and an indication of when each group will be consulted. Hunter Water is further developing consultation guidelines to provide detailed assistance to project managers overseeing capital works projects.

While the Corporation is committed to an ongoing program of community consultation, it supports the view that the current regulatory requirements could be strengthened.

Regarding community consultation, Hunter Water Corporation recommends:

- ***That the new customer contract formalise the requirements for the Corporation to:***
 - *maintain and actively support a Consultative Forum comprising representatives from relevant community and customer interest groups*
 - *conduct Consultative Forum meetings at least four times each year*
 - *Provide formal agendas and meeting papers for each Forum meeting, and make those papers publicly available*
 - *Publish a list of Consultative Forum members and contact phone numbers on the Corporation's website (subject to agreement of individual Forum members)*
 - *Report quarterly to the Consultative Forum on the performance of the water and sewerage systems against operating licence requirements*
 - *Report quarterly to the Consultative Forum on the performance of the wastewater treatment plants against EPA Licence requirements.*
 - *Report to the Consultative Forum the results of the annual Operational Audit of the Corporation's performance against operating licence standards.*
 - *Report to the Consultative Forum annually on the results of customer research programs*
 - *Provide a summary report annually in accounts to customers on the Corporation's performance over the previous year.*
 - *Publish an Annual Environmental Report on the Corporation's overall environmental performance.*
 - *Publish the results of beach water quality and Williams River monitoring on the Corporation's website.*

Customer System Service Standards and Indicators

Worldwide organisations have different approaches to measuring the standards of service delivered to customers. In any discussion of appropriate customer service standards and/or indicators, it is important to ensure that measures adopted are meaningful and important to customers, and that they do not impose unnecessary cost burdens on the organisation. The latter is particularly an issue with relatively small organisations, such as Hunter Water, that may not have the same economies of scale benefits as larger organisations.

Hunter Water's research indicates that some customer contact elements of service delivery, such as telephone and correspondence response times, tend to have a low priority in comparison to actual water and sewer service elements, and relative to having the actual problems (in terms of the water and sewer service) resolved. Telephone and correspondence response times, in isolation, are not always an indicator of high levels of customer service, and can even in some cases serve to divert organisational focus away from the provision of high quality core services. For example tight telephone response levels can mean that call centre operators are focussed on getting to the next call, perhaps to the detriment of the current caller. It is arguable therefore that setting such indicators in a regulatory framework provides dubious benefit for customers and may create incentives that detract from basic service provision.

The relative size of Hunter Water's call centre must be considered in any discussion of telephone response indicators as it can result in very different operational outcomes when compared with the medium to large call centres that exist in other organisations. With a total of eight operators, the Corporation's call centre manages a span of hours from 7 am to 6 pm. Short unexpected peaks in workload during the day in small call centres tend to have a much greater impact on service indicators than would be the case in a medium to large call centre.

As with any other regulatory requirement, there is a need for the community benefit of any customer system standards to be clearly demonstrated. The social benefits and costs (in terms of ultimate charges to customers) must be carefully weighed up against the level of gain to society.

It is also important to carefully examine what is important to customers through feedback processes (both formal and informal). In Hunter Water's case these include mechanisms such as the Consultative Forum, customer survey findings, complaint trends and discussions with customers, as well as media reports.

The Corporation is a monopoly provider of water and sewerage services in the Hunter region. However this is not to say that the way we interact with customers and the community (eg bills, telephone and written contact, participation in community events, etc) is not compared with that of other similar organisations, such as local councils, energy utilities, banks, etc, that use similar service delivery channels.

The Corporation is of the view that it interacts with customers and the community in ways that are in line with modern business practice and community expectations, and are appropriate to the regional circumstances within which the organisation operates.

Regarding customer system service standards and indicators, Hunter Water Corporation recommends:

- ***That IPART give careful consideration to the community benefit of any customer system service standards. The social benefits and costs (in terms of ultimate charges to customers) must be carefully weighed up against the level of gain to society.***

- *That, over the period of the next operating licence and customer contract, the Corporation, in consultation with IPART, develops appropriate customer system service indicators, with a view to introducing these indicators for the following licence/contract.*

8. Licence Periods and Review

Licence period

The current operating licence prescribes a term of three years with a provision for the Minister to extend the term for a further two years. The prerequisite conditions for extension are review by a working party that must report to the Minister and approval of the extension by the Premier.

The three-year term is essentially a remnant from the initial operating licence issued in 1991. Hunter Water Corporation was the first water corporation and, in 1991, there were no precedents on which to model an appropriate operating licence. The then Government opted for a three-year licence period to provide a reasonable trial period for the licence.

A number of considerations suggest that short licence periods may be inappropriate. These include:

- The initial operating licence has been reviewed and renewed with modifications in 1995
- There is a 10-year history of performance against the licence verified by the audit.
- Operating licences have been developed for Sydney Water Corporation (SWC) and Sydney Catchment Authority (SCA) with wide stakeholder and public input and providing a broader template for the coverage of licences
- Complementary regulation now exists through NSW Health, IPART price determinations, DLWC and EPA, which have evolved to provide a wide regulatory framework spread across a number government portfolios
- The large amount of long-lived assets involved in service delivery and considerable lead times required for infrastructure changes
- A high level of customer satisfaction with services and performance
- Five-year licence period for SWC and SCA.

The *Issues Paper* suggests that a five-year term would be appropriate to maintain consistency with SWC. Hunter Water Corporation agrees with this view and believes that this view and the other points listed above provide a sound basis for adopting a five-year period.

For licence term, Hunter Water Corporation recommends:

- ***That the operating licence should be issued for a five-year term.***

Licence reviews

Under Hunter Water Corporation's existing Licence, an end of period review is required to report 6 months prior to the end of the extended Licence period.

The SWC Licence provides for a mid-term and end-of-term review to be carried out by a "Licence Review Body" within the 5 year Licence duration period. It is difficult to see the merit of mid term reviews when a comprehensive annual audit process exists and when, potentially, a mid term review may be completed as little as 18 months before the need to start a end of term review. Any changes to the licence from the mid-term review would only prevail for the last two years of the five-year licence period.

For HWC, assuming a five-year term, there would be advantages in having one review at the end of year 4 rather than requiring two formal reviews (ie mid term and final). It is noteworthy that licence conditions can be changed at any time at the discretion of the Governor.

Audits of Hunter Water's performance against the current operating licence have shown that its performance record is strong. Community perceptions reflected in annual customer surveys, focus groups and through feedback from the Corporation's community consultative forum also indicate that, over time, the community has gained increasingly favourable impressions of Hunter Water's performance especially in terms of overall performance, water supply performance and customer service levels. In this light, a strong case can be made for a single review at the end of year 4.

For licence reviews, Hunter Water Corporation recommends:

- ***Full public review prior to end-of-term (say, at the end of year 4) to establish obligations and conditions for next licence period.***

Future Agenda

This review of the operating licence is an opportunity to foreshadow possible future enhancements. It is also an opportunity to put in place data collection and other monitoring initiatives so that future enhancements can be based on objective assessments of their value and importance to the community.

Throughout this submission, the Corporation has highlighted how the regulatory environment is evolving and improving. Not all improvements currently being considered by agencies and regulators can be incorporated easily in regulation at any point in time. Further data and analysis is often required to specify appropriate means of regulating evolving concerns. And, not all areas of agency activity may need direct regulation. Where agencies are performing well in response to community expectations, regulation may not be necessary. In these cases, a light-handed approach may be appropriate with regulators able to introduce tighter regulation if agencies fail to live up to community expectations.

In the period leading up to the next review of the operating licence, Hunter Water Corporation will be devoting increasing attention to performance in the areas of customer interface (in areas such as billing, inquiries and complaints), asset performance, asset management planning and quality assurance systems. Whether ultimately, there is a need to strongly regulate in areas such as these will, of course, depend on the Corporation's performance in these areas. As far as Hunter Water Corporation is concerned, we are committed to continuous improvement in all our service areas and are happy to provide ongoing information to the Tribunal and to other regulators so the Corporation's performance in these, and other evolving areas of regulatory interest, can be assessed.

Referenced Documents

Halcrow Management Sciences Limited, 2001, **Review of System Performance Standards in Sydney Water Corporation's Operating Licence**, Sydney

Hunter Water Corporation, 2000, **Annual Report 1999-2000**, Newcastle

Hunter Water Corporation, 2000, **Environmental Report 1999-2000**, Newcastle

Independent Pricing and Regulatory Tribunal (NSW), 2001, **Review of Operating Licence for Hunter Water corporation: Issues Paper**, Sydney

National Health and Medical Research Council (NHMRC)/Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ), 1996, **Australian Drinking Water Guidelines**

Operating Licence under section 12 of the *Hunter Water Act, 1991*, 4 Jan 1995

Operating Licence under the *Sydney Water Act, 1994*, 12 April 2000

Sendt R., *Keeping Governments Accountable: Is there a limit?* Presentation to Trustees Meeting. Committee for Economic Development of Australia, 9 August 2000

Water Management Licence, Issued by the water Administration Ministerial Corporation, New South Wales, under part 9 of the *Water Act, 1912* on 26 December 1998

Water Services Association of Australia, 2000, **The Australian Urban Water Industry: WSAAfacts 2000**, Melbourne

National Health and Medical Research Council (NHMRC) and Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) Australian Drinking Water Guidelines.

Background

The first attempt of developing drinking water guidelines in Australia was made during the early 1970s. Prior to then, overseas publications such as those of the World Health Organisation (WHO) and the United States Environment Protection Agency (USEPA) were commonly used. In 1980 the National Health and Medical Research Council (NHMRC) produced a document “Desirable Quality for Drinking Water in Australia” and in 1987 updated this as the first set of guidelines in full partnership with the Australian water industry. This document (“Guidelines for Drinking Water Quality in Australia”) was jointly published by NHMRC and the Australian Water Resources Council (AWRC).

In 1996, NHMRC and the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) produced another updated set of guidelines “Australian Drinking Water Guidelines”.

Hunter Water Corporation is licensed by the NSW State Government Licence Regulator which has formal water quality requirements based on the 1996 Drinking water Guidelines, along with other levels of service. The Department of Health is responsible for establishing the drinking water quality requirements specified in the Licence Regulator’s license. A Memorandum of Understanding with the Department of Health sets out reporting requirements for water quality performance.

The Guidelines

The Australian Drinking Water Guidelines are intended to meet the needs of consumers and apply at the point of use. They provide the community and water supply industry with guidance on what constitutes good quality drinking water as distinct from water which is merely acceptable.

They are concerned with the safety of water from a health point of view and with its aesthetic quality. The guidelines are applicable to any water intended for drinking (except bottled or packaged water which is governed by less stringent Safe Food Regulations) irrespective of source (municipal, rainwater tanks, bores, point-of-use treatment devices etc) or where it is used (home, restaurant, camping areas, shops etc).

Guideline values have been established for a range of water constituents and provide a sound basis for assessing drinking water quality and a framework for identifying acceptable quality of water through community consultation. Both health related and aesthetic guideline values have been established.

A health related guideline value is the concentration or measure of a water quality characteristic that does not result in any significant risk to the health of the consumer *over a lifetime of consumption*.

An aesthetic guideline value is the concentration or measure of a water quality characteristic that is associated with *good quality water*.

The quality of water defined is such that it is suitable for human consumption and for all domestic purposes including personal hygiene. However, water of higher quality may be required in some special purposes such as renal dialysis or industrial processes.

The guideline values are used in two separate, but complementary, ways:

1. as an action level that, if exceeded, initiates investigation, reporting & liaison with NSW Health leading to remedial action if required, and
2. as a basis for assessing how well a water supply system meets agreed levels of service over time.

The Guidelines always incorporate significant safety factors and it is recognised that short-term deviation above the guideline values *does not* necessarily mean that the water is unsuitable for consumption. The amount by which, and the period for which, any guideline can be exceeded without raising public health concern depends on the particular substance and circumstances. This, however, does not generally apply to microbiological indicators as any exceedance may potentially indicate the presence of pathogens. Exceeding a guideline value should be a signal to investigate the cause and, if appropriate, take remedial action. If the characteristic is health related the relevant health authority should be consulted.

The guidelines should never be seen as a licence to degrade the quality of a drinking water supply to the guideline level. A continuous effort should be made to maintain drinking water quality at the highest possible level.

Customer Charter

Hunter Water is committed to its goal of providing good quality water and wastewater services as specified in our Operating Licence.

The Customer Charter has two main parts. Firstly, the Charter spells out our objectives for responding to service interruptions which affect individual properties. Secondly, where the Service Standards we have outlined in this Charter are not met over the course of a year, Hunter Water will provide a rebate of charges.

Our Objectives for Responding to Service Interruptions

If you have a standard connection to Hunter Water's water or sewerage system we aim to:

- Assess the urgency of your problem within 30 minutes of being contacted, and dispatch repair crews according to the priority assigned to the problem.
- Reinstate water or sewer services within six hours and generally clean up the area afterwards.
- When we can't fix the problem within six hours, you can request alternative water or toilet facilities and they will be provided wherever practical.
- Give you two days notice of any planned interruptions to your water supply.

Our Service Standards

Relatively few of our customers experience problems with their water or sewer services. But, as with all man-made systems, sometimes things can go wrong.

That is why we have developed the following service standards. They illustrate our endeavour to deliver the highest quality services.

Water

We will rebate¹ the Water Service Charge if, over the course of a year⁵, as a result of a failure of Hunter Water's system you experience:

1. Total confirmed interruptions to the water service exceeding 24 hours.

We will rebate² your account, if over the course of a year, you experience:

- Confirmed low water pressure events³ on more than five separate occasions.

Sewer

We will rebate¹ the Sewer Service Charge if, over the course of a year⁵, as a result of a failure of Hunter Water's system you experience:

- More than three confirmed surcharge events (overflows) on your property.

Why would we Rebate your Charges?

Why? – because we believe you have the right to a rebate when you have been unreasonably inconvenienced.

As a property owner, with a standard connection⁴ to Hunter Water's services, you will be given a rebate if the specified Service Standards we have detailed here are not maintained.

The Service Standards we have set are to protect you from unreasonable breakdowns or under-capacity problems with our water or sewer systems.

System breakdowns can interrupt your water supply or cause the sewerage system to overflow.

Under-capacity can cause low water pressure or sewerage overflows.

Hunter Water is committed to customer service. We believe that customers should receive a rebate of charges if Service Standards are not maintained over the course of a year.⁵

Explanatory Notes

- 1 The rebate is the equivalent of the standard annual Water or Sewer Service Charge for a residential property that has a 20mm water service.
2. The rebate for low pressure events is \$50.00.
3. Low water pressure is defined as less than 12m head.
4. A standard connection means any property with a direct frontage to one of Hunter Water's reticulation mains and where the water meter is located at (or near) that main. For sewer, it means any property that has a direct connection within the property to Hunter Water's sewer.
5. Events are counted for a full financial year from 1 July to 30 June.

Non-standard customers are excluded from the terms of this Charter as their connection to our service is unusual. These customers would have a separate formal agreement with Hunter Water.

Charter conditions naturally don't apply if the event was beyond Hunter Water's control, for instance due to drought, sabotage, national emergency, fire, flood, earthquake, power failure, extreme rain or industrial action.

Hunter Water Corporation Draft Environmental Indicators

The Corporation has developed a set of environmental indicators relevant to its circumstances and the existing licences issued by EPA and DLWC. They draw on information that the Corporation already collects, either voluntarily or under various regulatory arrangements. Not all are currently reported publicly but rather made available to regulatory agencies such as EPA and DLWC. Thus, the proposed set of indicators is pragmatically derived. They cover all key areas of environmental interest, similar to the areas covered by the SWC indicators and have the potential to display meaningful time series trends.

Hunter Water Corporation's draft set of environment indicators is detailed in the table below. It is proposed that the indicators would be reported annually in the Corporation's annual Environmental Report.

This set of indicators will be discussed with the Corporation's Community Consultative Forum at its September 2001 meeting and comments and input from forum members will be taken into account in finalising the indicators. The Community Consultative Forum comprises representatives from business, community, environmental, catchment management and landcare groups from the lower Hunter region.

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Water Resource Use and Catchments			
Compliance with the Operating Conditions (Section 4), Monitoring and Reporting Conditions (Section 5) and Management Plan (Section 6) of the Water Management Licence issued under the Water Act.	Annual report on compliance and any reports of non-compliance to the Department of Land and Water Conservation.	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Environmental releases from Chichester Dam.	Annual flow volume in Chichester River at Chichester Dam when dam is not spilling. To be expressed as a proportion of flow requirements specified in WML cl 4.3 for period when there is no flow over spillway.	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Extraction of water at Chichester Dam	Annual extraction volume as proportion of WML licence limit (cl 4.2) Graphical five year trend	√	This indicator reports against a regulatory requirement in the Water Management Licence.

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Extraction of water from Tomago aquifer.	Annual extraction volume as proportion of WML licence limit (cl 4.11) Maximum daily extraction level as proportion of maximum daily limit in cl 4.11 Average daily extraction level as proportion of maximum. Graphical five year trends	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Extraction of water from Anna Bay aquifer.	Annual extraction volume as proportion of WML licence limits (cl 4.16)	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Mean monthly watertable levels at Tomago.	Mean watertable levels as required by cl 4.13 compared to 1.0m reference level. Comments on strategies if below 1.0m level. Graphical five year trend.	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Mean monthly watertable levels at Anna Bay	Mean watertable levels in accordance with cl 4.16 compared to extraction rate reference levels. Comments on strategies if below 1.0m level. Graphical five year trend.	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Movement of salt water interfaces at Anna Bay.	Graphical representation of quarterly movement in salt water interface. WML cl 4.16 (f) and (g).	√	This indicator reports against a regulatory requirement in the Water Management Licence.
Extraction of water from the Williams River	Annual extraction volume.	√	

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Residential sector water use.	Measured as Kilolitres/household/annum (5 year rolling average)	√	For this indicator to be meaningful, it will need to be normalised for year to year seasonal differences. Hunter Water is currently investigating this. We have chosen KL/household/annum rather than Kilolitres per person as population figures are extremely difficult to calculate on a year to year basis. A large proportion of water consumption is used by the industrial sector. Therefore a measurement that relied on a per person consumption could vary greatly from year to year depending on some major industries moving into the area and others leaving.
Total Water Supplied	Measured as total kilolitres of water supplied to customers. (5 year rolling average)	√	
Non-revenue water (water loss)	In ML and % of source supply per year. Separate into components. <ul style="list-style-type: none"> – Supply from Sources – Metered consumption – Meter error/discrepancies – Unmetered use and identified losses – Residual (leakage) Graphical five-year trend representation.	√	Broken into its component parts as this provides a more meaningful indicator than merely reporting on total unaccounted for water.

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Wastewater			
Compliance with EPA treatment plant conditions	Flow weighted compliance as reported for Open Board	√	This is essentially a regulatory compliance indicator.
Effluent quality	Exceedances for BOD, NFR, Grease & Oil, P and N as produced for Open Board	√	This is essentially a regulatory compliance indicator.
Bathing beach water quality	Key indicators from EPA annual Beachwatch report	√	Alternatively consider some representation of new star rating. May be complex and difficult to produce trends but may be worth considering. An issue here is stormwater influences. A commentary would be required with indicator.
Recycled water	Direct and indirect reuse as currently calculated. Proportions of total ADF. Graphical five-year trend representation	√	This is an important indicator in terms of demand management.
Biosolids reuse	Annual tonnage (dry tonnes) and proportions of dewatered biosolids available for reuse <ul style="list-style-type: none"> – Recycled for agriculture or mine rehabilitation – Municipal waste minimisation (eg co-composting, vermiculture) – Disposed of to landfill – Other reuse. Graphical five-year trend representation	√	Biosolids reuse is a reasonable indicator that is easy to measure and easy to report on.

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Sewer transport system performance (wet and dry weather surcharges)	Sewer surcharges (no. and no./km main) Surcharges to private land (no. & proportion of customers affected)	√	Wet and dry weather surcharges as defined by HWC.
Trade waste incidents within the sewerage system	No. & five-year trend representation	√	This indicator was chosen as it provides a measure of the impact of trade waste rather than being an input measurement.
Odours	Treatment plant and transport system complaint nos. and trends	√	This indicator provides a measure of the impact on the community and is on output measure.
Chemical Collection	Requests for collection. <ul style="list-style-type: none"> From customers (no. & per 100,000 households) From catchment areas Tonnage of waste collected Graphical five-year trend representation and cumulative visits and tonnages.	√	Interpretive commentary may be required as declining collections may reflect long-term success of program rather than reduced commitment from HWC.
Community and Social			
Customer survey perceptions	Overall performance rating Community acceptance of water supply standard. Community support for water conservation. Community acceptance of household sewage disposal service.	√	This indicator is used to measure and report on community perceptions in relation to social, ecological and environmental issues.

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Corporate Responsibilities			
Solid waste management	Indicators included in "Waste Recycling and Purchasing Policy" Quantity of waste to landfill by HWC and contactors Proportion of office paper recycled Proportion of construction waste recycled/reused	√	This is a common ESD indicator and should be included.
Environmental training	Proportion of staff receiving refresher training in 3 year cycle. Proportion of new operations staff receiving environmental induction training.	√	Although this is an input focussed indicator it may be worthwhile including as it demonstrates a commitment to improving environmental management within the Corporation.
Compliance with noise requirement under POEO Act	No of breaches of POEO Act	√	This is a common ESD indicator and is relatively easy to measure and report on.
Energy consumption in buildings	Total KWH (10 year trend)	√	This indicator is easy to measure and report on.
Energy efficiency of water and sewer services • water cycle • wastewater cycle	KWH per ML water and per ML sewage. 10 year trend.	√	This indicator is currently reported on to WSAA.
Greenpower co-generation (Hydro-power etc)	KWH generated by HWC		This indicator will help to demonstrate how the Corporation is offsetting some of its energy consumption.
Generation of Greenhouse Gases	Key Greenhouse gases to be measured in tonnes per annum due to electricity consumption.		

Hunter Water Corporation's Environmental/ESD Indicators			
Environmental Indicator	Measurement	Currently Collected	Comments
Costs	Real operating cost per property, per ML of water delivered and per head of population.	√	This is an economic indicator and this or some other related indicator should be included.