

Hunter Water Corporation

Operational Audit 2003/2004



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

Hunter Water Corporation

Operational Audit 2003/2004

Compliance No 15

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INDEPENDENT PRICING AND REGULATORY TRIBUNAL

OF NEW SOUTH WALES
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26 November 2004

The Hon. Frank Sartor MP
Minister for Energy and Utilities
Level 31
Governor Macquarie Tower
1 Farrer Place
SYDNEY NSW 2000

Dear Minister

Hunter Water Corporation 2003/2004 Operating Licence Compliance Audit

I am pleased to present you with the independent Operational Audit Report for Hunter Water Corporation for the period from 1 July 2003 to 30 June 2004.

In assessing overall compliance the Auditor found that:

"In 2003/04 Hunter Water completed its second year of operation under the revised Operating Licence. During this period, Hunter Water has demonstrated its desire to perform well against the Operating Licence and this is reflected in the generally high to full compliance Hunter Water achieved against the audit clauses."

Whilst, generally Hunter Water's performance has been sound, the overall result has been tempered somewhat by the fact that the Corporation failed to comply with the Licence standard for water continuity over 2003/04. This issue is discussed in more detail below.

Water continuity standard

Hunter Water's Operating Licence specifies basic standards of service with respect to water continuity, water pressure and sewer overflows. For water continuity, Hunter Water is required to ensure that no more than 14,000 properties in any financial year are impacted by water supply interruptions with a cumulative duration of more than five hours.

The Auditors have confirmed that over 2003/04 Hunter Water failed to comply with this standard with 15,248 properties experiencing water interruptions with a duration exceeding five hours. This follows on from 2002/03 where Hunter Water came close to exceeding the Licence standard with 13,966 properties being affected.

Hunter Water argue that these two results are not directly related as water continuity performance in 2002/03 was impacted upon by a larger than expected number of planned interruptions (necessitated by the need to connect new dwellings to the water supply

system), whilst the current non-compliance is largely the result of an unplanned trunk main failure in November 2003, which affected around 5,500 properties.

Over 2003/04, Hunter Water introduced a range of initiatives to improve underlying performance in terms of planned interruptions. Hunter Water has also responded proactively to the current Licence breach, proposing additional expenditure to improve the reliability of its trunk main assets and reduce unplanned interruptions.

The Tribunal notes that the Corporation's water supply network is long and linear in nature, with long trunk mains supplying water from relatively densely populated areas such as Newcastle to outlying areas such as Lake Macquarie, Cessnock and Port Stephens. The nature of the system means that Hunter Water is vulnerable to occasional large scale trunk main breaks, such as the event which occurred in November 2003.

In recommending the current standard for water continuity, the Tribunal considered this issue, as well as Hunter Water's historical water continuity performance. The current standard while challenging, incorporates allowances for these factors, along with population growth and should be readily achievable by Hunter Water in the majority of years. The Tribunal notes comments by Hunter Water that the challenging nature of the standard has driven improvement and technical innovation. This was reflected in Hunter Water's report to you on water continuity in March of this year.

As such, Hunter Water needs to improve its performance against the continuity standard over the remainder of the Licence term and IPART will closely monitor Hunter Water's efforts in this regard.

Whilst it is open to both the Tribunal and yourself to recommend the imposition of monetary fines and other penalties as a result of Hunter Water's failure to meet the water continuity standard, the Tribunal believes that this action is not yet warranted. This is because:

- The breach appears to be "one-off" in nature (Hunter Water having complied with the continuity standard over the past 8 years).
- The breach was the result of a large and unexpected trunk main break (affecting around 5,500 properties) which occurred in the middle of the night with the result that there was minimal customer inconvenience.
- HWC promptly brought this incident to the attention of yourself and IPART.

The Tribunal recommends that instead of imposing penalties under the Act, you adopt as Ministerial Requirements a number of the Auditor's recommendations arising from the 2003/04 Operational Audit. These recommendations are aimed at improving performance against the water continuity standard by requiring Hunter Water to:

- Continue to review its maintenance/operational practices to identify additional procedural and or technological improvements to enable it to better meet its water supply continuity Licence requirement (per Audit recommendation 7.1).
- Continue to utilise and trial the maintenance/operational practices identified during reviews undertaken over the 2003/04 year to reduce the extent and duration of planned

water interruptions required to connect new developments to Hunter Water's system (per Audit recommendation 7.2).

- Continue to undertake condition assessments for its trunk mains to better identify trunk mains at risk of failure and respond with proactive maintenance (per Audit recommendation 7.3).
- Review its systems/procedures/practices/contingency plans to allow Hunter Water to respond more quickly to:
 - Locate failures/bursts, particularly for its trunk mains;
 - Minimise the number of customers affected by any failure by shutting down the trunk main and/or supplying customers from other sources;
 - Repair the failure; and
 - Return the trunk main to service, resupplying customers affected (per Audit recommendation 7.4).
- Consider as part of any review of response procedures the installation of additional pressure/flow monitoring devices linked to Hunter Water's existing telemetry system, to enable the location of future trunkmain failures to be more accurately pinpointed (per Audit recommendation 7.4).

The Tribunal strongly supports the recommendations detailed above. I believe that in the present instance they are preferable to the imposition of monetary penalties given they are aimed at rectifying the underlying problem and improving the long term reliability of supply to customers. IPART will closely monitor these actions and will report to you on progress as part of 2004/05 Operational Audit.

Water Quality

While Hunter Water performed strongly against the water quality obligations contained in the Licence, the Auditor has suggested one recommendation to improve the security of the drinking water supply system:

- That Hunter Water undertakes a further review of the "lessons learned" from its "desktop" exercise for security measures as per NSW Health recommendations, followed by the documentation of any amendments to policies, procedures and training needed as a result (per Audit recommendation 6.1).

The Tribunal supports this recommendation.

Payment Assistance Scheme

In 2003, Hunter Water introduced the Payment Assistance Scheme (PAS) which allows customers facing financial hardship to access PAS vouchers for the partial or full payment of residential bills.

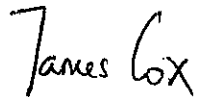
The Auditor has noted that in 2003/04 there was an increase in customers taking up various payment instalment options offered by Hunter Water, yet at the same time a low rate of usage of the PAS was reported. Hunter Water attribute this to the fact that this is the first year the scheme has been in operation.

The Auditor has recommended that Hunter Water further promote the PAS to its customers over the coming year (per Audit recommendation 5.2).

The Tribunal endorses this recommendation.

Should you have any queries about the matters raised, please do not hesitate to contact me by telephone on (02) 9290 8411.

Yours sincerely

A handwritten signature in black ink that reads "James Cox". The signature is written in a cursive style with a large, stylized 'J' and 'C'.

James Cox
Acting Chairman

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Glossary/Definitions

General terms and definitions

Term	Meaning
Act	<i>Hunter Water Act, 1991.</i>
Audit Period	1 July 2003 to 30 June 2004.
Auditor	CH2MHILL Australia Pty. Ltd.
Bulk Water	Carrying the same meaning as that within the Operating Licence being water that is in a Water Storage
Commencement Date of Operating Licence	1 July 2002.
End of Term Review	A review of the Operating Licence to be undertaken on or about 1 January 2006.
Environmental Flow	A release of water from storage so as to provide a flow of water in a river or other natural waterway that mimics natural seasonal flows and aims to restore or maintain the ecology of the waterways concerned.
Function	Means a power, authority or duty.
Minister	The Minister responsible for administering the provisions of the <i>Hunter Water Act, 1991</i> , presently the Minister for Energy and Utilities.
Operating Licence	The licence under which Hunter Water operates between 1 July 2003 and 30 June 2004
Water Management Licence	A Water Management Licence granted under the <i>Water Act 1912</i> or the <i>Water Management Act, 2000</i> .

Compliance Ratings

The following compliance ratings are used to grade compliance achievement for this audit

Grading of Compliance	Meaning
Full compliance	All requirements of the condition have been met.
High compliance	Most requirements of the condition have been met with some minor technical failures or breaches.
Partial compliance	The major requirements of the condition have been met.
Low compliance	Key requirements of the condition have not been met but minor achievements regarding compliance have been demonstrated.
Non compliance	The requirements of the condition have not been met.
Insufficient Information	Relevant, suitable or adequate information to make an objective determination regarding compliance was not available to the auditor.
No requirement (N/R)	The requirement to comply with this condition does not occur within the audit period or there is no requirement for Hunter Water to meet the requirement, such as a definition or a requirement placed upon another agency.

Abbreviations

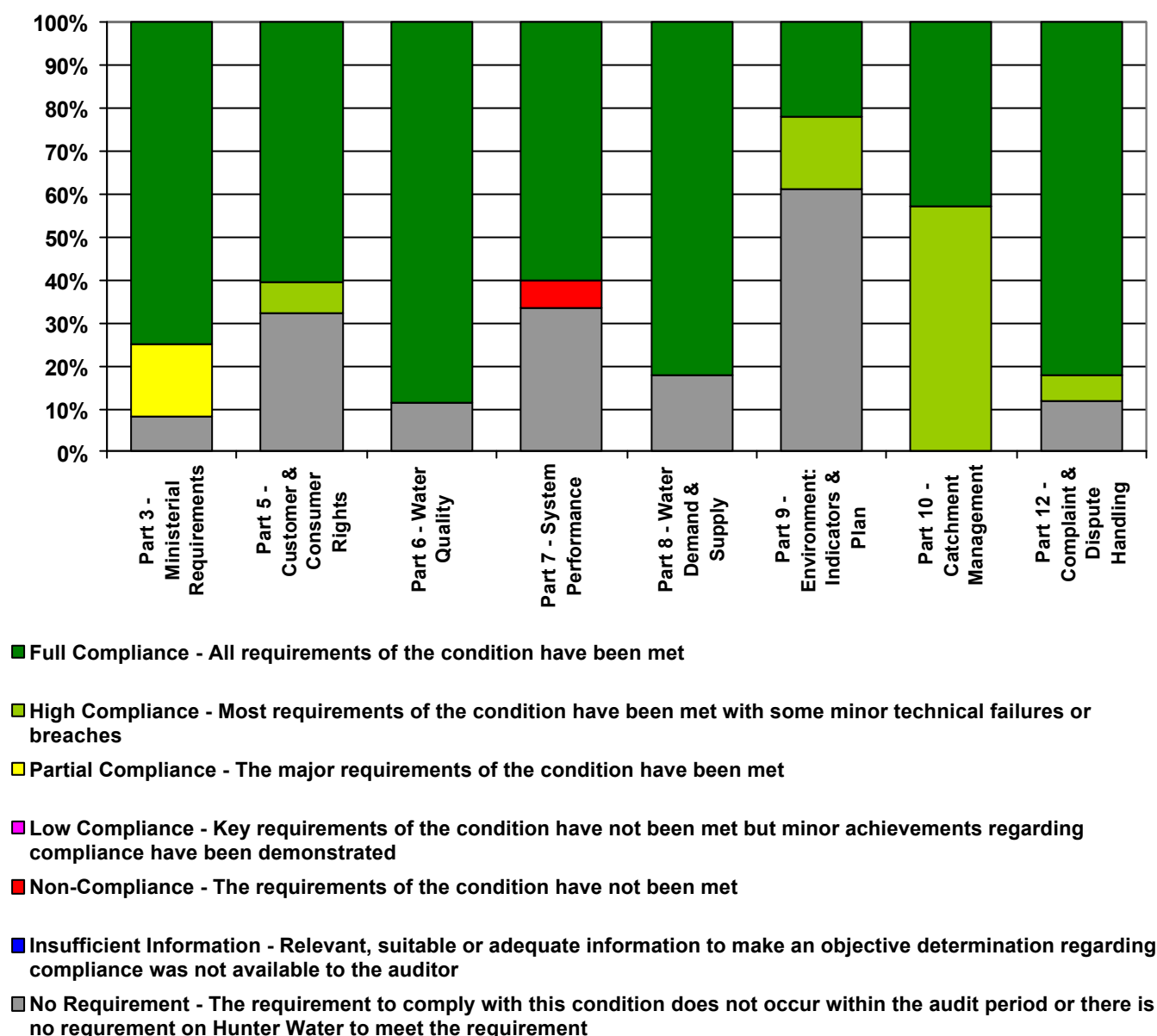
Acronym	Description
Act	Hunter Water Act 1991
AOMS	Asset and Operations Management System
AS	Australian Standard
CA	Catchment Area
CEO	Chief Executive Officer
CIS	Customer Information System
CMS	Complaints Management System
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEC	Department of Environment and Conservation (now incorporating the functions of the former EPA and former National Parks and Wildlife Service)
DIPNR	Department of Infrastructure, Planning and Natural Resources (NSW) (now incorporating the functions of the former DUAP and DLWC)
DLWC	Former Department of Land and Water Conservation (NSW)
DoH	Department of Health (NSW)
DUAP	Former Department of Urban Affairs and Planning (NSW) and Planning NSW, now DIPNR
DEUS	Department of Energy, Utilities and Sustainability
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EP	Environment Plan
EPA	Former Environment Protection Authority (NSW), now part of DEC
ESD	Ecologically Sustainable Development
EWON	Energy & Water Ombudsman NSW
GIS	Geographical Information System (computer mapping)
HRC	Healthy Rivers Commission
Hunter Water	Hunter Water Corporation
HWA	Hunter Water Australia (a fully owned subsidiary of Hunter Water Corporation)
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISF	Institute for Sustainable Futures
MIS	Methyl Iso Borneol (a taste and odour component)
ML	Megalitre (1 million litres)

Acronym	Description
MOU	Memorandum of Understanding
NATA	National Analytical Testing Authority
NCC	Nature Conservation Council (NSW)
NHMRC	National Health and Medical Research Council
NHT	Natural Heritage Trust
NPWS	Former National Parks and Wildlife Service (NSW), now part of DEC
PAC	Powdered Activated Carbon
PAS	Payment Assistance Scheme
REP	Regional Environmental Plan
SCADA	Supervisory Control And Data Acquisition (instrumentation)
SEDA	Sustainable Energy Development Authority (NSW)
SEPP	State Environmental Planning Policy
SLC	Strategic Liaison Committee
WAMC	Water Administration Ministerial Corporation
WML	Water Management Licence (under the Water Act 1912)

Executive Summary

Hunter Water Corporation (Hunter Water) has undertaken its activities in those areas covered by the Operating Licence to achieve predominantly full or high compliance with the requirements of the Operating Licence in the 2003/04 audit period (1 July 2003 to 30 June 2004). **Figure 1** provides a graphical summary¹ of Hunter Water's performance against the Operating Licence for the 2003/04 period.

Figure 1 Overview of Compliance for 2003/04 Audit Period.



¹ Figure is indicative only.

System Performance

Hunter Water has achieved full compliance with all of its Operating Licence requirements during 2003/04, with the exception of its requirement (per clause 7.3.1) that requires Hunter Water to ensure that no more than 14,000 properties in a financial year experience one or more water interruptions (whether a Planned water interruption or an Unplanned water interruption) which taken together have a cumulative duration exceeding 5 hours.

Hunter Water's non compliance with this Licence requirement was largely due to a "one-off" trunk main failure that affected more than 5,500 properties. For the 2003/04 Financial Year, 15,248 properties experienced one or more water interruptions with a duration in excess of 5 hours. This is discussed more fully later in Section 7 of this report together with a number of recommendations that are aimed at improving Hunter water's ability to better meet this Licence requirement in the future.

Hunter Water achieved full compliance with the Ministerial Requirements, resulting from the recommendations of the 2002/03 Audit.

Environment - Indicators and Plan

Hunter Water achieved full compliance with requirements relating the content of its Environmental Management Plan (EMP) and its availability, and high compliance with the requirement for the EMP to be recognised in its business plans. It should be noted that although the EMP could be better recognised in its business plans, Hunter Water is devoting resources to the implementation of the EMP.

Hunter Water achieved full compliance with requirements relating to monitoring and compiling data regarding its performance against the environmental and ESD indicators. Hunter Water achieved high compliance with requirements relating to reporting this performance as reporting of trends in performance against the indicators could have been more rigorous.

Hunter Water achieved high compliance with the requirement to participate in the Energy Smart Business Program, or similar program administered by the Sustainable Energy Development Authority (SEDA). The auditor's assessment of high compliance was because Hunter Water's MOU with SEDA lapsed during the audit period and a new MOU is currently being negotiated. Hunter Water achieved full compliance with the requirement to report on its energy management actions and activities.

Catchment Management

Hunter Water achieved full compliance in reporting its catchment management activities in the Catchment Report. Hunter Water achieved full compliance with reporting of five year water quality trends in the Williams River.

Hunter Water achieved high compliance with: the monitoring of bulk water quality, activities conducted by Hunter Water under the Hunter Water Corporation Limited (Special Areas) Regulation 2003, Williams River Catchment Regional Environment Plan, Regional Planning Strategy and Seaham Weir Operations Plan; performance against the Water Management Licence and the Dam Safety Act; and other catchment, landcare or other supporting activities conducted by or on behalf of Hunter Water.

Hunter Water achieved high compliance in the implementation of recommendations made from the 2002/03 audit with respect to the Catchment Report achieving full compliance with reporting on chlorophyll-a trends and long term and five year trends of water quality and high compliance with reporting on groundwater quantity, quality and dependant ecosystems.

Hunter Water achieved full compliance with respect to public display and accessibility of the Catchment Report.

Hunter Water has substantially met the requirements of the Operating Licence in the 2003/04 audit year for Catchment Management. However, some key recommendations have been made to facilitate demonstrating an even greater level of compliance with the Operating Licence in future years. Secondary recommendations have also been made for consideration as part of Hunter Water's continuous performance improvement.

Customer and Consumer Rights

Hunter Water has achieved full or high compliance with the requirements of the Operating Licence in relation to customer and consumer rights for 2003/04 and has addressed the Ministerial directives of 2001/02 (which were also relevant for subsequent audits).

This was the first year of operation of the new Customer Contract. While there are no figures to assess the impact of the Contract as a whole, rebate figures show that the number and value of rebates has increased as a direct result of a tightening of the conditions under which rebates apply, thus providing a direct measure of the frequency of such events.

Overall Hunter Water has maintained the high standard of customer service, as has been found in previous years. Some minor improvements, to help build upon the existing quality of customer service delivered, have been suggested and are outlined in Section 5 of this report.

Complaints and Dispute Handling

Hunter Water has achieved full compliance or high compliance in relation to all clauses of the Operating Licence associated with complaint and dispute handling. Several steps have been taken during the year as part of Hunter Water's commitment to continuous improvement of their complaint and dispute handling procedures. Improvements in the quality of these procedures have been made and plans for the future will also improve the rate at which complaints are resolved.

The external dispute resolution scheme managed by EWON (Energy and Water Ombudsman NSW) continues to service Hunter Water in a manner which complies with the Licence. The majority of complaints received by EWON have been satisfactorily resolved.

Water Demand and Supply

Hunter Water has achieved full compliance with all of its Operating Licence requirements during 2003/04.

Hunter Water has also achieved full compliance with the Ministerial Requirements, resulting from the recommendations of the 2002/03 Audit.

Ministerial Requirements

Hunter Water's compliance with the Ministerial Requirements, resulting from the recommendations of the 2002/03 Audit, have been addressed in the corresponding sections of the report related to that particular issue, namely Sections 6, 7 and 8. Overall, Hunter Water's compliance with the Ministerial Requirements resulting from the 2002/03 Audit is high.

Strategic Assessment of Key Issues

In 2003/04 Hunter Water completed its second year of operation under the revised Operating Licence. During this period, Hunter Water has demonstrated its desire to perform well against the Operating Licence and this is reflected in the generally high to full compliance Hunter Water achieved against the audit clauses.

From the 2003/04 audit, the following key issues and observations have arisen and are presented for discussion:

Water Quality, System Performance and Water Supply and Demand

Hunter Water supplies water of excellent quality to its customers. While Hunter Water is fortunate to have water supply sources of excellent quality, it has put in place and maintains comprehensive and robust systems and processes to ensure the delivery of high quality water to its customers and has fully complied with its Licence requirements for Water Quality, System Performance and Water Supply and Demand, with the exception of one Licence requirement; that of the “water supply continuity” performance measure.

Hunter Water’s Licence requires that no more than 14,000 properties experience one or more water interruptions with a cumulative duration exceeding 5 hours during an audit year. During 2003/04, 15,248 properties experienced water supply interruptions exceeding five hours.

This year’s failure to comply was largely due to a “one-off” trunk main failure that affected more than 5,500 properties. This current non-compliance follows a “close call” to Hunter Water’s compliance with this same Licence requirement last year, although it should be noted that while Hunter Water successfully just met this requirement during 2002/03 it has successfully met this standard more comfortably in years previous to 2002/03.

Hunter Water has made a number of operational and maintenance procedural changes to better meet this requirement in the future but given the nature of its supply system, needs to do more with respect to contingency plans so that should it suffer a similar failure again, it can quickly take action to locate, repair and reconnect the burst main and so more quickly re-supply affected consumers.

Environment - Indicators and Plan

The clauses of the Operating Licence dealing the Hunter Water’s Environmental Management Plan (EMP) and environmental and ESD indicators require Hunter Water to prepare the EMP and the indicators and then report performance against their requirements. Hunter Water’s energy management activities are also covered by these clauses.

Many of the requirements of these clauses of the Operating Licence relate to the initial preparation of the EMP and indicators and were therefore not relevant for the 2003/04 audit period. For those that were relevant, Hunter Water achieved full or high compliance.

The three clauses against which Hunter Water were assessed as having achieved high compliance related to:

- Recognising the EMP in its business plans;
- Reporting trends in its performance against the environmental and ESD indicators; and
- Involvement in the Energy Smart Business Program.

Hunter Water is already implementing actions that should address the non-compliances identified for recognising the EMP in business plans and its involvement in the Energy Smart Business Program. Reporting trends in performance against its environmental and ESD indicators will be able to be improved by Hunter Water in future reports as more data will be available.

Catchment Management

The catchment management aspects of the Operating Licence are intended to permit Hunter Water to manage and influence the quality of the bulk water provided for drinking water supply.

Hunter Water view the management of the catchments as one aspect of a 'multi-barrier' approach to water quality which includes regular monitoring of water quality at the source, maintenance of a closed water distribution system, a high level of water treatment and working with the community and other stakeholders to help protect the quality of natural water sources.

With particular reference to working with other stakeholders, Hunter Water does participate and interact with the many organisations and forums that can influence the quality of raw water that make up the organisation's drinking water supply. Whilst Hunter Water does have some powers to manage activities within its special areas, in many cases its ability to influence development within the drinking water catchments is advisory only. With high levels of growth in the Hunter region, urban expansion within the catchment areas has the potential to erode Hunter Water's historically high quality raw water supply. Hunter Water's ability to contribute in a proactive way to catchment management is stalled by its limited powers in this regard and its involvement in such matters is often limited to passive or in-kind contributions to catchment initiatives. Continued guidance and direction by government to identify and empower the relevant organisations within the Hunter to manage catchments in ways that minimise adverse impacts on raw water quality would have long term benefit to the quality of raw water available to Hunter Water.

Whilst the above refers to external limitations on Hunter Water's ability to directly influence catchment health, there are some actions that Hunter Water could take within its existing operating parameters to better protect its catchments. These include:

- Viewing the protection of bulk water yielded from the catchment as of primary importance and as a core responsibility - this will reduce reliance on physical and chemical treatments of water and dependence on monitoring;
- Leading rather than supporting a greater number of catchment initiatives;
- Gaining a more specific understanding of landuse patterns within the catchment areas and correlating activities on these lands and changes in these landuses with changes to measured water quality;
- Working closely with local governments and stakeholders to develop agreements and mechanisms that ensure Hunter Water has a formalised advisory or concurrence role in decisions that relate to developments within its catchment/special areas.

Customer Service and Community Complaints

The customer service aspects of the Operating Licence provide a measure of the service provided to customers and the complaints section provides a measure of the way in which customers view Hunter Water. Together they are a window on the effectiveness of the interaction between Hunter Water and its community.

Since Hunter Water has achieved full compliance with most aspects of these two sections, it is considered that there is an effective relationship between Hunter Water and its community and customers. It is clear that there has been considerable dedication to providing a high standard of service although some features could be improved. These are:

- The speed and quality of resolving complaints needs to be addressed and the effectiveness of new strategies monitored in future audits;
- Improved availability of information for consumers leasing rental properties;
- The Payment Assistance Scheme could be further promoted.

EWON's submission to IPART about this audit also suggests that there may be a need to further investigate Hunter Water's policy in dealing with consumers with a poor payment record.

Hunter Water has an effective and useful Consultative Forum, further adding to the success of its relationship with its community and providing another avenue for input and inquiry into Hunter Water by the community. The auditors recommend further strengthening of this body by broader publicity about its work.

Resolution of non-compliances from previous audits

Hunter Water is keen to maintain high levels of compliance with the Operating Licence and has demonstrated active responses to resolving matters that did not receive full compliance during the previous audit year.

Comparison of Hunter Water compliance with the previous audit

This section summarises the compliance achieved by Hunter Water in the 2003/04 audit period compared to compliance levels attained for the previous audit period. For brevity the audit clauses have been summarised but full descriptions are provided in a copy of the Operating Licence provided in **Appendix B. Table 1** provides a summarised comparison of each requirement of the Operating Licence covered by this audit for 2002/03 and 2003/04.

Key observations from **Table 1** are that:

- Overall Hunter Water maintains levels of high or full compliance against a majority of audit clauses with minimal change in Hunter Water's overall compliance from year to year based on an assessment across all audit areas;
- Areas that are identified as deficient in a previous year appear to be targeted to achieve a higher level of compliance in the following year;
- Annual fluctuations for single clauses are difficult to associate with any meaningful trend analysis unless these are associated with multiple deficiencies within an audit area. These fluctuations typically reflect Hunter Water's annual assignment of resources and priorities that are a reality of managing the organisation;
- Some variability across years can also be associated with variations in the level of detail to which a particular clause is queried during the audit and may also arise from varying climatic conditions that affect performance;
- In some instances, trends cannot be interpreted as the audit clause seeks to establish something in the first year that has no requirements for ongoing input. This is particularly notable for documentation such as the Customer Contract and Environmental Management Plan;
- A decline in the level of compliance for Catchment Management reflects a carry over effect in the calculation of groundwater extractions from the previous year and from the level of reporting on activities undertaken to manage the catchment; and
- In some cases, the decline in the level of compliance reflects a different interpretation of the requirements of the Operating Licence by the auditor compared to the previous year's auditor. An example is the requirement for incorporating the EMP into Hunter Water's business plans.

Table 1 - Summary of Compliance

Clause	Requirement	2002/03 ²	2003/04
Part 5	Customer and Consumer Rights		
5.1.	Customer Contract		
5.1.1	The Customer Contract – rights and obligations	N/R	N/R
5.1.2	Applicability of the Customer Contract	N/R	N/R
5.1.3	Customer Contract posted on Hunter Water's website	Full	Full
5.1.4	The Customer Contract may only be varied in accordance with the Act	Full	Full
5.1.5	Review of the Customer Contract	N/R	N/R
5.1.6	Contract review must have regard to system performance standards	N/R	N/R
5.1.7	Findings and recommendations of the review to be provided to the Minister	N/R	N/R
5.1.8	Hunter Water to issue a new Customer Contract that addresses the recommendations of the review report	N/R	Full
5.1.9	Hunter Water must prepare a summary pamphlet of the Customer Contract within 3 months of review	N/R	Full
5.1.10	The pamphlet to be posted on Hunter Water's website, with the Rental Bond Board for collection, sent with bills to Customers and otherwise provided on request	N/R	High
5.1.11	Hunter Water to enter into other contracts or arrangements for the supply of Services	N/R	N/R
5.2.	Consumers		
5.2.1	Fulfilment of obligations under the Customer Contract relating to complaint handling and complaint resolution	N/R	Full
5.2.2	Fulfilment of obligations under the Customer Contract relating to debt and disconnection procedures	N/R	Full
5.3	Code of Practice and Procedure on Debt and Disconnection		
5.3.1	Development of code of practice and procedure on debt and disconnection	N/R	N/R

² Direct comparisons against each sub-clause cannot always be made between 2002/03 and 2003/04 audit reports because the 2002/03 Audit report only provided assessments based on a amalgamation of several audit clauses. Assessments undertaken for 2003/04 look at each sub-clause (where relevant). The intent of the table is to interpret a consistent compliance assessment from each clause for the 2002/03 audit for the purposes of comparison.

Clause	Requirement	2002/03 ²	2003/04
5.3.2	Provision within the Code of Practice for deferred payment or payment by instalment options for charges; and advice within bills on payment options	Full	Full
5.3.3	Rights and obligations in the Code are incorporated into the Customer Contract	Full	Full
5.3.4	Information on the Code of Practice disseminated via the Rental Bond Board for collection, sent with bills to Customers and otherwise provided on request	Full	High

5.4. Consultative Forum

5.4.1	Establishment of Consultative Forum	Full	Full
5.4.2	Using the Forum consistent with the Consultative Forum Charter	N/R	Full
5.4.3	A Consultative Forum must be established within 6 months of the Commencement date.	Full	N/R
5.4.4	Forum and its membership prior to commencement date	N/R	Full
5.4.5	Hunter Water must at all times appoint the members of the Consultative Forum.	Full	Full
5.4.6	Representing the community in membership of the Consultative Forum	Full	Full
5.4.7	Development of a Consultative Forum Charter	Full	Full
5.4.8	Hunter Water providing information to the Consultative Forum	N/R	Full
5.4.9	Availability of the Consultative Forum Charter to the public	Full	Full
5.4.10	Reporting on operations of Consultative Forum and the development of the Consultative Forum Charter.	Full	Full
5.4.11	Evaluation and reporting on effectiveness of the Consultative Forum and compliance with the Consultative Forum Charter by IPART.	N/R	N/R
Part 6	Water Quality		

6.2. Drinking Water Quality – Standards

6.2.1	Hunter Water must comply with the NHMRC and ARMCANZ Drinking water guidelines	Full	Full
6.2.2	Inconsistencies between the Health Guideline and Drinking water Guidelines	N/R	N/R

Clause	Requirement	2002/03 ²	2003/04
6.2.3	Regard for the concepts of risk minimisation practices and system management of public water supplies.	Full	Full
6.2.4	pH levels in cement mortar lined pipes to be in the range 6.5 – 9.2	Full	Full
6.3. Drinking Water Quality - Monitoring			
6.3.1	Prepare an Annual Comprehensive Water Quality Monitoring Plan by 30 April each year	Full	Full
6.3.2	The Monitoring Plan must include monitoring of drinking water, health and bulk water parameters, as required by NSW Health	Full	Full
6.3.3	The sampling frequency and the locations chosen for the monitoring should be representative of water quality	Full	Full
6.3.4	Undertake Drinking water quality monitoring	Full	Full
6.3.5	Monitor at the property boundary where the Drinking water guidelines recommend monitoring at a Customer's or Consumer's tap	N/R	Full
6.4. Drinking Water Quality – Reporting			
6.4.1	Monthly summary of Hunter Water's water quality monitoring results to be made available to the Public	Full	Full
6.4.2	Produce Annual Water Quality Report comparing actual Drinking water quality against the Drinking water guidelines	Full	Full
6.4.3	The Annual Water Quality Report must include a monitoring summary, water quality trends and problems, a summary of system failures and action taken	Full	Full
6.4.4	The Annual Water Quality Report must be prepared by 30 November each year and be made freely available to the Public	Full	Full
6.5. Drinking Water Quality – Planning			
6.5.1	Hunter Water must maintain, a Five-Year Water Quality Management Plan.	Full	Full
6.5.2	Five-Year Water Quality Management Plan to include comprehensive management strategies to ensure that Drinking water quality	Full	Full
6.5.3	Hunter Water must prepare, an Annual Water Quality Improvement Plan for the Water supply system by 31 March each year	Full	Full

Clause	Requirement	2002/03 ²	2003/04
6.5.4	The Annual Water Quality Improvement Plan must incorporate changes needed to address problems identified through water quality monitoring data	Full	Full
6.5.5	The Annual Water Quality Improvement Plan must be reviewed as part of any review of the Licence	N/R	N/R
6.5.6	Hunter Water must assess the risks of failing to comply with clause 6.2, in relation to Drinking water	Full	Full
6.5.7	Maintaining an Incident Management Plan	Full	Full
6.5.8	Incident Management Plan to contain, procedures and protocols for the coordinated management of Drinking water incidents.	Full	Full

6.6. Other Grades of Water

6.6.1	Other Grades of water supplied must be supplied according to relevant guidelines and requirements	Full	Full
6.6.2	The Minister's decision will prevail where there is a conflict between any of the guidelines, requirements or standards	N/R	N/R
6.6.3	Hunter Water must use its best endeavours to reach agreement with persons to whom Other Grades of water is supplied.	Full	Full
6.6.4	Hunter Water must advise persons to whom Other Grades of water is supplied, of the potential uses for the Other Grades of water and of Water treatment	Full	Full

6.7. Environmental Water Quality

6.7.1	Reporting performance against any environmental water quality requirements for any discharges or water releases required by Licences	Full	Full
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Part 7	System Performance		
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7.2. Interpretation***Commencement and cessation of a Water interruption***

7.2.1	Water Interruption incidents as defined by Hunter Water and relevant authorities.	N/R	N/R
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Commencement and cessation of a Pressure incident

7.2.2	Application of Clause 7.2.1 (a) and (c) to Pressure incidents	N/R	N/R
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Clause	Requirement	2002/03 ²	2003/04
<i>Commencement and Cessation of Sewage overflows</i>			
7.2.3	Application of Clause 7.2.1 (a) and (c) to Uncontrolled sewage overflow	N/R	N/R
7.3. System Performance Standards			
<i>Water Continuity Standard</i>			
7.3.1	Hunter Water must ensure that no more than 14,000 Properties in a year experience Water interruptions	Full	Non
<i>Water Pressure Standard</i>			
7.3.2	No more than 4,800 Properties in a year experience one or more pressure incidents	Full	Full
<i>Sewage Overflows Standard</i>			
7.3.3	Hunter Water must ensure that the number of Uncontrolled sewage overflows does not exceed 6,500.	Full	Full
7.4. Reporting on system performance			
<i>Reporting on Water Interruptions</i>			
7.4.1	Hunter Water must report on the number of Properties that experience a water interruption	Full	Full
<i>Reporting on Water Pressure</i>			
7.4.2	Report on the number of Properties that experience one or more Pressure incidents	Full	Full
<i>Reporting on Sewage Overflows</i>			
7.4.3	Report on the number of Uncontrolled sewage overflows in dry weather or wet weather	Full	Full
<i>Publication of Reports</i>			
7.4.4	Reports must be made freely available to the Public.	Full	Full
7.5. System Performance Indicators			
7.5.1	Schedule 4 applies	Full	N/R
7.5.2	Report performance against the system performance indicators in Schedule 4 and make publicly available	Full	Full
7.6. Keeping of Records on Water Interruptions, Low Pressure and Sewage Overflows			
7.6.1	Maintain records necessary to meet Licence obligations and Schedule 4	Full	Full

Clause	Requirement	2002/03 ²	2003/04
7.6.2	Maintain records of Water interruptions, Pressure incidents and Sewage overflows	Full	Full

7.7. Report on Low Pressure Areas

7.7.1	Within six months of the Commencement date, Hunter Water must report to IPART on water pressure that is less than 20 metres head	Full	N/R
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Part 8	Water Demand and Supply		
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8.2. Interpretation

8.2.1	Definition describing references to options developed under the integrated water resources plan	N/R	N/R
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8.3. Integrated Water Resources Plan Development of the Plan

8.3.1	Develop an Integrated Water Resources Plan.	Full	Full
8.3.2	Develop a draft of the Plan by 30 September 2002, and make available to the Public for 28 days.	Full	Full
8.3.3	Must engage in Public consultation complete the Plan by 1 March 2003.	Full	Full
8.3.4	The Plan must be made freely available the Public	Full	Full
8.3.5	Regularly review the Plan	Full	N/R
8.3.6	Report any amendments	Full	Full
8.3.7	When developing or reviewing the Plan apply relevant best practice research and endeavour to continually refine and renew methodologies to reflect current best practice.	N/R	Full
8.3.8	IPART must evaluate and report on the outcomes achieved by the Plan.	N/R	N/R

Content and Methodology of the Plan

8.3.9	The Plan must enable Hunter Water to respond to water needs in the Area of Operations	Full	Full
8.3.10	The Plan must indicate management of supply augmentation, real losses of water and demand for water within its Area of Operations over the next 10 years	Full	Full
8.3.11	The Plan must quantify the maximum reliable quantity of water that can be derived from one year to the next, from its existing Water storages	Full	Full

Clause	Requirement	2002/03 ²	2003/04
8.3.12	The Plan must make projections of the total demand for water	Full	Full
8.3.13	Hunter Water must utilise Present value calculations	Full	Full

Identifying the Options and Associated Costs

8.3.14	The Plan must identify and evaluate all reasonably practicable options to manage demand and supply of water and must list the non-financial advantages and disadvantages of each option.	Full	Full
8.3.15	In evaluating the options identified under clause 8.3.14 Hunter Water must take all necessary steps to ensure that the Plan; quantifies the estimated costs of each option identified, and compares the financial, social and environmental costs of each option.	Full	Full
8.3.16	If unable reasonably to quantify the social and environmental costs of the options, quantify social and environmental costs as able and provide a description of those unable to be quantified.	Full	Full
8.3.17	Adopt the least cost option determined under clause 8.3.15 unless there are reasonable and substantive reasons for adopting a different option	Full	Full

Results of the Plan

8.3.18	Outline targets, standards, indicators or other proposals for consideration as part of the Licence review	Full	Full
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Annual Reporting on the Plan

8.3.19	Report performance against the Plan.	Full	Full
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8.4. Water Conservation Target

8.4.1	Calculation of the five year rolling average for annual residential water consumption	Full	Full
8.4.2	Report compliance with Water conservation target.	Full	Full
8.4.3	Comply with conservation target until replaced	Full	Full

8.5. Water Demand and Supply Indicators

Security of Supply

8.5.1	Impose Water restrictions only as approved by the Minister	Full	N/R
8.5.2	Reporting on Water restrictions imposed in a Reporting period	N/R	N/R
8.5.3	Report on water restriction criteria	N/R	N/R

Clause	Requirement	2002/03 ²	2003/04
8.5.4	Report on the quantity of water supplied from each Water storage	Full	Full

Losses from the Water System

8.5.5	Report against each component in the Water balance table consistent	Full	Full
8.5.6	Reporting differences in the outcomes in applying clause 8.5.5 between Reporting periods	Full	Full

Recycled Water

8.5.7	Report on the quantity of Recycled water supplied in a Reporting period for all applications	Full	Full
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Demand Management

8.5.8	Report on the total quantity of water supplied for all customers	Full	Full
8.5.9	Comparing applications in 8.5.8, with the preceding Reporting period, and indicate factors contributing to change	Full	Full

8.6. Annual Reporting on Water Demand and Supply Indicators

8.6.1	Report performance against the water demand and supply indicators	Full	Full
8.6.2	Publicly display the report	Full	Full

Part 9	Environment – Indicators and Plan		
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9.1. Environmental Management Plan

9.1.1	Hunter Water must produce a five-year Environmental Management Plan (EMP) within three months of the Commencement date and update the EMP every five years.	Full	N/R
9.1.2	Hunter Water must engage in public consultation in developing the EMP.	Full	N/R
9.1.3	The EMP must contain details of Hunter Water's environmental improvement strategies and objectives, endorse ESD principles and be recognised in Hunter Water's business plans.	Full	High
9.1.4	The EMP must set targets and timetables for environmental activities to be undertaken by Hunter Water, utilising its environmental and ESD indicators.	Full	Full
9.1.5	Material amendments may only be made to the EMP following public consultation.	Full	N/R

Clause	Requirement	2002/03 ²	2003/04
9.1.6	Hunter Water must report on any material amendments made to the EMP	Full	N/R
9.1.7	The EMP must be provided to IPART on its completion and posted on Hunter Water's website, made available at its Customer centres and lodged with public libraries.	Full	Full
9.2.	Environmental and ESD Indicators		
9.2.1	Hunter Water must monitor and compile data on indicators of the direct impact of its activities on the environment and the extent to which its services comply with the principles of ESD.	Full	Full
9.2.2	Hunter Water must develop a draft list of environmental and ESD indicators within three months of the Commencement date.	Full	N/R
9.2.3	In developing the environmental and ESD indicators, Hunter Water must have regard to the Commonwealth State of the Environment Reporting system and the 'Australia: State of the Environment Environmental Indicator Report' series.	Full	N/R
9.2.4	The environmental and ESD indicators developed by Hunter Water must be consistent with the scope and objectives of the EMP.	Full	N/R
9.2.5	The draft list of environmental and ESD indicators developed by Hunter Water must undergo public consultation.	Full	N/R
9.2.6	Within three months of the close of submissions, following public consultation, Hunter Water must present a final list of environmental and ESD indicators to the Minister for approval.	Full	N/R
9.2.7	Hunter Water must commence monitoring and compiling data on the environmental and ESD indicators from the date of approval by the Minister.	Full	N/R
9.2.8	Hunter Water must report its performance against its environmental and ESD indicators in its annual environment report. The report must specify trends to allow comparison with previous results.	Full	High
9.2.9	The environmental and ESD indicators must be reviewed as part of the Licence review.	Full	N/R
9.3.	Energy Management		
9.3.1	Hunter Water must participate in the Energy Smart Business Program, or similar program administered by SEDA.	Full	High

Clause	Requirement	2002/03 ²	2003/04
9.3.2	Hunter Water must report on any actions or activities undertaken by Hunter Water as part of the Energy Smart Business Program and any other energy management or green power initiatives.	Full	Full
Part 10	Catchment Management		
10.1.	Catchment Report		
10.1.1	Report performance in the Catchment Report	Partial	Full
10.1.1a	Report against bulk water quality parameters	Full	High
10.1.1b	Report details of activities under the Hunter Water Corporation Limited (Special Areas) Regulation 1997, Williams River Catchment Regional Environment Plan, Regional Planning Strategy and Seaham Weir Operations Plan	Full	High
10.1.1c	Report details of performance against the Water Management Licence and the Dam Safety Act 1978	Full	High
10.1.1d	Report against other catchment, landcare and supporting activities by or on behalf of Hunter Water	Full	High
10.1.1e	Report against five year trends observed in the Williams River across five specified key water quality indicators	Partial	Full
10.1.2	Publicly display the Catchment Report on its website for free download and make it available at its premises for access or collection by the public free of charge.	Full	Full
Part 12	Complaint and Dispute Handling		
12.1.	Internal Complaint Handling Procedures		
12.1.1	Establish internal complaints handling procedures	Full	Full
12.1.2	The internal complaints handling procedures must be based on the Australian Standard AS4269- 1995 Complaint Handling.	Full	Full
12.1.3	Hunter Water must make available to Customers and Consumers information concerning its internal complaints handling procedures	Full	Full
12.1.4	Hunter Water must provide information about making complaints in bills at least once each year.	Full	Full
12.1.5	The Customer complaint handling, complaint resolution process and Customer redress provided to Customers under the Customer Contract must be reviewed and amended where necessary by Hunter Water to ensure that it is based on the Australian Standard AS4269-1995 Complaint Handling.	Full	High

Clause	Requirement	2002/03 ²	2003/04
12.1.6	Reporting on details concerning complaints made against Hunter Water to IPART	Full	Full
12.2.	External Dispute Resolution Scheme		
12.2.1	Establishment of a Dispute Resolution Scheme	Full	N/R
12.2.2	The Dispute Resolution Scheme so established by Hunter Water is subject to the Minister's approval.	Full	N/R
12.2.3	Issues for complaints made to the Dispute Resolution Body	Full	Full
12.2.4	The Dispute Resolution Scheme must comply with the minimum standards	Full	Full
12.2.5	Features of the Dispute Resolution Scheme	Full	Full
12.2.6	Pamphlet explaining how the Dispute Resolution Scheme operates and how it can be accessed.	Full	Full
12.2.7	Hunter Water must provide the pamphlet to Customers and Consumers through their bills at least once each year.	Full	Full
12.2.8	Hunter Water must provide IPART with written reports of the determinations made by the Dispute Resolution Body. Confidentiality arrangements are to be made so as not to disclose the Customer or Consumer's identity in such reports.	Full	Full
12.2.9	Contents of report on Dispute Resolution Body by Hunter Water	Full	Full
12.2.10	Public display of the report	Full	Full
12.3.	Complaints to other bodies		
12.3.1	Hunter Water must report on complaints made against Hunter Water to a court or tribunal	Full	Full

Summary of Key Recommendations

The following section summarises the key recommendations arising from each chapter of the Operating Licence.

The key recommendations address shortfalls identified in the audit and are intended to assist Hunter Water in achieving more thorough compliance with the terms of the Operating Licence in future audits.

In addition to these key recommendations, each audit chapter of this report may also contain secondary recommendations that are not presented here which are intended to provide information and points of action to Hunter Water to achieve ongoing continuous performance improvement. It should be recognised that Hunter Water's achievement against the secondary recommendations will also contribute to better alignment with the terms of the Operating Licence.

Ministerial Requirements (Part 3)

One recommendation is made concerning Ministerial Requirements and is included under Water Quality (Part 5) below.

Customer and Consumer Rights (Part 5)

- R5.1 It is recommended that Hunter Water persists with ensuring that pamphlets about the Customer Contract and the Code of Debt and Disconnections are available through the Rental Bond Board and ensures that their availability is maintained by specifically contacting the Department of Fair Trading to discuss this.
- R5.2 It is recommended that that there be further promotion of the Payment Assistance Scheme.

Water Quality (Part 6)

- R6.1 It is recommended that Hunter Water undertakes a further review of the "lessons learned" from its "desktop" exercise for security measures as per NSW Health recommendations, followed by the documentation of any amendments to policies, procedures and training needed as a result.

System Performance (Part 7)

In recognition of Hunter Water's failure to comply with its Licence requirement for water supply interruptions for 2003/04 and following this Audit, it is recommended that Hunter Water:

- R7.1 It is recommended that Hunter Water continue to review its maintenance/operational practices to identify additional procedural and or technological improvements to enable it to better meet its water supply continuity Licence requirement.

R7.2 It is recommended that Hunter Water continue to utilise/trial the maintenance/operational practice identified during reviews undertaken during 2003/04, particularly:

- More stringently controlling large scale shutdowns for both emergency and planned watermains work;
- Utilising new technologies/components to minimise shutdowns to effect repairs to leaking hydrants/valves, such as the use of hydrant “caps” and mains freezing methodologies to minimise the need for shutdowns;
- Requiring valves to be installed at future connection points for subdivisional developments and so reduce the need for shutdowns to connect the subdivision;
- Utilising direct tapping technologies or “mains freezing” for when installing new tees and valves to service commercial developments and so reduce the need for shutdowns.

R7.3 It is recommended that Hunter Water continue to:

- Undertake condition assessments for its trunk mains and so better identify trunk mains at risk of failure;
- Undertake proactive maintenance activities for the “high risk” trunk mains that will result in reduced likelihood of failures occurring.

R7.4 It is recommended that Hunter Water review its systems/procedures/practices/contingency plans to improve its current capability to respond even more quickly to:

- Locate failures/bursts, particularly for its trunk mains;
- Minimise the number of customers affected by the failure by means of appropriately shutting down the trunk main and/or supplying customers from other sources;
- Repair the failure/burst; and
- Return the trunk main to service, resupplying customers affected.

Water Demand and Supply (Part 8)

No recommendations are made concerning this part of the Operating Licence.

Environment - Indicators and Plan (Part 9)

No recommendations are made concerning this part of the Operating Licence.

Catchment Management (Part 10)

- R10.1 It is recommended that Hunter Water include Boags Hill in the full suite of chemical, pesticide and radiological analyses as there is potential for untested waters containing these contaminants to be introduced into Grahamstown Dam. Testing should coincide with periods of extraction from the Williams River at Boags Hill where this water is intended for storage within Grahamstown Dam. Results should be reported in future Catchment Reports.
- R10.2 It is recommended that Hunter Water investigate the physical, chemical and other interactions occurring in the catchment to explain in future Catchment Reports the implications to the quality of bulk water and the health of the catchment for all statistically significant trends both positive and negative that are observed in five year and long-term data.

Complaints and Dispute Handling (Part 12)

- R11.1 It is recommended that Hunter Water records, in a manner suitable for reporting purposes, training of customer service staff for each audit year.

Memorandum of Understanding

It is recommended that in the absence of a memorandum of understanding (MoU) between Hunter Water and DIPNR, Hunter Water ensures formalisation of a protocol which deals with breaches of the Water Management Licence (WML) with DIPNR. Further it is recommended that the 2004/05 audit investigates the extent that section 3.1 of the July 2000 MoU has been used as the basis for this formalisation. It should also check that the protocol adopted has been signed off by the Strategic Liaison Committee (SLC) and recorded formally (such as in the minutes of an SLC meeting, confirmed by exchange of letters or by some other means).

1 Introduction and Objectives

In accordance with the Hunter Water Act 1991, the NSW Government has granted an Operating Licence to Hunter Water. The objective of this Licence is to enable and require Hunter Water to lawfully provide services, including water, sewerage and drainage services, within its area of operations. This Licence is for a term of five (5) years, from 2002 to 2007, and commenced on 1 July 2002.

A requirement of the Operating Licence is that an annual Operational Audit of Hunter Water's performance against its obligations under the Licence be undertaken. The Independent Pricing and Regulatory Tribunal (IPART) is required to conduct this annual Operational Audit and has engaged CH2MHILL Australia Pty. Ltd. to fulfil this requirement on its behalf for the period of 2003/04. The audit brief for this engagement is provided in **Appendix A**.

Information collected during Operational Audits is ultimately utilised for reporting on Hunter Water's performance in relation to its Operating Licence. This information is utilised by IPART to make recommendations to the Minister for Energy and Utilities regarding:

- the granting, amendment or cancellation of the Operating Licence;
- the imposition, amendment or cancellation of conditions in relation to the Operating Licence;
- action to be taken, and sanctions to be applied, in respect of a contravention of the Operating Licence; and
- remedial action that may be warranted as a result of a contravention of the Operating Licence.

1.1 Hunter Water Corporation

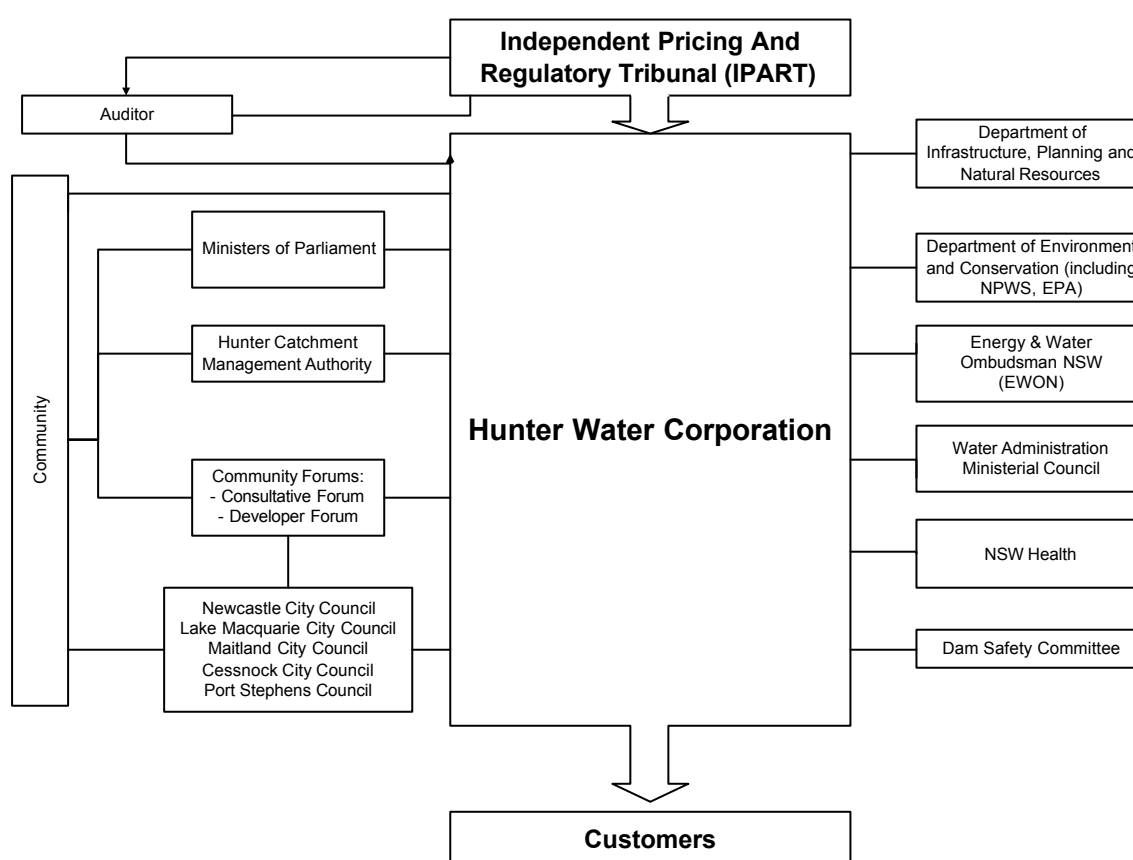
Hunter Water is a statutory state owned corporation established under the State Owned Corporations Act 1989. Hunter Water's shareholders are the NSW Treasurer and Minister for Energy and Utilities. The corporation is governed by a Board of Directors. Hunter Water is regulated by several state government bodies as outlined below:

- The NSW Government, which grants Hunter Water's Operating Licence under the Hunter Water Act 1991;
- The Independent Pricing and Regulatory Tribunal (IPART), which recommends the conditions of the Operating Licence to the NSW Government, conducts periodic audits of performance against the Operating Licence and sets Hunter Water's prices for providing services;
- The Department of Infrastructure, Planning and Natural Resources (DIPNR), which administers Hunter Water's Water Management Licence granted under the Water Act 1912, allowing sustainable access and use of water resources;

- The Department of Environment and Conservation, which licences Hunter Water's wastewater systems under the Protection of the Environment Operations Act 1997; and
- NSW Health, which, as required by the Operating Licence, Hunter Water has entered into a Memorandum of Understanding to describe the roles and responsibilities of the two organisations and facilitate effective interaction between them.

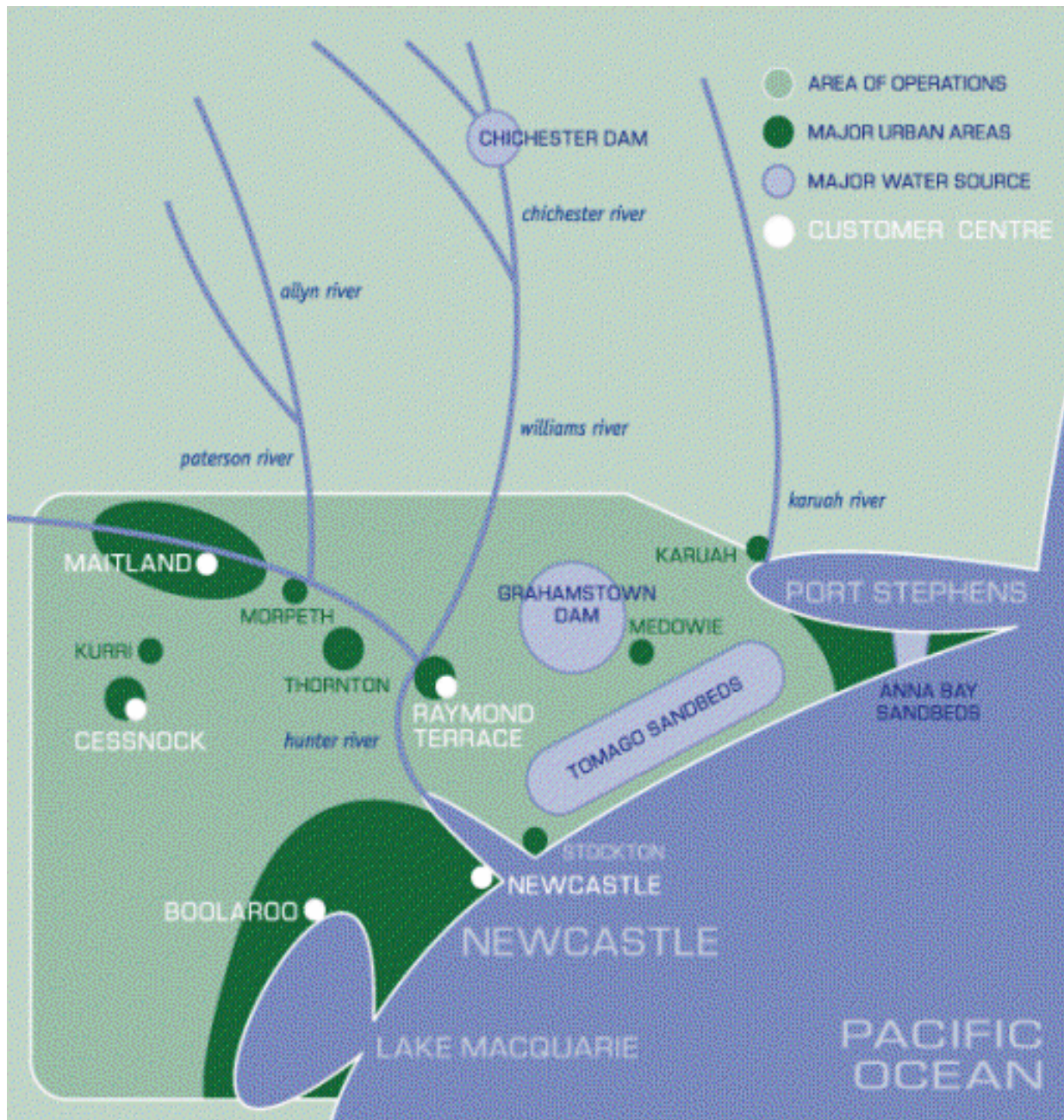
The inter-relationship between Hunter Water and other connected organisations and stakeholders is shown below in **Figure 1.1**.

Figure 1.1 Inter-organisational Structure – Hunter Water



Hunter Water provides water and wastewater services to almost half-a-million people residing in the Newcastle, Lake Macquarie, Maitland, Cessnock and Port Stephens areas. An outline of Hunter Water's water supply network, including the area of operations for which Hunter Water is responsible, is shown in **Figure 1.2**. The services provided by Hunter Water are delivered under the Operating Licence noted above. The licence specifies the minimum standards of service that must be met in relation to drinking-water quality, water pressure, water continuity, and sewer surcharges and requires Hunter Water to report against performance of its Environmental Management Plan (EMP) and the Integrated Water Resources Plan (IWRP). Wastewater treatment performance is specified under Operating Licences issued and managed by DEC.

Figure 1.2 Hunter Water's Water Supply Network



Source: Hunter Water Corporation, 2004

1.2 Independent Pricing and Regulatory Tribunal

The *Independent Pricing and Regulatory Tribunal and Other Legislation Amendment Act* entered into force on 1 November 2000. Under Schedule 1 of this Act the Operational Audit function of the Licence Regulator has been transferred to the Independent Pricing and Regulatory Tribunal (IPART).

1.3 Scope of Operational Audit

This is the second audit of Hunter Water against the requirements of the current Operating Licence. The audit covers the period from 1 July 2003 to 30 June 2004.

The objective of the Operational Audit is to report to and advise IPART on Hunter Water's performance with regards to its Operating Licence for the audit period. Components of the Operational Audit included:

- Review, assessment and reporting on the level of compliance achieved by Hunter Water against the Operating Licence.
- Assessment and reporting on progress by Hunter Water in implementing the Ministerial Requirements set subsequent to the previous Operational Audit.
- Identification of any factors that affected Hunter Water's performance for the period from 1 July 2003 to 30 June 2004.

Based upon the audit assessment and components described above, recommendations resulting from this audit have been made regarding ways in which Hunter Water can improve its performance in the future.

The detailed scope for the Operational Audit is described in Part 11 of the Operating Licence, which is provided in **Appendix B**. The scope includes investigation and reporting on Hunter Water's compliance with its obligations as set out in the specific Parts of the Licence as listed in **Table 1.1** below.

Table 1.1 Scope of the Audit

Licence Part		General Requirements	Report Section
Part 3	Ministerial Requirements	Requirements defined by the Minister of Energy and Utilities to be addressed in the audit period. Specific topics include: water quality (taste and odour), water continuity, accuracy of reporting systems and demand/supply balance.	Chapter 4
Part 5	Customer and Consumer Rights	Including: customer contract, consumers, code of practice on debt and disconnection, the consultative forum and customer service indicators (Ministerial requirement).	Chapter 5
Part 6	Water Quality	Including: health and aesthetic drinking water quality; risk minimisation of public water supplies; representative monitoring, sampling and testing of drinking water; reporting on drinking water quality including assessments of trends and problems; water quality planning via the Five Year Water Quality Management Plan, an Annual Water Quality Improvement Plan and an Incident Management Plan; provision of other grades of waters to other customers; and environmental water quality.	Chapter 6

Licence Part		General Requirements	Report Section
Part 7	System Performance	Including: prevention, reporting and maintaining records of water interruptions, prevention and reporting, reporting of performance and maintaining records of pressure incidents and sewage overflows; reporting of performance on water interruptions and on low pressure areas.	Chapter 7
Part 8	Water Demand and Supply	Including: development of an Integrated Water Resources Plan; review of the IWRP with respect to best practice; matters for inclusion in the content of the IWRP and the methodology of its preparation and review; consideration of available options and cost implications for water supply and demand; reporting performance against the IWRP; reporting against the water conservation target; reporting on water security, water restrictions and water losses; reporting on the uses of recycled water; reporting and annual comparisons for waters supplied to residential, commercial and other large customers; and reporting against water supply and demand indicators.	Chapter 8
Part 9	Environment – Indicators and Plan	Including: Environmental Management Plan, Environmental and ESD Indicators and Energy Management.	Chapter 9
Part 10	Catchment Management	Including: Reporting within the Catchment Report on bulk water quality monitoring, activities of Hunter Water under relevant planning instruments that affect catchment management, the Water Management Licence, dam safety, catchment management activities, water quality trends in the Williams River; and display and access of the Catchment Report.	Chapter 10
Part 12	Complaints and Dispute Handling	Including: internal complaints handling procedures, the external dispute resolution scheme and complaints made to a court or tribunal.	Chapter 11

The scope of the audit also includes assessment of compliance against the Ministerial requirements and recommendations arising from the 2002/03 Operational Audit and the identification of factors that have affected Hunter Water's performance in the 2003/04 audit year.

The detailed audit brief is contained in **Appendix A** and the Minister's requirements are provided in **Appendix C**.

Whilst the Operational Audit is intended to focus primarily on Hunter Water's performance against the Licence obligations, the Audit also considers and makes recommendations on performance improvement. Additionally, the audit process also considers and investigates relevant issues (i.e. those relating to environment, social welfare and the public interest) raised by the public and stakeholders.

1.4 Structure of the Audit Report

The format of this audit report has been developed to provide adequate detail directed at different levels of readership to enable an understanding of Hunter Water's operations and its compliance with the Operating Licence.

This report has been prepared to specifically meet the audit brief and the audit requirements of the Operating Licence. The sections of this report correspond to compliance sections as detailed in the separate parts of the Operating Licence (see **Table 1.1** above). It should be noted that the audit findings contained within this report are not presented in a prioritised order of significance. Within each compliance section of this report the following key areas are addressed:

- a summary of findings at the beginning of each section addressing the principal level of compliances and any non-compliances relevant to each area of the audit;
- a summary of the Operating Licence requirements for each section against which Hunter Water's performance has been assessed within that particular section; and
- a detailed table describing evidence obtained and findings recorded during auditing, to support the assessment of compliance. The table includes comments regarding the level of compliance with the Operating Licence condition and appraisal of the findings of the audit based on the evidence provided.

Within each part, there is one compliance table. The first part of the table presents compliance with the relevant part of the Operating Licence for the key area. The latter part of the table provides an assessment of compliance with Ministerial requirements for the key area where these are relevant. Each table may also include reference to recommendations made from the previous year's audit and may provide an assessment and comments on compliance against the implementation of the recommendation.

Within each section, the compliance table(s) is followed by (where required):

- a discussion of compliance comments for each key area;
- factors affecting compliance for each key area; and
- recommendations for each key area. Key and secondary recommendations are provided.

2 Audit Methodology

Details of the audit methodology are outlined below.

2.1 Standards

The audit was undertaken with an approach consistent with ISO 19011:2000 – Guidelines for quality and/or environmental management systems auditing. This ensured that the audit was undertaken within a broad strategic framework that met the specific requirements of IPART and focused on the key issues that represent potential risks to Hunter Water's continuing performance. ISO 19011:2000 provides a systematic approach to defining the requirements of the audit, planning, interpreting Operating Licence conditions, collecting audit evidence, objectively assessing the evidence, and reporting in a clear and accurate manner. It also ensures that the audit has been conducted in accordance with an established and recognised audit protocol.

2.2 Audit Preparation

The audit methodology followed during the preparation and completion of this audit is described below.

Inception Meetings

The Project Inception Meeting was held with IPART on 27 July 2004. Attendees of the meeting included IPART personnel, CH2MHILL Project Director and Project Manager. Items discussed at the meeting primarily included the scope and proposed program of the Operational Audit and communication pathways between IPART and CH2MHILL.

Draft Audit Plan

Following discussions and confirmation of scope of the Operational Audit with IPART during the Project Inception Meeting, a draft Audit Plan suitable for presentation to Hunter Water was prepared. The Draft Audit Plan also ensured that all audit requirements outlined in the Operating Licence and the brief had been addressed.

The draft Audit Plan documents the draft audit tests developed for each requirement included in the scope of the audit. The tests have been designed to identify substantive compliance with the requirements of the Operating Licence and the Minister's Requirements and to identify factors that may have impacted on compliance with these requirements. The tests allowed compliance to be determined in the following categories:

- Full compliance;
- High compliance;
- Partial compliance;
- Low compliance;

- Non compliance
- Insufficient information; and
- No requirement.

Audit Inception Meeting

An Audit Inception Meeting was held with Hunter Water on 9 August 2004 and was attended by Hunter Water personnel, IPART personnel, CH2MHILL Project Manager and CH2MHILL Lead Auditors. The objectives of this meeting were to:

- develop working relationships with key Hunter Water personnel;
- determine personnel to be interviewed;
- agree on the scope of the audit and protocols to be followed; and
- allow Hunter Water to provide an overview of compliance with the Operating Licence which included the provision of evidence to support operation compliance with the Operating Licence.

Audit Tests

The audit tests, undertaken by each of the Lead Auditors with the assistance of the Support Auditors, were completed by assessing the evidence provided by Hunter Water for level of compliance with the requirements within the scope of the audit and by identifying factors that have affected compliance or may affect compliance in the future.

Audit evidence was provided to the Audit Team through pathways including documented evidence provided by Hunter Water, interviews with Hunter Water personnel, consultation with regulatory and other agencies and receipt of submissions made to IPART as part of the audit process.

2.3 Conduct of the Audit

To ensure a positive relationship, audit protocols were established at the inception meeting between the auditor and Hunter Water representatives. The generic protocols were designed to ensure efficient and transparent information transfer and to foster an open and professional working relationship between all parties.

Both Hunter Water and the auditor have adhered to the agreed protocols.

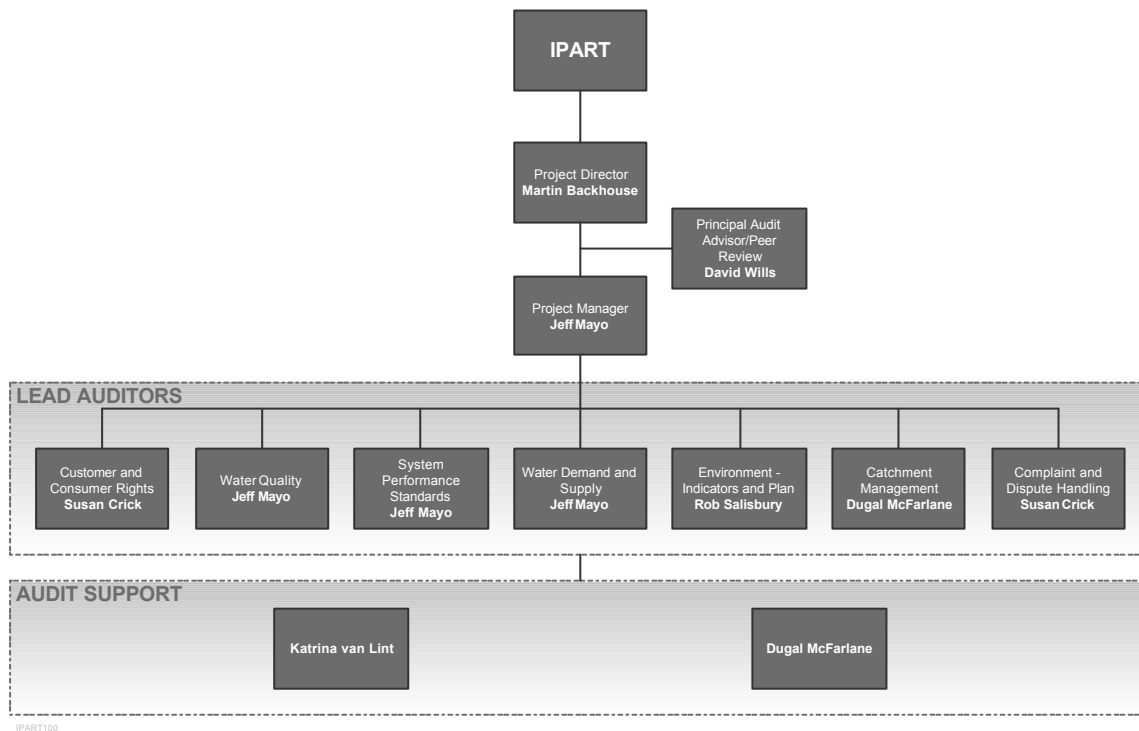
2.4 Audit Interviews

Interviews were conducted by the relevant specialist auditors, as identified in **Figure 2.1**, during August and September 2004. The interviews were undertaken to ensure coverage of all issues as detailed within each part of the Operating Licence and also provided an opportunity for Hunter Water to provide evidence which could support and demonstrate compliance with the Licence requirements.

2.5 Audit Team

For the 2003/04 Hunter Water Operational Audit, CH2MHILL assembled an experienced team to ensure that IPART's requirements were met. The audit team consisted of CH2MHILL personnel with an in-depth understanding and expertise in the areas encompassed in Hunter Water's Operating Licence. The structure of the audit team and individuals roles is shown below in **Figure 2.1**.

Figure 2.1 Structure and Responsibility of the Audit Team



2.6 Consultation with Regulatory and Other Agencies

Appropriate regulatory and other agencies have been consulted where required regarding comments on Hunter Water's compliance with relevant requirements within the scope of the audit. The agencies consulted included: Department of Environment and Conservation; Department of Infrastructure, Planning and Natural Resources; NSW Health Department; and Energy and Water Ombudsman NSW (EWON). Submissions are reproduced in **Appendix E** and addressed in **Section 12**.

2.7 Review of Submissions made to IPART

IPART advertised for input from the community regarding Hunter Water's performance. This audit considers a submission from one (1) private resident which was made to IPART and presented to the auditors. The submission is reproduced in **Appendix F** and is addressed in **Section 12**.

3 Regulatory Regime

3.1 Introduction

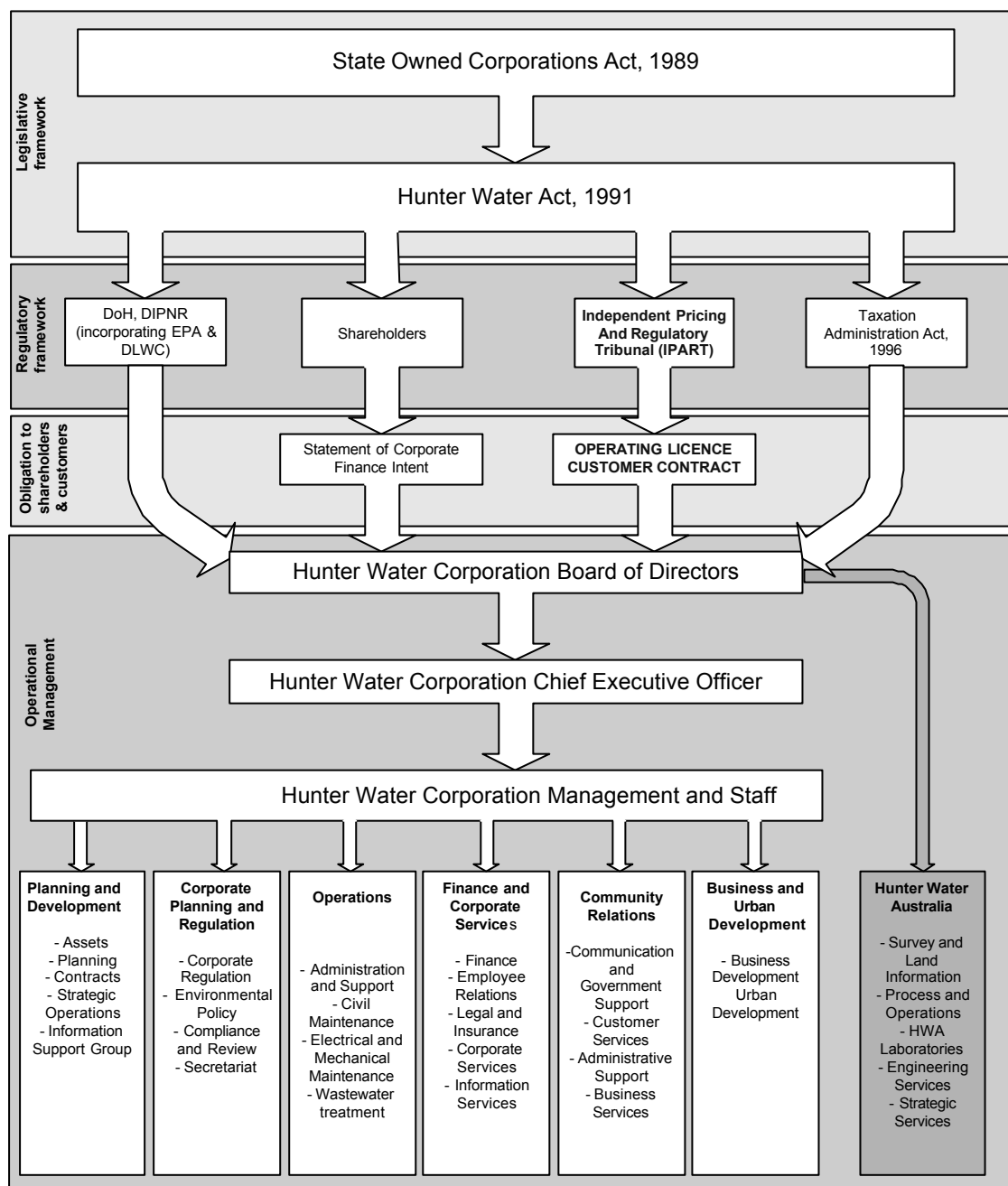
Hunter Water has the primary role of managing the potable water supply and providing sewage treatment to protect public health and the environment for the benefit of the Hunter region. The roles and responsibilities of Hunter Water are established by the provisions of the *Hunter Water Act 1991*. The Act establishes a set of sub-ordinate instruments – the Operating Licence, Memoranda of Understanding (MOUs) – to assist in the operation of Hunter Water. Such instruments impose compliance requirements upon Hunter Water, which are measurable and can therefore be audited. A new Operating Licence came into effect on 1 July 2002 and will remain current until 30 June 2007. This is the second audit conducted under the new Operating Licence.

In delivering its services, Hunter Water must comply with the relevant provisions of legislation, including:

- *Hunter Water Act, 1991;*
- *State Owned Corporations Act, 1989;*
- *Hunter Water (Special Areas) Regulation, 2003;*
- *Protection of the Environment Operations Act, 1997;*
- *Public Health Act, 1991;*
- *Water Legislation Amendment (Drinking Water and Corporate Structure) Act, 1998;*
- *Water Act, 1912;*
- *Water Management Act, 2000;*
- *Environmental Planning and Assessment Act, 1979;*
- *Independent Pricing and Regulatory Tribunal Act, 1992;* and
- *Dam Safety Act, 1978.*

The regulatory framework, within which Hunter Water operates, is shown schematically in **Figure 3.1**. Brief descriptions of the major components of the statutory system are provided below.

Figure 3.1 Regulatory Regime of Hunter Water



Source: Adapted from Hunter Water Corporation, 2004

3.2 Hunter Water Corporation Act

Under Section 13 of the *Hunter Water Corporation Act 1991*, Hunter Water is required to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services for supplying water, providing sewerage services and disposing of wastewater and drainage services within the capacity of the drainage service transferred to Hunter Water.

Hunter Water is also required to ensure that the systems and services meet the quality and performance standards specified in the Operating Licence in relation to water quality, service interruptions, price levels and other matters determined by the Governor of NSW and set out in the Operating Licence.

The Operating Licence must also include terms or conditions that require Hunter Water to maintain procedures under which Hunter Water is to consult with its customers at regular intervals in relation to the provision of these systems and services.

The Act also establishes provisions for Hunter Water in relation to the following:

- ownership of works and assets;
- entry onto private land;
- compensation;
- power to open roads;
- altering the position of conduits;
- interference with works;
- compensation to Hunter Water for damage;
- interference to works by trees; and
- liability with respect to paying an annual charge on pipes and other infrastructure.

3.3 Operating Licence

Hunter Water is required to conduct its activities in accordance with the Operating Licence issued under Section 12 of the *Hunter Water Act* 1991. The Operating Licence is valid for five years from 1 July 2002 to 30 June 2007. The objective of the Licence is to enable and require of Hunter Water to lawfully provide the services within its area of operation. This requires Hunter Water to:

- meet the objectives and other requirements imposed on it in the Act;
- comply with the quality and performance standards in the Licence;
- recognise the rights given to customers and consumers by the Act and Licence; and
- be subject to annual audits of compliance against the Licence.

3.4 Customer Contract

The Customer Contract sets out the rights and obligations of each person defined as a Hunter Water customer and the minimum standards of customer service Hunter Water will provide. The key areas of the Customer Contract have been identified and reviewed in **Section 5.3** of this report.

A new Customer Contract came into effect on 1 September 2003 replacing the previous contract included within the scope of the audit for this year. It provides greater clarity to the rights and obligations of customers and Hunter Water, and incorporates other instruments relating to customer service including the Customer Charter thereby reducing inconsistencies and duplication.

3.5 Memoranda of Understanding

3.5.1 MoU with NSW Health

Under the Operating Licence, Hunter Water is required to maintain a Memorandum of Understanding (MoU) with NSW Health for the duration of the Licence. A copy of this MoU is provided in **Appendix D**. This MoU has the primary purpose of recognising the role of NSW Health in providing advice to the NSW Government in relation to drinking water quality standards and the supply of water which is safe to drink.

The MoU between NSW Health and Hunter Water dated 19 April 2002 is designed to outline the roles and responsibilities and to facilitate effective interaction between the two organisations. A Joint Operational Group regularly discusses the broad principals, directions and policies underlying the roles of Hunter Water and NSW Health. Hunter Water is required to prepare and submit to NSW Health for review and comment a strategy for the comprehensive management of water quality issues outlining its current and long term intentions for water supply, catchment management and public health aspects of wastewater disposal and reuse. Hunter Water is also required to submit to NSW Health an Annual Water Quality Report, monthly monitoring results and event based results, including all water quality testing exceptions found.

As part of the audit process NSW Health were contacted and has reported high satisfaction with the quality of the water supplied by Hunter water to its customers.

3.5.2 MoU with Department of Environment and Conservation

Although not a requirement of the *Hunter Water Act* 1991, or the provisions of the Operating Licence, an MoU is in place between Hunter Water and the NSW Department of Environment and Conservation (DEC). A copy of this MoU is provided in **Appendix D**. The objectives of this MoU are to assist in the formation and development of cooperative relationships between the agencies with a view to furthering the objectives of the Operating Licence and the Act.

The MoU between Hunter Water and the DEC, agreed in January 2000, extends through to 2005 and sets out the framework and ongoing process for interaction between the two organisations. The MoU contains a framework for regular communication, dispute resolution and data sharing. The MoU notes the process of preparing the five-year Environmental Management Plan by Hunter Water and the Annual Environmental Report.

This MoU remained in force and has not been otherwise affected during 2003/04.

3.5.3 MoU with Department of Infrastructure, Planning and Natural Resources

The previous MoU with DLWC (now DIPNR) expired in June 2002. Hunter Water had not established a MoU with DIPNR in the 2002/03 audit year. The 2002/03 audit reported that both parties had been working on a replacement expected to contain additional detail and incorporate Water Sharing Plan arrangements.

DIPNR wrote to Hunter Water on 22 June 2004³ to formalise a recommendation made between DIPNR and Hunter Water at a Strategic Liaison Committee (SLC) meeting not to renew the MoU between the two organisations. Subsequent agreement and confirmation of this decision by Hunter Water was documented on 21 July 2004 (within the 2004/05 audit year) at which time IPART was advised.

The auditor has reviewed the correspondence between Hunter Water and DIPNR which states that the relationship between Hunter Water and DIPNR is well developed and the SLC provides an appropriate forum for discussing significant relationship matters. Minutes of the SLC for April 2004 (prior to the formalisation of the decision not to renew the MoU) have been sighted by the auditor which indicate that these meetings do provide a regular forum between Hunter Water and DIPNR where matters of strategic importance can be discussed.

However, in the correspondence between Hunter Water and DIPNR, Hunter Water expressed concern that a protocol that was in the July 2000 MoU which formalised the actions and procedures of Hunter Water and DIPNR in the event of a breach of the Water Management Licence be retained in some form and agreed by the SLC.

It is recommended that Hunter Water conclude this matter and that the 2004/05 audit investigate the extent that section 3.1 of the July 2000 MoU has been used as the basis for a formalisation of a breach protocol and that the protocol adopted has been signed off by the SLC and recorded formally (such as in the minutes of an SLC meeting, confirmed by exchange of letters or by some other means).

3.6 Water Management Licence

DLWC issued a Water Management Licence (WML) to Hunter Water for a period of 20 years from 1998 that authorised the use of water for the general purpose of urban water supply. The WML is issued to Hunter Water under the *Water Act* 1912 and is administered by DIPNR. The WML authorises Hunter Water to take and use water and places rules on extractions from the Chichester River, the Williams River and the groundwater extractions from the Tomago Sandbeds and Anna Bay Sandbeds. The WML also contains requirements detailing the management of water resources consistent with the principles of ESD and the prevention of contamination or degradation of the resources. Under the 1998 WML which was current until 25 June 2004, Hunter Water was required to provide data, reports and information to DIPNR including an Annual Demand Management Strategy that analyses consumption trends and unaccounted for water.

³ The actual date printed on the letter is 22 June 2000, however the auditor assumes a typographical error based on the context of material and events referred to in the letter.

Part 9 of the Water Act 1912 requires a review of the WML every five (5) years. This review conducted between Hunter Water and the Department of Infrastructure, Planning and Natural Resources (DIPNR – formerly DLWC) occurred by December 2003 (i.e. within the audit year and within the time period allowed for review). Hunter Water was issued with an amended Licence that took force from 25 June 2004.

The auditor has reviewed correspondence between DIPNR and Hunter Water which states that DIPNR's position is that Hunter Water must report on the version of the licence current on 30 June (i.e. the revised WML, 2004). However DIPNR refers in its correspondence of 17 June 2004 to earlier discussions between both organisations that recognise that *“there would need to be some transitional requirement to ensure HWC provide a licence report for 2003/04”*.

Hunter Water advise that no further correspondence exists with DIPNR specifying the nature of these transitional requirements. However Hunter Water advise that an agreement was reached between Hunter Water's strategic planning department and DIPNR's corporate licensing area that the report submitted to DIPNR covering the 2003/04 period would be submitted in the format of the new Annual Water Management Licence Report and would report on the full extent of 2003/04 data (not merely the five (5) days of its currency within the 2003/04 audit year). Consequently the Annual Water Management Licence Report has superseded the previous requirements of the 1998 WML. The Annual Water Management Licence Report was submitted to DIPNR on 30 September 2004.

4 Ministerial Requirements

Hunter Water's compliance with the Ministerial Requirements, resulting from the recommendations of the 2002/03 audit, have been addressed in the corresponding sections of the report related to that particular issue, namely Sections 6, 7 and 8.

The Ministerial requirements are reported in the relevant key areas, **Table 4.1** provides a summary of compliance against these requirements and guidance on where further information on the assessment of these can be located in this report.

Table 4.1 Ministerial Requirements and Audit Recommendations from the 2002/03 Audit

Reference	Ministerial Requirement from 2002/03 Operational Audit	Summarised Compliance Assessment	Location addressed in 2003/04 audit
Water quality	"...the incident response plan should be tested during 2004 using relevant scenarios to ensure that management are well trained."	Partial Compliance ¹	Section 6
Water quality - taste and odour	2. "It is recommended that taste testing ... occur at Chichester and Grahamstown on a daily basis so that taste and odour problems can be identified as soon as they occur.	Full Compliance	Section 6
	3. It is recognised that identifying a trigger for taste and odour problems is the subject of significant research across Australia. Continued investment by Hunter Water in research is recommended with specific emphasis on their water supply system.	Partial Compliance ²	Section 6
	4. Hunter Water should investigate methods for reducing the time taken to address the problem. Methods investigated could include PAC (powdered activated carbon) dosing when taste and odour problems occur while a substitute source is brought online or investigation of other technologies to remove taste and odour compounds.	Full Compliance	Section 6
	I require Hunter Water to report to me on its progress in fulfilling these requirements by no later than 31 March 2004."	Full Compliance	Section 6

- Notes:
- 1 To satisfactorily comply with this requirement, the work required to be undertaken by Hunter Water will, of necessity, take longer than 12 months to complete. This requirement is deemed to be a "work in progress". Hunter Water has fully complied with commencing the tasks required but these tasks are yet to be completed. The compliance rating for this requirement is considered to be Partial Compliance, which should not be construed as an indication of "poor" performance on the part of Hunter Water.
 - 2 To satisfactorily comply with this requirement, the work required to be undertaken by Hunter Water will, of necessity, be ongoing. This requirement is deemed to be a "work in progress". Hunter Water has fully complied with commencing the tasks required. The compliance rating for this requirement is considered to be Partial Compliance, which should not be construed as an indication of "poor" performance on the part of Hunter Water.

Reference	Ministerial Requirement from 2002/03 Operational Audit	Summarised Compliance Assessment	Location addressed in 2003/04 audit
Water continuity standard	5. "Hunter Water should report to IPART and the Minister for Energy and Utilities on the causes of the near breach of its water continuity standard over 2002/03. This report should detail actions being taken by Hunter Water to ensure that it can meet the standard over the remainder of the Licence term under normal operating conditions."	Full Compliance	Section 7
Accuracy of reporting systems	6. "An internal audit should be conducted to assess the accuracy and completeness of reporting across Hunter Water in relation to water quality, systems performance, rebates and the IWRP. As an interim measure until automated report generation is available, additional management controls should be implemented to ensure the accuracy of the numbers being reported. When automated reporting is available, the existing system and new system should be run in parallel for a suitable period of time to ensure reporting accuracy and completeness.	Full Compliance	Section 7
	Additional quality controls should be employed in further updates to the IWRP."	No Requirement	Section 7
	I support this recommendation and require Hunter Water to provide both the Tribunal and myself with copies of the internal audit report into the matters raised by no later than 31 March 2004.	Full Compliance	Section 8
Demand/supply balance	7. The Tribunal has recommended that Hunter Water should annually report progress in fulfilling the IWRP, setting out planned and actual expenditure against individual actions under the Plan, as well as estimated water savings and increases in the sustainable yield. I am advised that Sydney Water currently reports progress towards its demand management obligations using a similar format.	Full Compliance	Section 8
	Accordingly, I require Hunter Water to discuss a suitable reporting format with IPART and to adopt the agreed reporting format in time for the next Audit of the Licence.	Full Compliance	Section 8

Reference	Ministerial Requirement from 2002/03 Operational Audit	Summarised Compliance Assessment	Location addressed in 2003/04 audit
	<p>8. Finally, as you are aware, the Government has for some time been concerned with improving water conservation on a state-wide basis.</p> <p>I require Hunter Water to provide both the Tribunal and myself with a comprehensive report which:</p> <ul style="list-style-type: none"> • outlines Hunter Water's achievements to date in the conservation of water; and • considers new water conservation measures which Hunter Water could feasibly introduce. <p>Hunter Water should give consideration in this report to whether water conservation measures adopted or under consideration by Sydney Water are feasible for introduction by Hunter Water. This report should be provided no later than 28 February 2004.</p>	Full Compliance	Section 8

5 Customer and Consumer Rights

5.1 Summary of Findings

Hunter Water has achieved **full or high compliance** with the requirements of the Operating Licence in relation to customer and consumer rights for 2003/04 and has addressed the Ministerial directives of 2001/02.

This was the first year of operation of the new Customer Contract. While there are no statistics available to assess the impact of the Contract on Hunter Water's performance as a whole, rebate figures show that the number and value of rebates has increased as a direct result of a tightening of the conditions under which rebates apply, thus providing a direct measure of the frequency of such events.

Overall, Hunter Water maintains the high standard of customer service discussed in previous years. While there are some minor issues to address, action by Hunter Water in these areas is likely to result in improved service to customers and consumers.

The Customer Service indicators about affordability and complaints, required by Ministerial directives of 2002 are discussed in this chapter.

5.2 Summary of Requirements

Part 5 of the Licence specifies requirements relating to Customer and Consumer Rights. The key requirements in this part are:

- Clause 5.1 – Customer Contract: This clause specifies what the customer contract is, how it should be communicated and processes for its review.
- Clause 5.2 – Consumers: This clause covers the rights of all consumers in relation to complaints as well as to debt and disconnection.
- Clause 5.3 – Code of Practice on Debt and Disconnection: This clause requires a code of practice and procedures on debt and disconnections, its contents, inclusion in the Customer Contract and information about the way the code is disseminated.
- Clause 5.4 – Consultative Forum: This clause covers the establishment of a Consultative Forum, its membership, charter, the manner in which Hunter Water should provide information to the Forum, reports on the Forum, its review and provision of public information about it.

Clause 11.2.1(a) requires IPART or the auditor to investigate and report on Hunter Water's performance under Part 5 of the Operating Licence. This clause does not set requirements for Hunter Water but for IPART and/or the auditor. This section of the audit report addresses this clause of the Operating Licence.

5.3 Details of Compliance

Table 5.1 Customer and Consumer Rights – Part 5 of Operating Licence

Clause	Requirement	Compliance	Findings
5.1.	Customer Contract		
5.1.1	The Customer Contract sets out the rights and obligations of Customers and Hunter Water in relation to the Services provided through Systems required under this Licence. These rights and obligations are in addition to the rights and obligations conferred by the Act and any applicable law.	No Requirement	
5.1.2	The Customer Contract automatically applies to the persons to whom under the Act or any applicable law, it is expressed to apply.	No Requirement	
5.1.3	A copy of the Customer Contract, and any variations to it must be posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water, and made available at its premises for access or collection by any member of the public, also free of any charges imposed by Hunter Water.	Full compliance	The contract is available on the website and from the Public Affairs Unit free of charge. A pamphlet summarising it is available free of charge at the Customer Centres.
5.1.4	The Customer Contract may only be varied in accordance with the Act. (Note: The Customer Contract is set out in Schedule 2 of this Licence. Division 5 of Part 5 of the Act contains various provisions in relation to the Customer Contract. Section 38 provides that Hunter Water may vary the Customer Contract with the approval of the Governor. Section 38 requires that a variation of the Customer Contract must be published in a daily newspaper circulating in the Area of Operations at least 6 months before the variation becomes effective, or a shorter period of notice approved by the Minister. A copy of the notice	Full compliance	Minister's letter (received in June 2003) indicated he had initiated changes to remove this requirement through the Statute Law Revision Program. In meantime he approved a 28 day advertising period, with Hunter Water to advertise changes to the Contract on or before 2 August 2003. An advertisement (the notice) was placed in the Newcastle Herald on 2 August 2003 advising customers of the new Customer Contract to come into effect on 1 September 2003. A summary brochure was prepared and was distributed to all customers in the billing cycle commenced on 1 November 2003.

Clause	Requirement	Compliance	Findings
	must also be given to the Customer).		
5.1.5	Unless otherwise required by the Minister, IPART must initiate a review of the Customer Contract. The review must be completed within 12 months of the Commencement date.	No Requirement	Contract has been reviewed by IPART and was released in September 2003. It was reviewed after submissions received from Hunter Water and the public.
5.1.6	The review must have regard to the system performance standards in Part 7 of this Licence.	No Requirement	Review acknowledges or takes into account the performance standards.
5.1.7	By the date of completion of the review, the person undertaking the review must produce a report setting out its findings and recommendations. A copy of the report must be provided to the Minister upon its completion.	No Requirement	
5.1.8	Within 3 months of the completion of the review of the Customer Contract under clause 5.1.5, Hunter Water must, if directed by the Minister, take all steps necessary to issue a new Customer Contract that addresses the recommendations of the review report.	Full compliance	The new customer contract was issued in September 2003.
5.1.9	Within 3 months of the completion of the review of the Customer Contract under clause 5.1.5, Hunter Water must prepare a pamphlet that: (a) provides a brief explanatory introduction to the Customer Contract; (b) summarises the key rights and obligations of Customers under the Customer Contract; and (c) lists Hunter Water's local offices and emergency contact numbers in its Area of Operations.	Full compliance	A pamphlet, summarising key rights and obligations and listing local offices was prepared and distributed with the bills for the billing cycle which commenced on November 1. It provides a brief explanatory introduction, the key rights and obligations and the addresses of the offices as well as the emergency and enquiries numbers. It also states, in 10 languages, that an interpreter service is available for people who need it. There have been presentations and toolbox talks to targeted groups within Hunter Water.

Clause	Requirement	Compliance	Findings
5.1.10	The pamphlet prepared under clause 5.1.9 must be updated when changes are made to the Customer Contract and must be posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water and also disseminated by Hunter Water free of any charges imposed by Hunter Water.		The pamphlet was distributed in the bills for the November cycle, is available on the website and can be collected from the customer service centres. There is no charge. There has not yet been two years since the original distribution for there to be compliance with 5.1.10 b).
	(a) by placing sufficient copies with the Rental Bond Board for collection by interested persons;	High Compliance	<p>With reference to the "Rental Bond Board", this matter was very difficult to investigate.</p> <p>Rental Bond Board matters are under the control of the Department of Fair Trading which has an office in Hunter St, Newcastle. In March 2003, Hunter Water sought advice from the Rental Bond Board about the location of their office and other suitable locations for placement of the brochure in the Hunter Region. Copies were sent to the Sydney office. A letter was sent in August 2003 to the Newcastle Department of Fair Trading about this same matter. When approached by the auditor, the Department said that they had no copies of the pamphlet. Further investigation through both the publications section and the renting services section of the Sydney office indicated that they could not make available any record of being asked for this service by Hunter Water and that it was not their practice to stock such brochures from outside bodies.</p> <p>Hunter Water says that they have not followed this matter up with these offices.</p> <p>The pamphlet was last distributed in bills in the cycle of November 2003 – February 2004.</p>
	(b) to Customers or Consumers, at least once every two years with their bills; and	No Requirement	Compliance only possible when two years from Sept 2003 has passed.
	(c) to any other person on request	Full compliance	This is a task for the Customer Service officers and the pamphlets are on display for this purpose.
5.1.11	Subject to the Act, Hunter Water may enter into other contracts or arrangements for the supply of Services. The terms of any such contract or	No Requirement	

Clause	Requirement	Compliance	Findings
	arrangement are such as may be negotiated between Hunter Water and any such person.		
5.2.	Consumers		
5.2.1	Hunter Water must fulfil its obligations under the Customer Contract relating to complaint handling and complaint resolution procedures, as if those obligations also extended to Consumers.	Full compliance	All complaints from tenants are treated in the same manner as for customers.
5.2.2	Where Consumers are liable to Hunter Water for charges for water use, Hunter Water must fulfil its obligations under the Customer Contract relating to debt and disconnection procedures as if those obligations also extended to Consumers.	Full compliance	In relation to debt and disconnection, Hunter Water reports that consumers (usually tenants) are given the same rights as customers. Tenants are routinely provided with information about their rights on reminder notices if accounts are outstanding. In such cases both owner and occupier (tenant) are notified and the steps available to each are outlined. The Code of Debt and Disconnection also outlines the position in relation to tenants for this situation.
5.3	Code of Practice on Debt and disconnection		
5.3.1	Within 6 months of the Commencement date, Hunter Water must develop a code of practice and procedure on debt and disconnection (collectively "Code").	No Requirement	Full compliance in previous years.
5.3.2	The Code must: (a) provide for deferred payment or payment by instalment options for charges; and (b) provide that the payment options referred to in (a) are to be advised in bills.	Full compliance	As reported in the audit of 2002/03 the Code provides for deferred payment, for instalment options and for advice about this in bills. The 2002/03 audit noted an anomaly in the information provided in the Code about debt and disconnection compared with the Customer Contract. This has been addressed. A section giving information and contact details about the Payment Assistance Scheme has been added. Three paragraphs about paying overdue accounts have also been added emphasising the need to make arrangements within seven days of receipt of a proposed recovery notice or if this is not done, to expect disconnection or restriction.

Clause	Requirement	Compliance	Findings
5.3.3	Hunter Water must ensure that the rights and obligations in the Code are incorporated into the Customer Contract as if it were part of the Customer Contract.	Full compliance	Rights and obligations under the code of practice for debt and disconnection are incorporated in the Customer Contract in detail. The auditor recommends that the section concerning disconnection in the Customer Contract pamphlet mentions the Payment Assistance Scheme.
5.3.4	Hunter Water must disseminate free of charge information on its Code; (a) by placing sufficient copies with the Rental Bond Board for collection by interested persons; (b) to Customers or Consumers, at least once each year with their bills; and (c) to any other person on request.	High compliance	Copies available in Customer Centres, on the web and sent out in bills. It was last distributed in the March to June 2004 billing cycle. While Hunter Water has attempted to meet clause 5.3.4 (a), no copies are available in the Rental Bond Board offices (see clause 5.1.10). This matter needs follow up with the Office of Fair Trading.
5.4.	Consultative Forum		
5.4.1	Hunter Water must establish and regularly consult with a Consultative Forum to enable community involvement in issues relevant to the performance of Hunter Water's obligations under this Licence.	Full compliance	The Forum was established in 1989. Hunter Water meets with the Forum on a quarterly basis. Minutes of the meetings in 2003/04 have been sighted by the Auditor.
5.4.2	The Consultative Forum may be utilised by Hunter Water, among other things, to provide it with high quality advice on the interests of Customers and Consumers of Hunter Water, on the Customer Contract and on such other key issues related to Hunter Water's planning and operations as Hunter Water may determine, consistent with the Consultative Forum Charter developed under clause 5.4.7.	Full compliance	Hunter Water reports that the Forum is mostly used in the manner described. A study of four (quarterly during the audit year) sets of minutes from the Consultative Forum was undertaken. It indicates that reports on all aspects of the Corporation's operations are presented and advice sought in a manner consistent with the Charter. Overall, the Forum seems to be functioning well and Hunter Water believes that the members use their networks to both give and receive information and feedback.
5.4.3	A Consultative Forum under this Licence must be established within 6 months of the Commencement date.	No Requirement	Hunter Water's Consultative Forum was first established in 1989 and, as such, the Licence requirement under clause 5.4.3 has been satisfied.

Clause	Requirement	Compliance	Findings
5.4.4	If prior to the Commencement date Hunter Water appointed persons to a forum similar to a Consultative Forum, that forum and its membership will continue subject to this clause and will be regarded as a Consultative Forum for the purposes of this Licence. The term of the members of that forum will expire no later than six months after the Commencement date. After that the membership of the Consultative Forum must be determined in accordance with the Consultative Forum Charter established under clause.	Full compliance	Members are now appointed according to the Consultative Forum Charter.
5.4.5	Hunter Water must at all times appoint the members of the Consultative Forum.	Full compliance	Hunter Water appoints members but has not had cause to do this in the audit year.
5.4.6	Subject to clause 5.4.4, at all times, the membership of the Consultative Forum must between them include a representative from at least each of the following: (a) business and Consumer groups; (b) organisations representing low income households; (c) people living in rural and urban fringe areas; (d) residential Consumers; (e) environmental groups; (f) local government; and (g) people from non-English speaking backgrounds.	Full compliance	Minutes and reports on the Forum were examined and all such groups are represented. While the organisations represented are expected to remain constant, the person who represents each organisation can change. New groups may nominate their organisation and Hunter Water might also approach new groups, but this has not yet happened. Hunter Water has explored the range of suitable groups and does not believe there are any other suitable groups.

Clause	Requirement	Compliance	Findings
5.4.7	<p>Within 3 months of the commencement date, Hunter Water must develop in consultation with the Consultative Forum, a Consultative Forum Charter for the duration of this Licence that addresses the following issues:</p> <ul style="list-style-type: none"> (a) the role of the Consultative Forum; (b) selection criteria on how members will be drawn from the community, and information on how vacancies for membership will be advertised; (c) the procedure for appointment of members; (d) the term of members; (e) information on how the Consultative Forum will operate; (f) a description of the type of matters that will be referred to the Consultative Forum; (g) procedures for the conduct of Consultative Forum meetings, including the appointment of a chairperson; (h) communicating the outcome of the Consultative Forum's work to Hunter Water; (i) procedures for tracking issues raised and ensuring appropriate follow-up of those issues; and (j) funding and resourcing of the Consultative Forum by Hunter Water. 	Full compliance	The draft charter, covering these issues was adopted at June 2002 meeting.
5.4.8	<p>Hunter Water must provide the Consultative Forum with information within its possession or under its control necessary to enable the Consultative Forum to discharge the tasks assigned to it, other than information or documents over which Hunter Water or another person claims confidentiality or privilege.</p>	Full compliance	A study of four (quarterly during the audit year) sets of minutes from the Consultative Forum was undertaken. It indicates that reports on all aspects of the Corporation's operations are presented and advice sought in a manner consistent with the Charter. Discussion with some members also shows that members believe that Hunter Water provides them with appropriate levels of information.

Clause	Requirement	Compliance	Findings
5.4.9	A copy of the Consultative Forum Charter must be posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water, and made available at its offices for access or collection by any member of the public, also free of charges imposed by Hunter Water.	Full compliance	The Charter appears on the website and is available through Customer Centres free of charge.
5.4.10	Hunter Water must report on the establishment and operations of the Consultative Forum and the development of the Consultative Forum Charter.	Full compliance	A report on the operations of the Forum was received by the audit team.

5.4 Discussion

5.4.1 Customer Contract

The revised Customer Contract came into effect on September 1, 2003. It has been well received by staff who view it as being easier to work with than the previous Customer Charter.

There was full compliance with almost all clauses for this section of the Licence.

The new Contract was advertised as required to Hunter Water's community and information about it was made available via the website and a pamphlet summarising its contents, all free of charge. The pamphlet states that an interpreter service is available for those who wish to use it. Hunter Water's staff has received internal training about relevant sections of the new Customer Contract.

While there is general compliance with the clauses about communicating the contract, there seems to be no information available through the Rental Bond Board. Further investigation showed that while Hunter Water wrote to the Department of Fair Trading asking to be able to display pamphlets in a suitable Hunter office, to date this service has not been obtained.

The auditor believes that Hunter Water needs to persist with efforts to comply with this clause by following up earlier correspondence with the Department of Fair Trading.

Rebates to Customers

The Customer Contract has made some changes, compared with the former Customer Charter, to the conditions under which rebates are paid to customers. The Contract requires that customers receive a rebate of 10% of their annual water or sewerage service charge and there is now a minimum of \$50 specified under the following conditions:

- If their service is interrupted for more than 24 hours in 12 months or there are more than five unplanned interruptions; and
- If they experience low water pressure of less than 15 metres head (previously less than 12 metres head) more than five times in the licence period due to a failure of the Hunter Water system.

Other conditions and levels of rebates apply as follows:

- 10% of the sewerage service charge (minimum \$150) if there are two (previously more than three) or more sewerage overflows within 12 months due to a failure in the Hunter Water system; or
- if not provided with clean water suitable for domestic purposes (in which case a rebate **may** be provided); or
- if there is a boil water alert.

These terms have changed during 2003/04 as a result of the implementation of the new Customer Contract. It is now more likely that customers would receive a rebate and the value of the rebates has increased. **Table 5.2** illustrates this.

Table 5.2 Value and Number of Rebates

Incident type	2002/03		2003/04	
	Number	Total \$ amount	Number	Total \$ amount
Water discontinuity		\$4,586	183	\$8,928.05
Low pressure		\$4,700	1,533	\$76,602.13
Sewer overflow		\$ 937	241	\$38,843.86
Total	297	\$10,223	1,957	\$124,374.04

There was a 12 fold increase in the value of the rebates while the number of rebates issued increased by 6.6 times. Hunter Water believes that this was due to a tightening of and changes to the standards applied and an increase in the value of the individual rebates. The auditor notes that most of the increase in the value of the rebates was for low pressure and sewer overflow events. These are the two aspects of the Customer Contract where the number of possible events to which rebates would apply would increase due to specification and changes in the standards. The change has thus provided a direct measure of the frequency of such events.

5.4.2 Code of Practice on Debt and Disconnection

There was full compliance with most clauses in this section of the licence. Anomalies between the Customer Contract and the Code, mentioned in last years' audit, have been addressed. Additional information has also been given about the need to make alternative arrangements about payment of bills. This is also discussed in relation to a submission by EWON (Energy and Water Ombudsman NSW) (see Chapter 11).

While a pamphlet has been produced about the Code and this has been distributed in the bills, there seem to be no copies available through the Rental Bond Board. As with the pamphlets about the Customer Contract, further investigation shows that while Hunter Water has made a written request about this, it seems that there has been no action by the Board and this requires further inquiry by Hunter Water.

5.4.3 Consultative Forum

The Consultative Forum has been functioning since 1989 and seems well established. Its purpose is to provide Hunter Water with high quality advice and a conduit to its community for advice and information.

Hunter Water has achieved full compliance with the terms of the licence in this section.

The effectiveness of the Forum may be measured by the quality of advice and this depends heavily on three factors i.e. the degree to which members are fully informed about the activities of Hunter Water, their level of personal involvement and the degree to which the members interact with their constituents through networking and feedback.

These criteria are difficult to judge. The minutes show the range of matters brought to the Forum is broad and consistent with the Charter. A telephone survey of available members showed that members are very happy with the operations of the Forum, believe they are kept informed and involved and are regarded as a source of information and a conduit to the Corporation by their constituents. Some members pointed out that the Forum provides a different kind of opportunity for community input to the workings of Hunter Water compared with making complaints or enquiry through normal channels.

Hunter Water does not publicise the work of the Forum in anything more than a routine fashion (annual report, website, and minutes provided to local libraries and local media). The auditor offers the suggestion that the obvious effectiveness of the Forum might be greater if knowledge about its existence, purpose and membership were more widespread.

5.4.4 Ministerial Compliance against Customer Service Indicators

As a result of the 2001/02 Operational Audit, the Minister for Energy and Utilities directed that Hunter Water implement monitoring of its operations against a number of customer service indicators in relation to:

- Affordability - specifically the number of disconnections, flow restrictions, debt recovery actions, customers assisted through payment support options;
- Complaints and account contacts - specifically the time to provide substantive responses to complaints by time band;
- Telephone calls - specifically the percentage of telephone calls received by a permanent primary advertised number; and
- Metered accounts where meters were not read.

Figures for these indicators have been supplied for the 2003/04 year and are compared with the 2002/03 figures in **Table 5.3**.

The figures presented in the 2002/03 audit were based on some extrapolation since data was collected from April 2003. This means that conclusions from comparisons with last year's figures can only be drawn where there are quite significant differences. It is therefore recommended that the 2003/04 figures are used as the baseline data for future years.

The table shows some data worthy of discussion.

Affordability Indicators

Table 5.3 shows an increase in the number of customers taking up payment instalments to pay their bills and a low usage of the Payment Assistance Scheme.

Hunter Water, when asked for reasons for this phenomenon, said that this is the first year of using the Payment Assistance Scheme so there is no basis for comparison. They have sought to inform people about the service through brochures and the credit management team.

In addition, Hunter Water has sought to improve its debt management performance and suggests this as a reason for the number of payment arrangements made.

It is recommended that there be further promotion of the Payment Assistance Scheme.

Complaints and account contacts

There has been a decline in the time taken to provide a substantive response to complaints despite the overall decrease in complaints.

Uneven allocation of staff for dealing with complaints has led to this problem and as a result Hunter Water has implemented the Case Investigation Team aimed at improving the timeliness and quality of complaint management. For this reason comparisons in the next audit should address this point. In the longer term, Hunter Water believes that its new Customer Information System should also provide improved complaint management.

At the same time there has been an improvement in the time taken to answer calls to the permanent advertised number and the auditor notes that improvements in the management of telephone answering system, since previous audits, have taken effect.

The percentage of accounts receiving a bill not based on an actual meter reading has increased and while not a large number in overall terms, should be monitored for causes.

The auditor recommends that cost effective targets for these indicators, based on the experience of the two audits, be agreed.

Table 5.3 Customer Service Indicators

Service	Indicator	Performance 2002/03		Performance 2003/04			
1. Affordability	Number of disconnections for non payment	Residential	5	Residential	5		
		Non residential	0	Non residential	0		
	Number of flow restrictions for non payment	703		Residential	960		
				Non residential	49		
	Number of debt recovery actions	22		Residential	16		
				Non residential	2		
	Number of customers assisted through payment support and/or instalment options	10,331		Payment Assistance Scheme (PAS) vouchers issued	355		
				Payment Arrangements	12,300		
2. Complaints and Account contacts							
a) Complaints	Time to provide a substantive response to complaints by time band						
	Percentage less than 2 days	43%		35.6%			

Service	Indicator	Performance 2002/03	Performance 2003/04
	Percentage less than 5 days	55%	49.6%
	Percentage less than 10 days	68%	63.8%
b) Account Contact	Time to provide a substantive response to account contacts by time band		
	Percentage less than 2 days	99.1%	98.2%
	Percentage less than 5 days	99.4%	98.8%
	Percentage less than 10 days	99.6%	99.3%
3. Telephone calls	Percentage of telephone calls received by a permanent primary advertised number that are answered		
	Within 15 seconds	45.6%	58.1%
	Within 30 seconds	59.3%	66.0%
	Total time when all incoming lines are busy and callers receive a busy tone	0	0
	Total number of calls abandoned	8,138 or 5.1%	7,053 or 4.6%
	Percentage of metered accounts receiving a bill not based on an actual meter read during the report year.	0.5%	0.69%

5.5 Factors Affecting Compliance

Customer Contract, Consumers and Code of Debt and Disconnection

Failure by the Rental Bond Board to respond to letters from Hunter Water has affected the level of compliance where the placement of pamphlets in the Board's offices is a requirement. Hunter Water should contact the Rental Bond Board to determine the reasons for this problem.

5.6 Recommendations

5.6.1 Key Recommendations

It is recommended that Hunter Water:

R5.1 Persists with ensuring that pamphlets about the Customer Contract and the Code of Debt and Disconnections are available through the Rental Bond Board and ensures that their availability is maintained by specifically contacting the Department of Fair Trading to discuss this.

R5.2 That there be further promotion of the Payment Assistance Scheme.

5.6.2 Secondary Recommendations

It is recommended that Hunter Water:

- Considers additional means of informing renting consumers about their rights.
- Publicises the work of the Consultative Forum to encourage wider knowledge of its work, its accessibility and the possibility of membership.
- Conduct a review of the effectiveness of the Consultative Forum at a suitable time to provide a measure of the degree to which it represents the community and its ability to communicate with the community.
- Explores again other suitable groups who may wish to nominate for membership of the Forum.
- Investigates the reasons for an increase in the number of metered accounts receiving a bill not based on a meter reading.

6 Water Quality

6.1 Summary of Findings

Hunter Water supplies water of excellent quality to its customers and accordingly, Hunter Water has achieved **full compliance** with all of its Operating Licence requirements during 2003/04.

Hunter Water has also achieved **full compliance** with the Ministerial Requirements, resulting from the recommendations of the 2002/03 Audit with the exception of one item that is effectively a “work in progress”.

6.2 Summary of Requirements

Part 6 of the Licence specifies requirements relating to Water Quality supplied to customers and consumers. The key requirements in this part (omitting the definitional clauses) are:

- Clause 6.2 – Drinking Water Quality - Standards: This clause specifies the standards of drinking water quality that Hunter Water is required to meet.
- Clause 6.3 – Drinking Water Quality - Monitoring: This clause specifies the drinking water quality monitoring requirements that Hunter Water is required to meet.
- Clause 6.4 - Drinking Water Quality - Reporting: This clause specifies the drinking water quality reporting requirements that Hunter Water is required to meet.
- Clause 6.5 - Drinking Water Quality - Planning: This clause specifies the planning measures that Hunter Water is required to meet to ensure that it meets its drinking water quality requirements into the future.
- Clause 6.6 – Other Grades of Water: This clause specifies Hunter Water’s obligations for the supply of “other grades of water”.
- Clause 6.7 – Environmental Water Quality: This clause specifies Hunter Water’s reporting requirements for any discharges or water releases required by Licence.

Clause 11.2.1(b) requires IPART or the auditor to investigate and report on Hunter Water’s performance under Part 6 of the Operating Licence. This clause does not set requirements for Hunter Water but for IPART and/or the auditor. This section of the audit report addresses this clause of the Operating Licence.

6.3 Details of Compliance

Table 6.1 Water Quality – Part 6 of the Operating Licence

Clause	Requirement	Compliance	Findings
6.2.	Drinking Water Quality – Standards		
6.2.1	<p>Hunter Water must comply with the following relating to drinking water:</p> <p>(a) the Drinking Water Guidelines relating to Health guideline values specified by NSW Health; and</p> <p>(b) the Drinking Water Guidelines relating to aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc.</p>	Full Compliance	<p>Hunter Water's monitoring results indicate that Hunter Water supplied water of an excellent quality to its customers in full compliance with the requirements of the Australian Drinking Water Guidelines and the requirements of the NSW Department of Health.</p> <p>In particular, Hunter Water achieved:</p> <ul style="list-style-type: none"> For Microbiological water quality parameters a result of 99.7% (Licence Target = 98%) for Thermotolerant Coliforms and 98.9% (Licence Target = 95%) for Total Coliforms respectively. This represents full compliance with these aspects of the Australian Drinking Water Guidelines. For Physical/Chemical water quality, the 12 month 95%iles for all parameters were below the Guideline values. This represents full compliance with these aspects of the Australian Drinking Water Guidelines. <p>(Note: a 95 percentile (95%ile) value is the value that 95% of the sample results are equal to or less than).</p>
6.2.2	If there is an inconsistency between the Health guideline values in clause 6.2.1 (a) and the aesthetic guideline value in clause 6.2.1 (b), the Health guideline value is to prevail.	No requirement	Definitional clause only.
6.2.3	In delivering the water services, Hunter Water must have regard to the concepts of risk minimisation practices and system management of public water supplies in the Drinking Water Guidelines (including in relation to <i>Cryptosporidium</i> and <i>Giardia</i>).	Full Compliance	<p>As noted in previous Audits, Hunter Water has undertaken a qualitative risk assessment in accordance with AS/NZS 4360:1999 Risk Management. Elements of this approach are exemplified by Hunter Water's:</p> <ul style="list-style-type: none"> Five-Year Drinking Water Quality Management Plan that utilises a Risk Based Approach; Maintenance of an Incident Management Plan; and an Annual Water Quality Monitoring Plan that verifies the drinking water quality achieved.

Clause	Requirement	Compliance	Findings
6.2.4	In assessing Hunter Water's compliance with clause 6.2, pH levels in cement mortar lined pipes will be assessed in the range 6.5 – 9.2, in accordance with the Drinking Water Guidelines.	Full Compliance	Hunter Water's monitoring results indicate that Hunter Water consistently supplied water with 12 month 95 percentile value of 8.3. (Note: a 95 percentile value is the value that 95% of the sample results are equal to or less than.)
6.3.	Drinking Water Quality - Monitoring		
6.3.1	Hunter Water must prepare, to the satisfaction of NSW Health, an Annual Comprehensive Water Quality Monitoring Plan for the water supply system by 30 April each year, for the duration of this Licence.	Full Compliance	Hunter Water initially developed its Five-Year Water Quality Monitoring plan in 2000. This Plan has been the subject of annual updates each year thereafter. The updated Plan was submitted to NSW Health on 27 April 2004.
6.3.2	The Annual Comprehensive Water Quality Monitoring Plan for the water supply system must provide for performance monitoring and regular sampling, laboratory testing and processes to ensure quality control, as required by NSW Health. The monitoring of water quality must include: a) the health parameters and the aesthetic parameters for which compliance is required under clauses 6.2.1 (a) and (b); and b) the parameters relating to Bulk Water as are specified in Schedule 3.	Full Compliance	Hunter Water's Five-Year Water Quality Monitoring Plan outlines the required performance monitoring and regular sampling, laboratory testing and processes and includes a comprehensive listing of the parameters, historical monitoring records and the results achieved for: <ul style="list-style-type: none"> the health and aesthetic parameters for which compliance is required; and the parameters relating to Bulk Water as specified.
6.3.3	The monitoring must assess the quality of drinking water supplied by Hunter Water to customers and consumers. The sampling frequency and the locations chosen for the monitoring should be such that the results are representative of the quality of water supplied to customers and consumers, to the satisfaction of NSW Health.	Full Compliance	Hunter Water's selection of sampling locations and planned frequency of sampling is in accordance with the Australian Drinking Water Guidelines.
6.3.4	Hunter Water must undertake drinking water quality monitoring during this Licence as required by NSW Health.	Full Compliance	Hunter Water has carried out the required drinking water quality monitoring.

Clause	Requirement	Compliance	Findings
6.3.5	Where the Drinking Water Guidelines recommend monitoring at a customer's or consumer's tap, Hunter Water must monitor at the property boundary from a water service pipeline directly off a watermain which is representative of the quality of water supplied to the customer or consumer.	Full Compliance	Hunter Water monitors drinking water quality at its customer's or consumer's taps as required.
6.4.	Drinking Water Quality - Reporting		
6.4.1	A monthly summary of Hunter Water's water quality monitoring test results must be placed on its website on the internet each month and also made available at its offices for access or collection by any person, free of any charges imposed by Hunter Water.	Full Compliance	Hunter Water places monthly drinking water quality monitoring test results on its website on the internet. These results are also available at Hunter Water's offices for access or collection by interested persons without charge.
6.4.2	Hunter Water must produce an Annual Water Quality Report that compares actual drinking water quality against the requirements of the Drinking water guidelines. The Annual Water Quality Report must provide detail on the Health guideline values and aesthetic guideline values for which compliance is required under clause 6.2.1.	Full Compliance	Hunter Water has produced its Annual Water Quality Report that compares actual drinking water quality against the requirements of the Drinking Water Guidelines. The report provides details on the Health and aesthetic guideline values for which compliance is required. This report was made available to the Auditors.
6.4.3	The Annual Water Quality Report must also include a summary of monitoring information, including information relating to Bulk water parameters as specified in clause 6.3.2 and Schedule 3.	Full Compliance	Hunter Water's Annual Water Quality Report includes summarised information that includes: <ul style="list-style-type: none"> • Water quality trends and a summary of system failures, if applicable; • Action taken to resolve deteriorating quality trends and system failures; and • Information relating to Bulk Water parameters as required.

Clause	Requirement	Compliance	Findings
6.4.4	The Annual Water Quality Report must be prepared by 30 November each year, unless otherwise agreed, and must relate to the immediately preceding financial year. The report must be provided to IPART, and must also be placed on Hunter Water's website on the internet for downloading by the public free of any charge imposed by Hunter Water and also made available at its offices for access or collection by any person, also free of charge.	Full Compliance	Hunter Water's Annual Water Quality Report was prepared on 20 th September 2004 and has been: <ul style="list-style-type: none"> Placed on Hunter Water's website; and Provided to IPART.
6.5.	Drinking Water Quality - Planning		
6.5.1	Hunter Water must maintain, to the satisfaction of NSW Health, a Five-Year Water Quality Management Plan.	Full Compliance	As per the findings of previous audits, Hunter Water has prepared a Five-Year Water Quality Management Plan during 2000. This Plan is due for an update/review during 2005.
6.5.2	The Five-Year Water Quality Management Plan must include strategies for the comprehensive management of all aspects of the water supply cycle necessary to ensure that the quality of drinking water supplied to customers and consumers complies with clause 6.2.1. The Plan should adopt the multi-barrier approach to protection of drinking water outlined in the drinking water guidelines covering catchment management and Bulk Water, treatment, disinfection and water supply system management.	Full Compliance	See findings of previous audits.
6.5.3	Hunter Water must prepare, to the satisfaction of NSW Health, an Annual Water Quality Improvement Plan for the water supply system by 31 March in each year, unless otherwise specified following the review under clause 6.5.5.	Full Compliance	Hunter Water has prepared its Annual Water Quality Improvement Plan for the water supply system as required. The plan was submitted to NSW Health on 31 st March 2004.

Clause	Requirement	Compliance	Findings
6.5.4	The Annual Water Quality Improvement Plan must incorporate system and operational changes needed to address problems identified through drinking water quality monitoring data and through periodic system inspections and evaluations, the aim of which is to reduce risks to public health and meet any aesthetic guideline values applying to Hunter Water in or by this Licence.	Full Compliance	Hunter Water's Annual Water Quality Improvement Plan incorporates system and operational changes needed to address problems identified through drinking water quality monitoring data, etc, as required.
6.5.5	The Annual Water Quality Improvement Plan must be reviewed as part of any review of the Licence to assess its continued effectiveness and whether there is a continued need for the plan each year.	No Requirement	Hunter Water's Licence has not been the subject of review during the Audit period.
6.5.6	Hunter Water must assess the risks of failing to comply with clause 6.2, in relation to Drinking water. Hunter Water must conduct this risk assessment within six months of the Commencement date, and must review its risk assessment at least twice during this Licence.	Full Compliance	As noted in previous Audits, Hunter Water has undertaken a qualitative risk assessment in accordance with <i>AS/NZS 4360:1999 Risk Management</i> . This was undertaken during December 2002. Hunter Water intends to undertake reviews of its risk assessment during the second half of 2004 and during 2006; dates that are outside the period of this Audit.
6.5.7	Hunter Water must maintain, to the satisfaction of NSW Health, an Incident Management Plan, which must remain in place until any new plan is developed in agreement with NSW Health.	Full Compliance	As noted in previous audits, Hunter Water maintains, an Incident Management Plan since 1998. The Plan was last updated in 2002. Hunter Water carried out a "Desktop Crisis Management Scenario" to test its current procedures that are currently in place. An additional consultancy assignment has been awarded following the desktop exercise to revise incident procedures and The Incident Management Plan to address issues learned as a result of this exercise. A draft of the revised Plan will be provided to NSW Health for comment once complete.
6.5.8	The Incident Management Plan must contain, or incorporate by reference, procedures and protocols for the coordinated management of drinking water incidents including media and stakeholder liaison and any notification of public health advice received from NSW Health to Customers.	Full Compliance	As noted in previous audits, Hunter Water's Incident Management Plan incorporates procedures and protocols for the management of specific incidents that include: <ul style="list-style-type: none"> • Chemical spills; • Wastewater Treatment Plant malfunctions; and • <i>Cryptosporidium</i> and/or <i>Giardia</i> outbreaks.

Clause	Requirement	Compliance	Findings
6.6.	“Other grades of water”		
6.6.1	“Other grades of water” supplied by Hunter Water must be supplied according to relevant guidelines and requirements prescribed by EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture, and other relevant government agencies.	Full Compliance	Hunter Water supplies reclaimed water, or “other grades of water” to a number of customers including industries, golf courses and educational institutions. The supply of “other grades of water” complies with the relevant requirements of the EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture, and other relevant government agencies.
6.6.2	Where there is a conflict between any of the guidelines, requirements or standards applying to Hunter Water under clause 6.6.1 the Minister’s decision will prevail.	No Requirement	Definitional clause only.
6.6.3	Hunter Water must use its best endeavours to reach agreement with persons to whom “other grades of water” is supplied, as to the water quality standards that are to apply to that water for use other than as drinking water. The terms of the arrangements must at minimum include: (a) the standard of the quality of the water supplied; (b) the purpose of the supply; (c) the continuity of the water supplied; and (d) the costs to be paid by Customers for the supply of water to them.	Full Compliance	Hunter Water supplies reclaimed water or “other grades of water” to customers under a Deed of Supply of Effluent that outlines the required terms and arrangements as indicated in the Licence. An internal Hunter Water working party has: <ul style="list-style-type: none"> Recently finalised a review of supply contracts. Will be using these as we renew contracts with existing customers whose contracts are due for renewal after July 2004. For customers whose contracts were subject to renewal prior to July 2004, the previous contracts were renewed according to the previous terms of use.
6.6.4	Hunter Water must advise persons to whom “other grades of water” is supplied, of the potential uses for the “other grades of water” and of the requirement of the water to undergo water treatment, if it is to be used as drinking water.	Full Compliance	During 2004 Hunter Water has been finalising its legal review of supply contracts for potential new customers and has written to existing customers advising of the review process and indicating it will be meeting with them over the next 6 months to update their current supply arrangements.
6.7.	Environmental Water Quality		
6.7.1	Hunter Water must report its performance against any environmental water quality requirements for	Full Compliance	Hunter Water has reported to its performance for two types of environmental releases, as follows:

Clause	Requirement	Compliance	Findings
	any discharges or water releases required by Licences issued to it by the EPA or the Department of Land and Water Conservation.		<ul style="list-style-type: none"> Releases from wastewater treatment plants. Environmental flows from Chichester Dam.
	Ministerial Requirements arising from the 2002/03 Audit		
N/A	Water quality: 1. "Undertake security measures as per NSW Health recommendations. The incident response plan should be tested during 2004 using relevant scenarios to ensure that management are well trained."	Partial Compliance	<p>Hunter Water has engaged an external consultant to undertake a "desktop" exercise during June 2004. The outcomes of this exercise have been assessed and a follow-up consultancy has been awarded for a general revision of Hunter Water's incident management procedures. This will address a range of risks including water quality, discontinuity, environmental and security. The consultancy also incorporates a requirement for further staff training on the revised procedures.</p> <p>To satisfactorily comply with this requirement, the work required to be undertaken by Hunter Water will, of necessity, take longer than 12 months to complete. This requirement is deemed to be a "work in progress". Hunter Water has fully complied with commencing the tasks required but these tasks are yet to be completed. The compliance rating for this requirement is considered to be Partial Compliance, which should not be construed as an indication of "poor" performance on the part of Hunter Water.</p>
N/A	Water quality - taste and odour: 2. "It is recommended that taste testing occur at Chichester and Grahamstown on a daily basis so that taste and odour problems can be identified as soon as they occur."	Full Compliance	<p>Hunter Water is currently monitoring for taste and odour on a Monday to Friday basis. During periods of low incidence of Taste and Odour related issues, testing during weekdays (and not 7 days per week per the literal interpretation of the Ministerial Requirement) is considered to be satisfactory. During periods of escalating Taste and Odour related issues, Hunter Water should increase testing/monitoring to 7 days per week in lieu of testing only during weekdays.</p>
N/A	Water quality - taste and odour: 3. "It is recognised that identifying a trigger for taste and odour problems is the subject of significant research across Australia. Continued investment by Hunter Water in research is recommended with specific emphasis on their	Partial Compliance	<p>Hunter Water proposes to incorporate this requirement into the performance agreement with its Scientific Officer within its Planning Group to take a "watching brief" on relevant research and build on such research as necessary in relation to its own specific catchments.</p> <p>Hunter Water has regularly reviewed available research of taste and odour issues. Hunter Water's experience with taste and odour issues for its source-water has been with algal and microbial metabolites for which taste</p>

Clause	Requirement	Compliance	Findings
	water supply system."		<p>thresholds have been empirically determined. Hunter Water's sources have undergone formalised risk assessment, analysis of organic contamination including taste and odour, resulting in PAC dosing facilities for major identified at-risk sources. Sources are monitored directly for algal levels. Other microbial sources are monitored indirectly via indicator organisms' nutrient levels (TOC). Storages are operated to reduce known circumstances which can contribute to taste and odour incidents.</p> <p>To satisfactorily comply with this requirement, the work required to be undertaken by Hunter Water will, of necessity, be ongoing. This requirement is deemed to be a "work in progress". Hunter Water has fully complied with commencing the tasks required. The compliance rating for this requirement is considered to be Partial Compliance, which should not be construed as an indication of "poor" performance on the part of Hunter Water.</p>
N/A	<p>Water quality - taste and odour:</p> <p>4."Hunter Water should investigate methods for reducing the time taken to address the problem. Methods investigated could include PAC (powdered activated carbon) dosing when taste and odour problems occur while a substitute source is brought online or investigation of other technologies to remove taste and odour compounds."</p>	Full Compliance	<p>Hunter Water commissioned a new PAC dosing plant during February 2004. This automated plant can now be operated as necessary during any transition to groundwater when taste and odour events occur.</p>
N/A	<p>Reporting:</p> <p>"I require Hunter Water to report to me on its progress in fulfilling these requirements by no later than 31 March 2004."</p>	Full Compliance	<p>Hunter Water has submitted the required report.</p>

6.4 Discussion

Water Quality Supplied to Customers

Hunter Water supplied drinking water of excellent to its customers during 2003/04. Monitoring results indicate that the drinking water supplied by Hunter Water to its customers is of an excellent quality having a compliance of 100% with the NHMRC/ARMCANZ Australian Drinking Water Guidelines.

Microbiological Indicators

The NHMRC/ARMCANZ Australian Drinking Water Guidelines recommend that drinking water supplied to customers should be monitored for thermotolerant coliforms and total coliforms as indicators of potential microbial contamination. The Guidelines recommend that:

- More than 98% of samples tested should contain zero thermotolerant coliforms per 100 millilitres; and
- More than 95% of samples tested should contain zero total coliforms per 100 millilitres.

Hunter Water achieved full compliance (100% compliance) with these requirements for 2003/04 as shown in **Table 6.2**.

Table 6.2 Microbiological Indicators – Monitoring Results for 2003/04

Water Quality Parameter	Australian Drinking Water Guideline Value	Value for 2003/04
Thermotolerant Coliforms	More than 98% of samples tested should contain zero thermotolerant coliforms	99.7% of samples tested contained zero thermotolerant coliforms
Total Coliforms	More than 95% of samples tested should contain zero total coliforms	98.9% of samples tested contained zero total coliforms

Additionally, monitoring for *Cryptosporidium* and *Giardia* is undertaken fortnightly for Dungog and Grahamstown raw water and quarterly for Tomago, Lemon Tree Passage, Anna Bay, and Nelson Bay raw water. No detection of *Cryptosporidium* or *Giardia* was found during the year.

Physical and Chemical Indicators

The NHMRC/ARMCANZ Australian Drinking Water Guidelines also recommend that drinking water supplied to customers by Hunter Water should be monitored for a range of physical or chemical parameters. Hunter Water achieved full compliance (100% compliance) with these requirements for 2003/04 as shown in the following **Table 6.3**.

Table 6.3 Physical and Chemical Indicators – Monitoring Results for 2003/04

Water Quality Parameter	Australian Drinking Water Guideline Value – Health	Australian Drinking Water Guideline Value – Aesthetic	Monitored 95%ile ¹ Value for 2003/04
pH	NA	6.5 - 9.2	8.30
Colour	NA	15 HU	5.00 HU
Turbidity	NA	5 NTU	0.70 NTU
Chlorine	5 mg/L	6 mg/L	0.95 mg/L
Aluminium	0.2 mg/L	NA	0.08 mg/L
Copper	2 mg/L	1 mg/L	0.05 mg/L
Fluoride	1.5 mg/L	NA	1.03 mg/L
Iron	NA	0.3 mg/L	0.05 mg/L
Lead	NA	10 ug/L	1.0 ug/L
Manganese	0.5 mg/L	0.1 mg/L	0.03 mg/L
Zinc	NA	3 mg/L	0.02 mg/L
THMs	250 ug/L	NA	134 ug/L

Note: 1. a 95 percentile value is the value that 95% of the sample results are equal to or less than.

Bulk Water Indicators

Clause 6.3.2 (b) of Hunter Water's Operating Licence requires the monitoring of its bulk water for the "Schedule 3" parameters. The "Schedule 3" parameters include the following Bulk Water Motoring Parameters:

- **Pesticides** - Aldrin, HCB, Heptochlor, BHC, DDT, Lindane, Chlordane, DDD, PCB, Dieldrin and DDE.
- **Chemical** - Antimony, Copper, Selenium, Arsenic, Cyanide, Sodium, Barium, Iodide, Sulphide, Beryllium, Lead, Tin, Boron, Mercury, Zinc, Cadmium, Nickel, Silver, Chromium, and Molybdenum.

For the year 2003/04 for Hunter Water's bulk water supplies:

- No pesticides were detected; and
- All chemical samples were well within the NHMRC/ARMCANZ Australian Drinking Water Guidelines values.

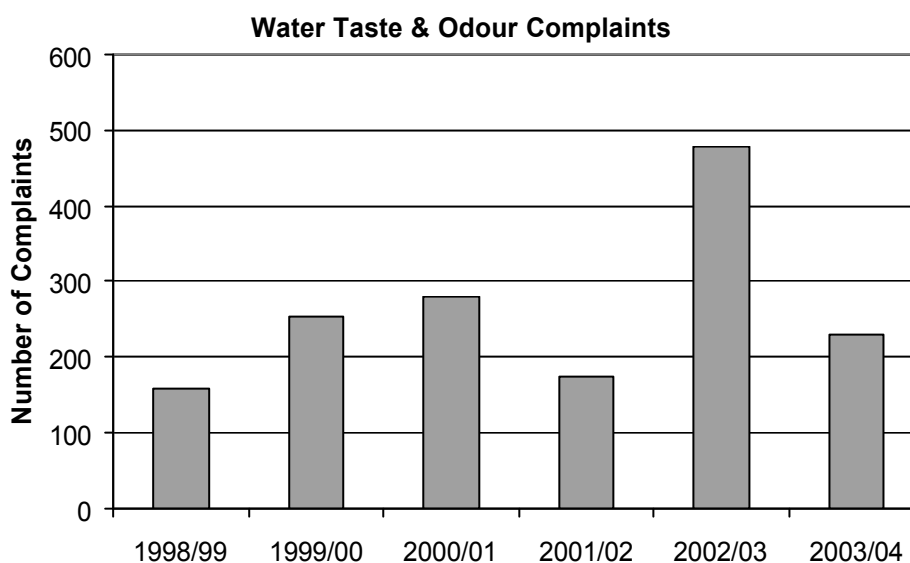
Taste and Odour

While the drinking water supplied by Hunter Water during 2002/03 achieved full compliance for quality, Hunter Water experienced a larger number of complaints for taste and odour than it had previously experienced. This prompted a requirement for Hunter Water to increase its previous level of monitoring for taste and odour forming compounds

within its raw water. Hunter Water has fully complied with the requirement for additional monitoring during 2003/04.

The number of taste and odour complaints received during 2003/04 is significantly less than for 2002/03 as shown in **Figure 6.1**, however, this is probably due different climatic conditions experienced during the year.

Figure 6.1 Total Number of Taste and Odour Complaints from 1998/99 to 2003/04



Water Quality Monitoring

Hunter Water undertakes its water quality monitoring for its water supply system in accordance with its Annual Water Quality Monitoring Plan. The preparation of an Annual Water Quality Monitoring Plan, for submission to NSW Health, is a Licence requirement.

Hunter Water's Annual Water Quality Monitoring Plan outlines the planned routine monitoring of the water supply system to be undertaken to ensure compliance with the requirements of the NHMRC/ARMCANZ Australian Drinking Water Guidelines. The Annual Water Quality Monitoring Plan has been found to be consistent with the requirements of the NHMRC/ARMCANZ Australian Drinking Water Guidelines and has been submitted to NSW Health as required.

Additionally, Hunter Water monitors its water quality by its Water Quality Committee on a monthly basis.

Water Quality Reporting

Hunter Water produces monthly Water Performance Reports that summarise water quality results. These reports are also posted on Hunter Water's website.

At year's end, Hunter Water produces an Annual Water Quality Report that compares system performance against the requirements of the NHMRC/ARMCANZ Australian Drinking Water Guidelines. This report is provided to NSW Health and is also posted on Hunter Water's website.

Water Quality Planning

As per the findings of previous audits, Hunter Water prepared:

- A Five-Year Water Quality Management Plan during 2000 and provided it to NSW Health; and
- An Incident Management Plan that incorporates procedures and protocols for the management of specific incidents that include:
 - Chemical spills;
 - Wastewater Treatment Plant malfunctions; and
 - Cryptosporidium and/or Giardia outbreaks.

Hunter Water has also prepared an Annual Water Quality Improvement Plan as required by its Licence and has submitted it to NSW Health.

Drinking Water Risk Management

As noted in previous Audits, Hunter Water has undertaken a qualitative risk assessment in accordance with AS/NZS 4360:1999 Risk Management. Elements of this approach are exemplified by Hunter Water's:

- Five-Year Drinking Water Quality Management Plan that utilises a Risk Based Approach;
- Maintenance of an Incident Management Plan; and
- Preparation of an Annual Water Quality Monitoring Plan that verifies the drinking water quality achieved.

Other Grades of Water

Hunter Water supplies reclaimed water or "other grades of water" to customers under a Deed of Supply of Effluent that outlines the required terms and arrangements as indicated in the Licence.

An internal Hunter Water working party has:

- Recently finalised a review of supply contracts. Hunter Water will be using these as they renew contracts with existing customers whose contracts are due for renewal after July 2004.

- For customers whose contracts were subject to renewal prior to July 2004, the previous contracts were renewed according to the previous terms of use.

Environmental Water Quality

Hunter Water has fully complied with the required reporting of its performance for two types of environmental releases, as follows:

- Releases from Wastewater Treatment Plants; and
- Environmental flows from Chichester Dam.

It should be noted, however, that Hunter Water's Licence requirement is simply to "report" its performance. There is no specific requirement for attaining the effluent discharge qualities stipulated by the NSW EPA in the individual Licences granted to Hunter Water, for example. This is a matter for monitoring and overview by the EPA.

Ministerial Requirements arising from the 2002/03 Audit

Hunter Water has fully complied with the Ministerial Requirements arising from the 2002/03 Audit with the exception of the following two requirements:

"Undertake security measures as per NSW Health recommendations. The incident response plan should be tested during 2004 using relevant scenarios to ensure that management are well trained."

and

3. "It is recognised that identifying a trigger for taste and odour problems is the subject of significant research across Australia. Continued investment by Hunter Water in research is recommended with specific emphasis on their water supply system."

To satisfactorily comply with these requirements, the work required to be undertaken by Hunter Water will, of necessity, take longer than 12 months to complete. Both of these requirements are deemed to be "works in progress". Hunter Water has fully complied with commencing the tasks needed to be undertaken to comply with the requirements but these tasks are yet to be completed.

For the first of these requirements, Hunter Water has undertaken a "desktop" exercise during June 2004 and an initial assessment of the outcomes of the exercise. A further review of the "lessons learned" is warranted, followed by the documentation of any amendments to policies, procedures and training needed as a result. The second of the foregoing requirements is by its nature an ongoing task for Hunter Water.

Thus, the compliance rating for these requirements is considered to be Partial Compliance, which should not be construed as an indication of "poor" performance on the part of Hunter Water.

Recommendations arising from the 2002/03 Audit

The substantive recommendations arising from the 2002/03 Audit were taken up by the Minister and subsequently conveyed to Hunter Water as Ministerial Requirements. As per the above, Hunter Water has fully complied with the Ministerial Requirements arising from the 2002/03 Audit with the exception of one of the requirements for which it has partially complied.

Accuracy in Data Collection

Hunter Water's processes/systems utilised for the collection and collation of data used to report on its performance with respect to water quality issues were reviewed during the course of this year's Audit.

The Audit has found that the processes/systems utilised by Hunter Water for the collection and collation of data used to report on its performance with respect to water quality issues are comprehensive, rigorously followed, and most importantly, due to the steps within the processes/systems that require detailed human interaction, are demonstrably self checking and thus are considered to collect and collate performance data with appropriate accuracy; accuracy at least equivalent to the level of data accuracy supplied by like Water Authorities known to the Auditor.

6.5 Factors Affecting Compliance

Hunter Water has fully complied with its Licence requirements for Water Quality. Accordingly no events or factors have been identified during the audit period that have affected Hunter Water's compliance with this part (Part 6) of the Operating Licence.

6.6 Recommendations

It is recommended that Hunter Water:

- R6.1 Undertakes a further review of the "lessons learned" from its "desktop" exercise for security measures as per NSW Health recommendations, followed by the documentation of any amendments to policies, procedures and training needed as a result.

7 System Performance

7.1 Summary of Findings

Hunter Water has achieved **full compliance** with all of its Operating Licence requirements during 2003/04, with the exception of its requirement (per clause 7.3.1) that requires Hunter Water to ensure that no more than 14,000 properties in a financial year experience one or more water interruptions (whether a Planned water interruption or an Unplanned water interruption) which taken together have a cumulative duration exceeding five (5) hours.

Hunter Water's **non-compliance** with this Licence requirement was largely due to a one-off trunk main failure that affected more than 5,500 properties. For the 2003/04 Financial Year, 15,248 properties experienced one or more water interruptions with a duration in excess of five (5) hours. This is discussed more fully later in this section of the report.

Hunter Water achieved **full compliance** with the Ministerial Requirements, resulting from the recommendations of the 2002/03 Audit.

7.2 Summary of Requirements

Part 7 of the Licence specifies requirements relating to the performance of Hunter Water's water supply and wastewater systems. The key requirements in this part (omitting the definitional clauses) are:

- Clause 7.3 – System Performance Standards: This clause specifies the standards of system performance that Hunter Water is required to meet.
- Clause 7.4 – Reporting on System Performance: This clause specifies the system performance reporting requirements that Hunter Water is required to meet.
- Clause 7.5 – System Performance Indicators: This clause specifies the system performance indicators that Hunter Water is required to monitor and report on.
- Clause 7.6 – Keeping of Records on Water Interruptions, Low Pressure and Sewage Overflows: This clause specifies records that Hunter Water is required to keep with respect to water interruptions, low pressure and sewage overflows.
- Clause 7.7 – Report on Low Pressure Areas: This clause specifies Hunter Water's obligation to report on the location of low water pressure areas within its supply area.

Clause 11.2.1(c) requires IPART or the auditor to investigate and report on Hunter Water's performance under Part 7 of the Operating Licence. This clause does not set requirements for Hunter Water but for IPART and/or the auditor. This section of the audit report addresses this clause of the Operating Licence.

7.3 Details of Compliance**Table 7.1 System Performance – Part 7 of the Operating Licence**

Clause	Requirement	Compliance	Findings
7.2.	Interpretation		
<i>Commencement and cessation of a water interruption</i>			
7.2.1	<p>A water interruption will be taken to have commenced:</p> <p>(a) In the case of an Unplanned water interruption, on the earlier of:</p> <p>(i) the time that Hunter Water is aware that a water interruption has occurred or the time that, having regard to all the circumstances, Hunter Water ought reasonably to have become aware of a water interruption;</p> <p>(ii) the time that a water interruption is estimated by Hunter Water to have occurred by the application of well accepted methodologies or practices designed to estimate such occurrences; and</p> <p>(iii) the time that Hunter Water is informed of a water interruption by a person.</p> <p>(b) In the case of a Planned water interruption, at the time that the water is interrupted for work that is specified in the notice given by Hunter Water.</p> <p>(c) A water interruption will be taken to have ended at the time that Hunter Water reasonably estimates that the water interruption ceases.</p>	No Requirement	Definitional clause only.

Clause	Requirement	Compliance	Findings
<i>Commencement and cessation of a pressure incident</i>			
7.2.2	Clause 7.2.1 (a) and (c) applies (with all necessary changes) to a pressure incident as if the reference in that clause to a water interruption were a reference to a pressure incident.	No Requirement	Definitional clause only.
<i>Commencement and cessation of sewage overflows</i>			
7.2.3	Clause 7.2.1 (a) and (c) applies (with all necessary changes) to an uncontrolled sewage overflow as if the reference in that clause to a water interruption were a reference to an Uncontrolled sewage overflow.	No Requirement	Definitional clause only.
7.3.	System Performance Standards		
<i>Water Continuity Standard</i>			
7.3.1	Hunter Water must ensure that no more than 14,000 properties in a financial year experience one or more water interruptions (whether a Planned water interruption or an Unplanned water interruption) which taken together have a cumulative duration exceeding five (5) hours.	Non Compliance	Hunter Water failed to comply with this Licence requirement for the 2003/04 Financial Year. 15,248 properties experienced one or more water interruptions with a duration in excess of five (5) hours during the Audit period, largely due to a one-off trunk main failure that affected more than 5,500 properties. This is discussed more fully in the following sub-section.
<i>Water Pressure Standard</i>			
7.3.2	Hunter Water must ensure that no more than 4,800 properties in a financial year experience one or more pressure incidents, where a "pressure incident" is an event where the water pressure to a Property falls below 20 metres head at the point of connection of the property to Hunter Water's main, other than as a result solely of: (a) a water interruption; (b) water usage by authorised fire authorities in the case of a fire; or (c) operational problems (including breaks in a main	Full Compliance	Hunter Water reports that 1,655 properties experienced one or more pressure incidents during the 2003/04 Financial Year.

Clause	Requirement	Compliance	Findings
	or a failure of a pump) that are temporary and short term in nature.		
<i>Sewage Overflows Standard</i>			
7.3.3	Hunter Water must ensure that the number of uncontrolled sewage overflows in a financial year (other than on Public land) does not exceed 6,500.	Full Compliance	Hunter Water reports that it experienced 3,190 uncontrolled sewage overflows during the 2003/04 Financial Year.
7.4.	Reporting on system performance		
<i>Reporting on Water Interruptions</i>			
7.4.1	Hunter Water must report on the number of properties that experience a Planned water interruption, an Unplanned water interruption or an experience as described in clause 7.3.1 of this Licence.	Full Compliance	Hunter Water has prepared and submitted a report outlining its performance with respect to the number of properties that have experienced: <ul style="list-style-type: none"> Planned water interruptions; Unplanned water interruptions; and Planned or an Unplanned water interruptions with a cumulative duration of greater than five (5) hours.
<i>Reporting on Water Pressure</i>			
7.4.2	Hunter Water must report on the number of properties that experience one or more pressure incidents described in clause 7.3.2 of this Licence.	Full Compliance	Hunter Water has prepared and submitted a report outlining its performance with respect to the number of properties that have experienced one or more pressure incidents.
<i>Reporting on Sewage Overflows</i>			
7.4.3	Hunter Water must report on the number of uncontrolled sewage overflows (other than on Public land) and whether the uncontrolled sewage overflow occurred in dry weather or wet weather.	Full Compliance	Hunter Water has prepared and submitted a report outlining its performance with respect to the number of uncontrolled sewage overflows.
<i>Publication of reports</i>			
7.4.4	A copy of the reports provided under clause 7.4 must be posted on Hunter Water's website for downloading and also made available at its premises for access or collection by any member of the public, in each case free of any charge imposed by Hunter Water.	Full Compliance	Hunter Water's reports its performance with respect to water interruptions, water supply pressure incidents and the number of uncontrolled sewage overflows. A copy of this report is posted on Hunter Water's website and is made available at its office.

Clause	Requirement	Compliance	Findings
7.5.	System Performance Indicators		
7.5.1	Schedule 4 applies.	No Requirement	Definitional clause only.
7.5.2	Hunter Water must report its performance against the system performance indicators in Schedule 4 and must make the report publicly available by posting it on its website for downloading, and make it available at its premises for access or collection by any member of the public, in each case free of any charge imposed by Hunter Water.	Full Compliance	Hunter Water has reported its performance with respect to the system performance indicators in Schedule 4 (of the Licence) as required.
7.6.	Keeping of records on water interruptions, low pressure and sewage overflows		
7.6.1	Hunter Water must maintain such records as are necessary to meet its obligations under clauses 7.3 and 7.4 of this Licence and Schedule 4.	Full Compliance	Hunter Water maintains adequate records with respect to water interruptions, water supply pressure incidents and the number of uncontrolled sewage overflows as required.
7.6.2	Despite any other obligations in this Licence, Hunter Water must maintain records of the nature and type of water interruptions, pressure incidents and sewage overflows classified by reference to the suburb in which these interruptions, incidents or overflows occur.	Full Compliance	Hunter Water maintains the records of water interruptions, water supply pressure incidents and the number of uncontrolled sewage overflows with reference to suburbs by means of its GIS system.
7.7.	Report on low pressure areas		
7.7.1	<p>Within six months of the Commencement date, Hunter Water must report to IPART on the following matters relating to water pressure that is less than 20 metres head:</p> <ul style="list-style-type: none"> a) the Suburbs or part thereof in which this is experienced on a consistent and systemic basis; b) the number of Properties affected in each Suburb or part thereof; c) the range of pressure and average pressure received by the Properties affected in each 	No Requirement	This has been the subject of previous Audits. Hunter Water submitted the required report during 29th December 2003, within six months of the Commencement date.

Clause	Requirement	Compliance	Findings
	Suburb or part thereof; and d) an analysis of the reasons for low pressure in each Suburb or part thereof, and options for rectification of the low pressure.		
	Ministerial Requirements arising from the 2002/03 Audit		
N/A	Water continuity standard: 5. "Hunter Water should report to IPART and the Minister for Energy and Utilities on the causes of the near breach of its water continuity standard over 2002/2003. This report should detail actions being taken by Hunter Water to ensure that it can meet the standard over the remainder of the Licence term under normal operating conditions."	Full Compliance	The required report discussing the causes/ drivers of Hunter Water's near breach of the water continuity Licence requirement and the actions put in place to try and enhance performance outcomes was submitted to IPART and the Minister by the due date.
N/A	Accuracy of reporting systems: 6. "An internal audit should be conducted to assess the accuracy and completeness of reporting across Hunter Water in relation to water quality, systems performance, rebates and the IWRP. As an interim measure until automated report generation is available, additional management controls should be implemented to ensure the accuracy of the numbers being reported. When automated reporting is available, the existing system and new system should be run in parallel for a suitable period of time to ensure reporting accuracy and completeness."	Full Compliance	The required internal audit has been completed by Hunter Water.
N/A	Additional quality controls should be employed in further updates to the IWRP.	No Requirements	This requirement will take effect once the IWRP has been revised in future years.
N/A	I support this recommendation and require Hunter Water to provide both the Tribunal and myself with copies of the internal audit report into the matters raised by no later than 31 March 2004.	Full Compliance	The required report was submitted to IPART and the Minister by the due date.

7.4 Discussion

Water Supply Continuity

Hunter Water's Operating Licence requires that no more than 14,000 properties experience one or more water interruptions (of any type) that together have a cumulative duration exceeding five (5) hours during an Audit (financial) year.

Hunter Water has failed to comply with this Licence requirement for 2003/04. During 2003/04, 15,248 properties experienced one or more water interruptions with a duration in excess of five (5) hours.

This current non-compliance follows a "close call" to Hunter Water's compliance with this Licence requirement last year. During 2002/03, Hunter Water reported that 13,966 properties experienced water supply interruptions exceeding five hours, although it should be noted that while Hunter Water successfully just met this requirement it has successfully met this standard more comfortably in years previous to 2002/03.

Figure 7.1 below shows the number of properties effected during the year by water supply interruptions of various durations.

Figure 7.1 Number of Water Supply Interruptions of Various Durations for 2003/04

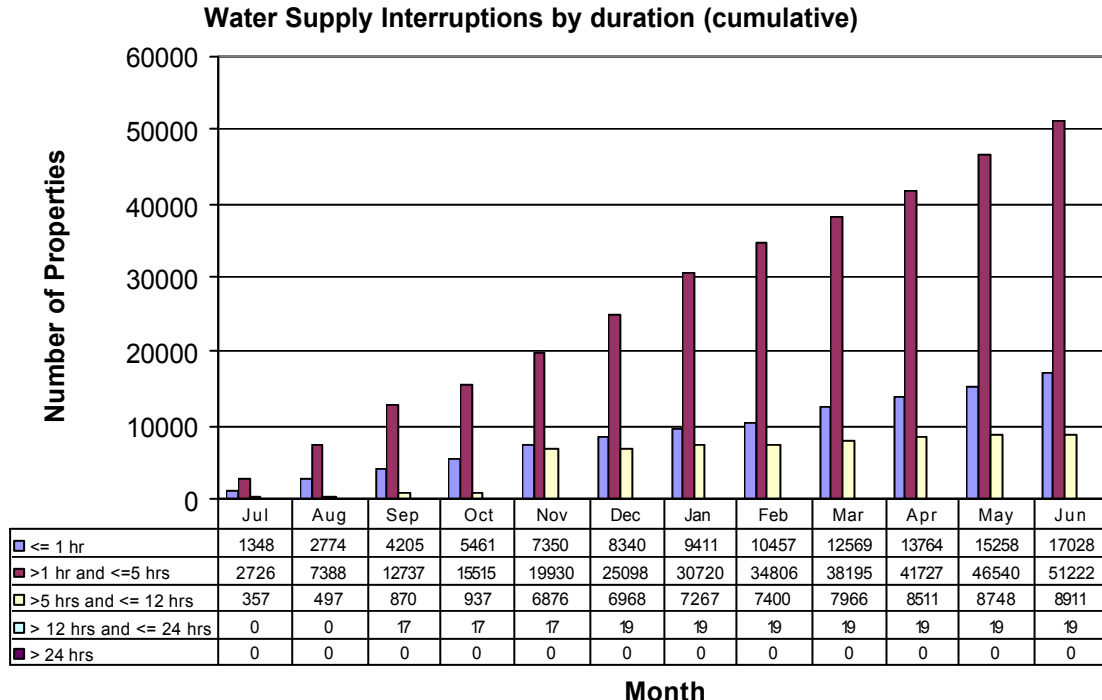
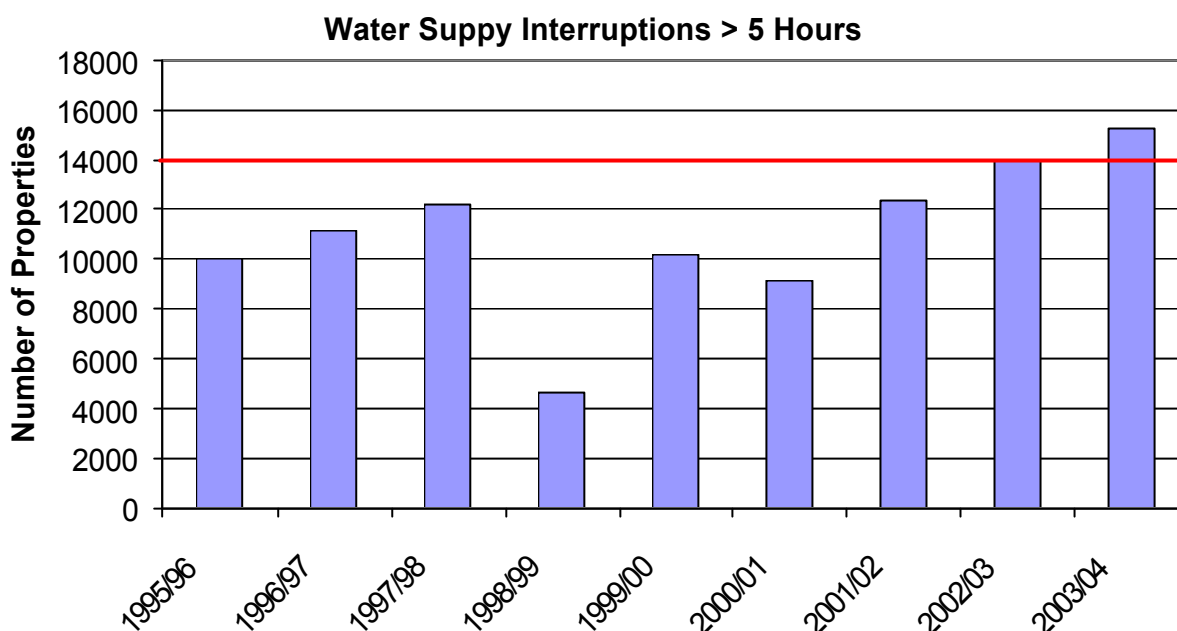


Figure 7.2 shows Hunter Water's historical performance for water supply interruptions greater than five hours in duration.

Figure 7.2 Total Number of Water Supply Interruptions Greater than five (5) hours from 1995/96 to 2003/04



Notes: The above data for years 1995/96 to 2001/02 is estimated. The original data was based on an earlier different performance standard. Accordingly, comparison of historical performance may not be accurately indicative. Red line indicates guideline level of 14,000 properties.

This year's non-compliance with the "water supply continuity" Licence requirement has been the subject of ongoing correspondence between Hunter Water and IPART and has been the subject of increased scrutiny during the Audit.

In summary, Hunter Water claims that a significant cause of its non-compliance was a single trunk main failure during November 2003. This burst resulted in more than 5,500 properties experiencing a discontinuity in service exceeding five (5) hours.

Obviously, had this failure not occurred, or been repaired and the supply to customers reinstated within five (5) hours, Hunter Water would have successfully met its Licence obligations by a considerably greater margin than for 2002/03. The underlying implication to be gained from this is that the strategies that Hunter Water has adopted to improve its performance, following the findings of the 2002/03 Audit, appear to have been having some significant effect; albeit on the basis of one year's results only. The strategies that Hunter Water has adopted following the findings of the 2002/03 Audit are described later in this section of the report.

Hunter Water's Water Supply System

One key point with respect to water supply continuity for Hunter Water's customers is the nature of its water supply system.

Hunter Water has a system that is long and linear in nature. Hunter Water supplies two reasonably densely populated areas that include Newcastle and the northern end of Lake Macquarie. All other customers are spread over the balance of Hunter Water's supply district including:

- Eastern Lake Macquarie;
- Western Lake Macquarie;
- Kurri/Cessnock;
- Maitland/Rutherford; and
- Port Stephens

These customers are supplied by long trunk mains; mains with few customers between the start of the trunk main and the customers at the other end. The November 2003 failure occurred to one of these trunk mains.

Hunter Water's Ability to Respond to Discontinuity Events

Another key point in the foregoing is Hunter Water's ability to:

- Locate the failure;
- Minimise the number of customers affected by the failure by means of appropriately shutting down the trunk main and/or supplying customers from other sources;
- Quickly repair the failure; and
- Return the trunk main to service, resupplying customers affected.

During the conduct of the Audit, Hunter Water demonstrated its:

- Systems that enable the location of bursts in the supply system;
- Ability to minimise the number of customers affected by water supply interruptions through the use of its GIS system and the careful selection of appropriate supply "shut-off blocks";
- Ability to supply most customers from alternative sources (i.e. supply customers from storages or interconnected watermains);
- Systems that enable quick response times to attend and repair burst watermains, the availability of adequate and appropriate spare parts and the availability of "on-call" contractors with the required skills and experience to effect the required repairs; and
- Ability to quickly return supply to its customers following the required works.

It is agreed that for “normal” watermain burst events, Hunter Water has the required systems and capability outlined above. The November 2003 burst, however, demonstrated a weakness in this instance, that of being able to quickly ascertain the location of the burst.

The November 2003 burst occurred:

- In one of the trunk mains connecting “satellite” communities as described previously;
- In an isolated section of the trunk main, located some distance from the road close to Lake Macquarie; and
- Late at night during a rainfall event.

Hunter Water knew of the burst and tried to quickly locate it. However, Hunter Water’s SCADA system was unable indicate the location of the burst and field crews, while on site quickly, took some time to locate the burst. This largely contributed to the duration of the cessation of supply.

Had the location of the burst been known sooner, Hunter Water would have been able to:

- Minimise the number of customers affected by burst by minimising the extent of the “shut-off block”;
- Supply other customers from an alternative source;
- More quickly repair the trunk main; and
- Quickly return supply to its customers following the required works.

Accordingly, it is considered that the most significant event that contributed to Hunter Water’s non-compliance for water supply continuity was the one-off burst trunk main during November 2003 which was the most significant cause of both the duration of the discontinuity and the number of customers affected by the discontinuity was the inability to find the location of the burst quickly enough in this instance.

Hunter Water’s Actions Following the 2002/03 Audit

The 2002/03 Audit expressed significant concern at Hunter Water’s near non-compliance with its water supply continuity Licence requirement and made a recommendation, subsequently the subject of a Ministerial Requirement, that:

“Hunter Water should report to IPART and the Minister for Energy and Utilities on the causes of the near breach of its water continuity standard over 2002/03. This report should detail actions being taken by Hunter Water to ensure that it can meet the standard over the remainder of the Licence term under normal operating conditions.”

Hunter Water has subsequently made a report to IPART as recommended.

Of greater consequence, however, is that Hunter Water has conducted reviews of its maintenance practices during 2003/04 and has identified a number of improvements to better meet its water

supply continuity Licence requirement. Some of the practices that were reviewed and the identified improvements follow:

- Hunter Water regularly reviews the performance of its watermain and assesses failure histories via its “Watermain Replacement Model”. This model is used to determine whether or not replacement of a problematic watermain is justified. The review concluded that the current approach to determine when a reticulation main needs to be replaced is still appropriate.

During this review, Hunter Water recognised that, while its “decision making tool” was still appropriate, more could be done with respect to the timeliness of the subsequent replacement, mainly in the area of procurement. A new procurement strategy for watermain replacements is currently being trialled to reduce the time required for “simple” replacements.

- Hunter Water has implemented tighter controls on large shutdowns for both emergency and planned watermain work.

All large (in number of affected customers) are now required to go through a specific approval process to ensure that wherever there are rezoning options available to minimise the size of the shutdown that these are taken.

- Previously, a shutdown was implemented for the repair of leaking hydrants or valves.

For hydrants, a “cap” is now available that can be inserted over the top of the hydrant to seal leaks. Hunter Water’s Operations Business Unit has purchased these caps to seal off leaking hydrants as a temporary measure. More permanent repairs are then effected when a shutdown will have less effect on customers.

- Hunter Water is also investigating the use of “freezing” technology to be used to repair damaged hydrants. The stem of the hydrant fitting can be frozen to effect a repair without the need for a shutdown.
- It has been determined that planned shutdowns significantly contribute to the overall continuity requirement.

A number of planned shutdowns occur to enable the connection of new subdivisions. In future, Hunter Water is looking to ensure that the last component in the reticulation for each stage of a subdivision has a valve installed. This will ensure that for subsequent stages, existing customers do not have to be impacted during the connection to the new reticulation.

- Another area where planned shutdowns are often required is for the installation of new tees and valves to service commercial developments.

Hunter Water has reviewed its use of direct tapping technology or alternatively “mains freezing” technology to determine if these technologies can be better employed and so reduce the required number of shutdowns.

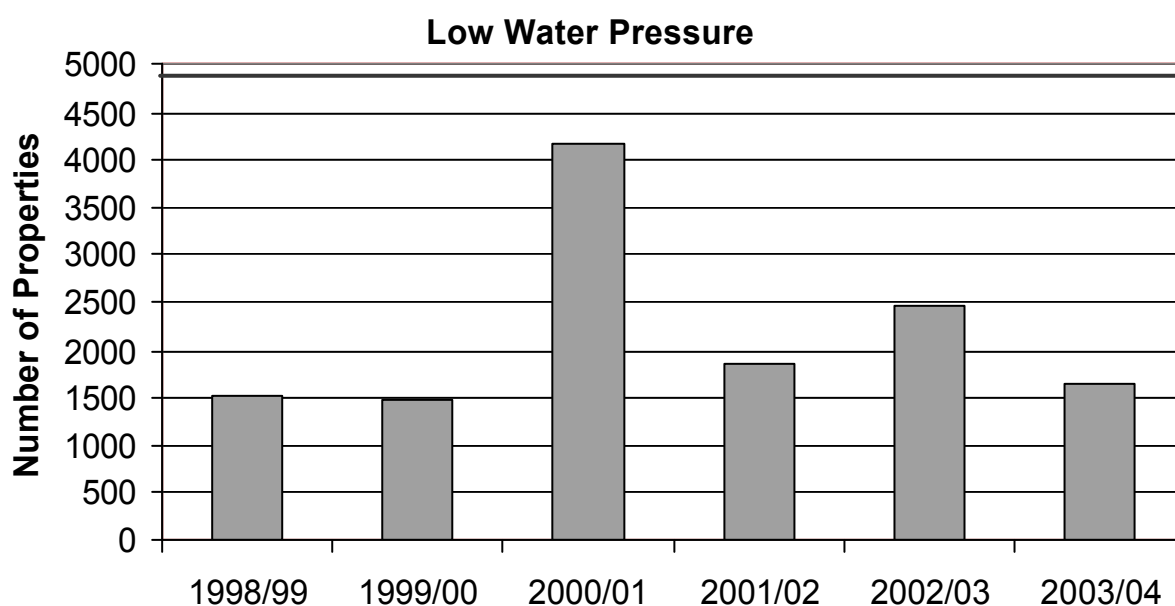
Additionally, as reported in last year's Audit report, Hunter Water has been undertaking condition assessments for its trunk mains. These condition assessments are likely to better identify trunk mains at risk of failure allowing Hunter Water to take proactive maintenance activities and thus reduce the likelihood of bursts that cause large one-off events occurring in the future. However, despite significant effort to identify trunk mains, or more particularly individual sections of trunk mains, with a high risk of failure, unexpected failures will continue to occur. Hence the need for comprehensive and robust contingency plans, that enable Hunter Water to quickly identify the location of the burst and quickly effect repairs.

The number of properties affected by non-continuity of supply, minus the large number of properties affected by the burst trunk main during November 2003, would have been "on track" to be significantly less than the Licence requirement. While it is readily acknowledged that the strategies Hunter Water has adopted have only been in place for some of 2003/04 and that this reduced number of properties affected by water supply interruptions applies to one year's results only, there is some cause for optimism that Hunter Water's actions will result in sustainable lower numbers of properties affected by water supply interruptions. This will require close monitoring in future years.

Water Supply Pressure

Hunter Water's Operating Licence requires that no more than 4,800 properties experience one or more "pressure" incidents (where the pressure falls to below 20 metres head) during an Audit (financial) year. During 2003/04, 1,655 properties experienced one or more "pressure" incidents. For Hunter Water's historical performance with respect to low pressure incidents, refer to **Figure 7.3**.

Figure 7.3 **Total Number of Properties Affected by Low Water Pressure Incidents from 1998/99 to 2003/04**



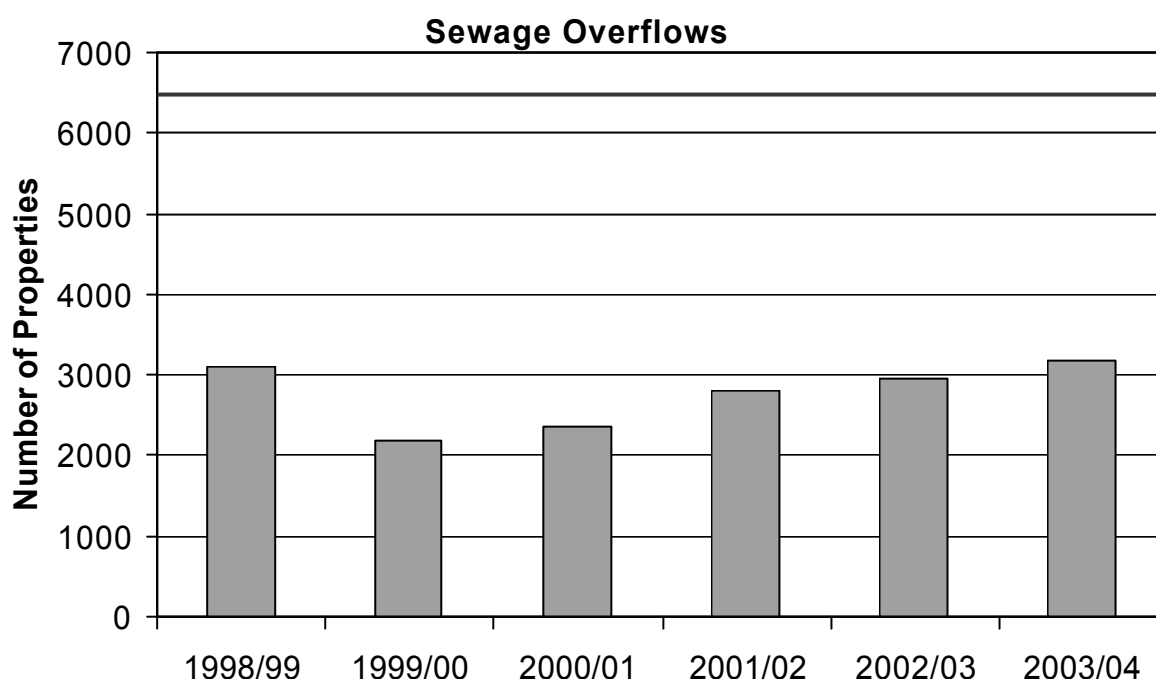
Notes: The above data for years 1998/99 to 2001/02 is estimated. The original data was based on an earlier different performance standard. Red line indicates guideline level of 4,800 properties.

Sewage Overflows

Hunter Water's Operating Licence requires that the number of uncontrolled sewage overflows in an Audit (financial) year (other than onto Public land) does not exceed 6,500.

During 2003/04, 3,190 properties experienced uncontrolled sewage overflows. For Hunter Water's historical performance with respect to sewage overflows refer to **Figure 7.4**.

Figure 7.4 Total Number of Properties Affected by Sewage Overflows from 1998/99 to 2003/04



Note: Red line indicates guideline level of 6,500 properties.

Other System Performance Indicators

Hunter Water is also required to report its performance with respect to other system performance indicators as listed in Schedule 4 of its Licence. Hunter Water has completed the required report. The performance data for 2003/04, in a summarised form, is included in **Appendix G**.

Reporting on System Performance

Hunter Water has prepared and submitted the required reports that outline:

- Its performance with respect to the number of properties that have experienced water supply interruptions;
- Its performance with respect to the number of properties that have experienced one or more pressure incidents; and
- Its performance with respect to the number of uncontrolled sewage overflows.

Publication of Reports

Hunter Water's report on its performance with respect to water interruptions, water supply pressure incidents and the number of uncontrolled sewage overflows is posted on Hunter Water's website and is made available at its office.

Keeping of Records on Water supply Interruptions, Low Pressure and Sewage Overflows

Hunter Water maintains adequate records with respect to water interruptions, water supply pressure incidents and the number of uncontrolled sewage overflows as required.

Ministerial Requirements arising from the 2002/03 Audit

Hunter Water has fully complied with the Ministerial Requirements arising from the 2002/03 Audit.

Recommendations arising from the 2002/03 Audit

The substantive recommendations arising from the 2002/03 Audit were taken up by the Minister and subsequently conveyed to Hunter Water as Ministerial Requirements. Hunter Water has fully complied with the Ministerial Requirements arising from the 2002/03 Audit and has thus fully complied with the recommendations arising from the 2002/03 Audit.

Accuracy in Data Collection

Hunter Water's processes/systems utilised for the collection and collation of data used to report on its performance with respect to water supply continuity, water supply pressure and sewage spills were reviewed during the course of this year's Audit.

It is understood that some misgivings have been previously raised regarding the "sophistication" of the processes/systems employed by Hunter Water to collect and collate performance data.

The Audit has found that while a number of the "steps" in the process used to gain data regarding water supply continuity, water supply pressure and sewage spills, were manually done, the resultant level of accuracy of the reported data was high.

Two issues are apparent in processes/systems used to collect data:

- The degree to which technology is utilised and thus the degree of "automation" in the processes/systems, and a corresponding inference that the minimisation of human involvement in the processes/systems will reduce the amount of human error; and
- The degree to which the processes/systems are "self checking" for errors.

Hunter Water's processes/systems used for the collection and collation of performance data is less "sophisticated", less automated, than those employed by like Water Authorities known to the Auditor. Hunter Water's processes/systems are somewhat more "labour intensive" than some others. However, the processes/systems utilised by Hunter Water are comprehensive, rigorously followed, and most importantly, due to the steps within the processes/systems that require detailed human interaction, are demonstrably self checking and thus are considered to

collect and collate performance data with appropriate accuracy; accuracy at least equivalent to the level of data accuracy supplied by like Water Authorities known to the Auditor.

7.5 Factors Affecting Compliance

Hunter Water fully complied with all of its Licence requirements with the exception of its requirement to ensure that no more than 14,000 properties experience one or more water interruptions (of any type) that together have a cumulative duration exceeding five (5) hours during an Audit (financial) year.

The factors affecting Hunter Water's compliance with this requirement have been outlined in the foregoing section.

7.6 Recommendations

7.6.1 Key recommendations

In recognition of Hunter Water's failure to comply with its Licence requirement for water supply interruptions for 2003/04 and following this Audit, it is recommended that Hunter Water:

R7.1 Continue to review of its maintenance/operational practices to identify additional procedural and or technological improvements to enable it to better meet its water supply continuity Licence requirement.

R7.2 Continue to utilise/trial the maintenance/operational practice identified during reviews undertaken during 2003/04, particularly:

- More stringently controlling large scale shutdowns for both emergency and planned watermains work;
- Utilising new technologies/components to minimise shutdowns to effect repairs to leaking hydrants/valves, such as the use of hydrant "caps" and mains freezing methodologies to minimise the need for shutdowns;
- Requiring valves to be installed at future connection points for subdivisional developments and so reduce the need for shutdowns to connect the subdivision; and
- Utilising direct tapping technologies or "mains freezing" for when installing new tees and valves to service commercial developments and so reduce the need for shutdowns.

R7.3 Continue to:

- Undertake condition assessments for its trunk mains and so better identify trunk mains at risk of failure;
- Undertake proactive maintenance activities for the "high risk" trunk mains that will result in reduced likelihood of failures occurring.

R7.4 Review its systems/procedures/practices/contingency plans to improve its current capability to respond even more quickly:

- Locate failures/bursts, particularly for its trunk mains;
- Minimise the number of customers affected by the failure by means of appropriately shutting down the trunk main and/or supplying customers from other sources;
- Repair the failure/burst; and
- Return the trunk main to service, resupplying customers affected.

With respect to Hunter Water's ability to locate mains failures/bursts the November 2003 burst (that affected more than 5,500 properties) has highlighted one particular area of improvement that will potentially enhance Hunter Water's ability to respond more quickly, that is its ability to more quickly locate failures/bursts, particularly for its trunk mains.

Hunter Water's SCADA system is not routinely able to identify water supply failures/bursts in all locations. Such a capacity depends on the specific characteristics of a break location, the available telemetry in the area, current demand profiles and so on. In general, the operation of pump stations, storage reservoirs etc are monitored for continual performance. A trunk main failure will therefore eventually be identified through a storage reservoir going into level alarm or by pumps failing in low-pressure delivery. Customers could be impacted until this occurs.

Trunk main performance can also be monitored by means of pressure and or flow monitoring. The number of these monitoring points is limited and mainly confined to mains locations either immediately adjacent to pump stations and/or storage reservoirs. In addition, some sewer pump stations have pressure monitoring on the water service, which have been used primarily to calibrate hydraulic models. Thus, some significant lengths of trunk mains are not currently monitored for pressure/flow along their entire routes. Had this been the case for the trunk main that burst during November 2003, Hunter Water would have been able to more quickly locate the burst, minimise the extent of the area affected by the shutdown by isolating the break and repressurising the system to ensure supply of customers with water.

Accordingly, it is suggested that Hunter Water:

- Carry out a "desktop" simulation of bursts within its trunk main system, utilising its GIS and SCADA systems, to determine those sections of trunk main that represent significant risk of interrupting the supply of water to large numbers of properties;
- Take into account an assessment of the risk of the trunk mains failing based on their materials of construction, age, location, etc;
- Determine the ability or otherwise of the SCADA system to identify the location of critical failures/bursts, identifying remote monitoring system gaps; and
- Install additional pressure/flow monitoring installations along the routes of critical trunk mains at critical locations and connect these installations to the current SCADA system.

It is understood that the installation of additional intermediate pressure/flow monitoring devices along the lengths of critical trunk mains will cost some hundreds of thousands of dollars. This cost will depend on the number of installations needed, which will become apparent following the identification of remote monitoring system gaps; a preceding step. Based on an initial estimate that this might involve the installation of say 40 to 50 new remote monitoring installations, and on the assumption that half of these installations will have ready access to power and the other half will not, the estimated cost is about \$400,000 to \$500,000.

However, this expenditure:

- Is significantly less than other alternatives to designed to improve Hunter Water's performance for water supply interruptions, such as the duplication of some critical trunk mains; at a cost of some tens of millions of dollars; and
- Will enable Hunter Water to more quickly locate failures/bursts, Minimise the number of customers affected by the failure, Repair the failure/burst and Return the trunk main to service, resupplying customers affected.

8 Water Supply and Demand

8.1 Summary of Findings

Hunter Water has achieved **full compliance** with all of its Operating Licence requirements during 2003/04.

Hunter Water has also achieved **full compliance** with the Ministerial Requirements, resulting from the recommendations of the 2002/03 Audit.

8.2 Summary of Requirements

Part 8 of the Licence specifies requirements relating to the Hunter Water's understanding of the current and future water demands on its system and its capacity to meet such demands and/or the plans Hunter Water has in place to meet future water demand. The key requirements in this part (omitting the definitional clauses) are:

- Clause 8.3 – Integrated Water Resources Plan - Development of the Plan: This clause specifies Hunter Water's requirement to develop an Integrated Water Resources Plan.
- Clause 8.4 – Water Conservation Target: This clause specifies water conservation targets that Hunter Water is required to meet and report on.
- Clause 8.5 – Water Demand & Supply Indicators: This clause specifies the water demand and supply indicators that Hunter Water is required to monitor and report on.
- Clause 8.6 – Annual Reporting on Water Demand & Supply Indicators: This clause specifies the annual reporting requirements for Hunter Water's water demand and supply indicators that Hunter Water is required to meet.

Clause 11.2.1(d) requires IPART or the auditor to investigate and report on Hunter Water's performance under Part 8 of the Operating Licence. This clause does not set requirements for Hunter Water but for IPART and/or the auditor. This section of the audit report addresses this clause of the Operating Licence.

8.3 Details of Compliance

Table 8.1 Water Demand and Supply – Part 8 of the Operating Licence

Clause	Requirement	Compliance	Findings
8.2.	Interpretation		
8.2.1	Where there is a reference to options developed under the integrated water resources plan, this includes an option or any combination of options.	No Requirement	Definitional clause only.
8.3.	Integrated Water Resources Plan - development of the Plan		
8.3.1	Hunter Water must develop a plan that complies with this part, which in its final form will be known as the Integrated Water Resources Plan ("Plan").	Full Compliance	This requirement applies to the 2002/03 Audit year. Hunter Water prepared and submitted its Integrated Water Resources Plan (IWRP) during February 2003. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.2	Hunter Water must develop a draft of the Plan by no later than 30 September 2002, and must post the draft Plan on Hunter Water's website on the internet on that date for a period of not less than 28 days.	Full Compliance	This requirement applies to the 2002/03 Audit year. Hunter Water prepared and submitted its Integrated Water Resources Plan (IWRP) during February 2003. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.3	Hunter Water must engage in Public consultation in developing the Plan and must take into account comments received as part of the public consultation process in preparing the final version of the Plan which must be completed by 1 March 2003.	Full Compliance	This requirement applies to the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.4	The Plan must be posted on Hunter Water's website on the internet for downloading, and made available at its premises for access or collection by any member of the public, free of any access charge imposed by Hunter Water.	Full Compliance	This requirement applies to the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.

Clause	Requirement	Compliance	Findings
8.3.5	Hunter Water must regularly review the Plan, of its own motion or as directed by IPART. Hunter Water may amend any material provisions in the Plan only following Public consultation and after taking into account comments received as part of that Public consultation process. Following amendment, the Plan must be made available as required by clause 8.3.4.	No Requirement	There was no IPART requirement during 2003/04. Accordingly, the plan has not been reviewed during the Audit period.
8.3.6	Hunter Water must report on any material amendments made in accordance with clause 8.3.5.	Full Compliance	The plan has not been reviewed during the Audit period. Accordingly, no report was required.
8.3.7	So far as reasonably practicable Hunter Water must, when developing or reviewing the Plan (including the methodology for the Plan), rely on and apply relevant best practice research available in the public domain and endeavour to continually refine and renew its methodologies to reflect current best practice.	Full Compliance	For the development of the Plan, this requirement applies to the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit. Further the plan has not been reviewed during the Audit period.
8.3.8	As part of the Licence review referred to in clause 2.3.1, IPART must evaluate and report on the outcomes achieved by the Plan.	No Requirement	This is a requirement on the part of IPART.
<i>Content and Methodology of the Plan</i>			
8.3.9	The Plan must enable Hunter Water to respond to the water needs in the Area of Operations, having regard to the financial, social and environmental costs of all reasonably available options to manage demand and supply of water.	Full Compliance	This requirement applies to the Content and Methodology of the Plan during its development; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.

Clause	Requirement	Compliance	Findings
8.3.10	The Plan must indicate: <ul style="list-style-type: none"> • how Hunter Water will manage supply augmentation, real losses of water from its water systems and demand for water within its Area of Operations over the next 10 years, and include present value calculations for 20 years; • the planning assumptions, including drought management assumptions employed; • the operational strategy in relation to water resource management; and • all other relevant matters employed. 	Full Compliance	This requirement applies to the Content and Methodology of the Plan during its development; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.11	The Plan must quantify the maximum reliable quantity of water that Hunter Water can derive from one year to the next, from its existing water storages, taking into account and quantifying all relevant factors including but not limited to: <ul style="list-style-type: none"> (a) the capacity of the water storages, and the rates of depletion and recovery of water in the Water storages at current rates of consumption; (b) climatic data, trends and projections; and (c) constraints on extraction of water to the Water storages, including those imposed by the Water Management Licence. 	Full Compliance	This requirement applies to the Content and Methodology of the Plan during its development; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.

Clause	Requirement	Compliance	Findings
8.3.12	<p>The Plan must make projections of the total demand for water within Hunter Water's Area of Operations, having regard to relevant factors influencing demand for water, including but not limited to:</p> <ul style="list-style-type: none"> • total growth in consumption, including specific growth rates across the residential, commercial and industrial sectors; • rates and trends in leakage and real losses, in terms of the components of the water balance table in the IWA publication; • rates and trends in the demand for recycled water; and • actual and potential reductions in demand resulting from Hunter Water's initiatives. 	Full Compliance	This requirement applies to the Content and Methodology of the Plan during its preparation; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.13	In developing the Plan, Hunter Water must utilise present value calculations, providing justifications for the discount rate and other inputs used in the calculations.	Full Compliance	This requirement applies to the Content and Methodology of the Plan during its preparation; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
<i>Identifying the Options and associated costs</i>			
8.3.14	The Plan must identify and evaluate all reasonably practicable options to manage demand and supply of water within its Area of Operations, must define the relevant projected outputs from each option and must list the non-financial advantages and disadvantages of each option.	Full Compliance	This requirement applies to the identification of options and associated costs during the preparation of the Plan; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.

Clause	Requirement	Compliance	Findings
8.3.15	In evaluating the options identified under clause 8.3.14 Hunter Water must take all necessary steps to ensure that the Plan: (a) quantifies the estimated costs of each option identified, which must include the financial (capital and operating), social and environmental costs of each option for each year of the Plan; (b) compares the financial, social and environmental costs of each option, in order to determine the least cost option.	Full Compliance	This requirement applies to the identification of options and associated costs during the preparation of the Plan; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.16	If Hunter Water is unable reasonably to quantify the social and environmental costs of the options developed under clause 8.3.15, it must instead quantify such social and environmental costs as it is able and provide a description of those that it is unable to quantify.	Full Compliance	This requirement applies to the identification of options and associated costs during the preparation of the Plan; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
8.3.17	Hunter Water must adopt the least cost option determined under clause 8.3.15 unless there are reasonable and substantive reasons for adopting a different option and those reasons are described in detail in the Plan.	Full Compliance	This requirement applies to the identification of options and associated costs during the preparation of the Plan; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.

Results of the Plan

8.3.18	Applying the Plan and the matters in clause 8.3, Hunter Water must outline targets, standards, indicators or other proposals for consideration as part of the Licence review under clause 2.3.1.	Full Compliance	This requirement applies to the identification of targets, standards, indicators or other proposals for inclusion into the Plan during its preparation; a requirement for the 2002/03 Audit year. This Licence requirement has been previously audited during the 2002/03 Audit.
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Annual Reporting on the Plan

8.3.19	Hunter Water must report its performance against the Plan.	Full Compliance	Hunter Water's IWRP Annual Report for 2003/04 has been published on Hunter Water's website.
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Clause	Requirement	Compliance	Findings
8.4. Water Conservation Target			
8.4.1	Hunter Water must ensure that the five year rolling average for annual residential water consumption calculated at a Reporting date is equal to or less than 215 kilolitres ("Water conservation target").	Full Compliance	The five-year rolling average residential water consumption as at 30 June 2004 is 208.6 kilolitres.
8.4.2	Hunter Water must report its compliance with the water conservation target.	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.
8.4.3	Hunter Water must comply with the water conservation target until replaced (if at all) by some or all of the proposals in clause 8.3.18 that are approved as part of the review of the Licence Review under clause 2.3.1.	Full Compliance	The originally negotiated water conservation target has yet to be replaced. Hunter Water has met the currently required five-year rolling average residential water consumption target.
8.5. Water Demand & Supply Indicators			
<i>Security of Supply</i>			
8.5.1	Hunter Water may impose water restrictions only as approved by the Minister.	No Requirement	Water restrictions were not imposed during the 2003/04 Audit year.
8.5.2	Hunter Water must report on the nature and length of each water restriction imposed in a Reporting period and whether (based on information reasonably available to Hunter Water) it is likely to impose a water restriction in the ensuing Reporting period or at any other time during this Licence.	No Requirement	Water restrictions were not imposed during the 2003/04 Audit year.
8.5.3	Hunter Water must report on the criteria it applies in determining whether to request that the Minister authorise a water restriction.	No Requirement	Water restrictions were not requested during the 2003/04 Audit year.

Clause	Requirement	Compliance	Findings
8.5.4	Hunter Water must report on the quantity of water (in megalitres) supplied from each Water storage.	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.

Losses from the Water System

8.5.5	Hunter Water must report against each of the components in the water balance table consistent with the definitions and methodology in the IWA publication.	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.
8.5.6	Hunter Water must report on the differences in the outcomes in applying clause 8.5.5 between one Reporting period and an immediately preceding Reporting period.	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.

Recycled Water

8.5.7	Hunter Water must report on the quantity of recycled water (in megalitres) supplied in a Reporting period for the following applications: (a) for industrial or commercial use; (b) for direct use in irrigation; or (c) for uses, other than those described in (a) or (b).	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.
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Clause	Requirement	Compliance	Findings
Demand Management			
8.5.8	<p>Hunter Water must report on the total quantity of water (in megalitres) supplied by it for each of the following:</p> <ul style="list-style-type: none"> a) consumption by persons in Residential Properties; b) industrial and commercial uses (excluding use by a Large Customer); and c) consumption by Large Customers. 	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.
8.5.9	<p>In its report, Hunter Water must compare each application in 8.5.8, with the corresponding application in the immediately preceding Reporting period, and indicate whether all or some of the following factors, (or other factors of which Hunter Water is aware), contributed to the difference (if any) in the comparison:</p> <ul style="list-style-type: none"> a) growth in the Customer base; b) climatic impact; c) the nature or extent of consumption of Recycled water; or d) demand management initiatives. 	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.
8.6.	Annual reporting on Water Demand & Supply Indicators		
8.6.1	<p>Hunter Water must report its performance against the water demand and supply indicators under clauses 8.5.1 to 8.5.9. The report may be included in the report on the environmental and ESD indicators required under clause 9.2.8.</p>	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.

Clause	Requirement	Compliance	Findings
8.6.2	Hunter Water must also publicly display the report provided under clause 8.6.1 on its website on the internet for downloading free of any charges imposed by Hunter Water, and make it available at its premises for access or collection by any member of the public free of charge.	Full Compliance	In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.
	Ministerial Requirements arising from the 2002/03 Audit		
N/A	7. "The Tribunal has recommended that Hunter Water should annually report progress in fulfilling the IWRP, setting out planned and actual expenditure against individual actions under the Plan, as well as estimated water savings and increases in the sustainable yield. I am advised that Sydney Water currently reports progress towards its demand management obligations using a similar format."	Full Compliance	Hunter Water has submitted the required report.
N/A	"Accordingly, I require Hunter Water to discuss a suitable reporting format with IPART and to adopt the agreed reporting format in time for the next Audit of the Licence."	Full Compliance	Hunter Water has participated in the required discussions with IPART. IPART has subsequently approved the draft format for the IWRP.
N/A	8. "Finally, as you are aware, the Government has for some time been concerned with improving water conservation on a state-wide basis. I require Hunter Water to provide both the Tribunal and myself with a comprehensive report which: <ul style="list-style-type: none"> • outlines Hunter Water's achievements to date in the conservation of water; and • considers new water conservation measures which Hunter Water could feasibly introduce. 	Full Compliance	Hunter Water has submitted the required report on 26th February 2004.

Clause	Requirement	Compliance	Findings
	Hunter Water should give consideration in this report to whether water conservation measures adopted or under consideration by Sydney Water are feasible for introduction by Hunter Water. This report should be provided no later than 28 February 2004."		

8.4 Discussion

Integrated Water Resources Plan - Development of the Plan

Hunter Water's Licence required the development of an Integrated Water Resources Plan (IWRP) for submission by 30th November 2002 (i.e. during the 2002/03 Audit year). Hunter Water prepared and submitted its Integrated Water Resources Plan during February 2003. This Licence requirement has been previously audited and Hunter Water has been deemed to have fully complied with this requirement during the 2002/03 Audit. Accordingly, no further comment is required.

Water Conservation Target

Hunter Water has continued to meet its water conservation target of 215 kilolitres for annual residential water consumption as a five-year rolling average, with actual five-year rolling average water usage of 208.6 kilolitres/residential customer/annum achieved as shown in **Table 8.2**.

Table 8.2 Water Conservation Results

	Average Residential Water Consumption (kL/annum)				
	1999/00	2000/01	2001/02	2002/03	2003/04
Average Residential Usage	193.3	211.0	209.0	222.0	207.6
Rolling Five-Year Average for this year	- 1	- 1	- 1	- 1	208.6
Target Rolling Five-Year Average	- 1	- 1	- 1	- 1	215.0

Note: 1. No data available for these periods to calculate rolling averages.

Water Demand & Supply Indicators

Table 8.3 shows the reported quantity of water supplied from each of Hunter Water's storages/sources.

Table 8.3 Annual Supplies from Storages

Source	Annual Supplies for Storages (ML/annum)					
	1999/00	2000/01	2001/02	2002/03	2003/04	Five-Year Average
Chichester Dam	31,821	31,957	30,123	27,532	28,070	29,901
Tomago Sandbeds	9,979	15,958	14,749	14,845	16,098	14,326
Grahamstown Dam	31,252	24,208	24,170	31,142	26,338	27,422
Anna Bay Sandbeds	3,028	3,517	3,703	3,224	1,586	3,012
Lemon Tree Passage	754	823	821	884	790	814
Total Supplies	76,834	76,463	73,566	77,627	72,882	75,474

Hunter Water reports water losses from its water supply system in accordance with the Water Services Association of Australia (WSAA) benchmarking guidelines.

There was a stabilisation (albeit based on one year's results) in real water loss for 2003/04, from 7,919 ML in 2003 to 8,174 ML in 2004, as shown in **Table 8.4**. This stabilisation in water loss follows a reduction in water loss during the year 2002/03 that was attributed to leakage control actions taken by Hunter Water.

An active leakage control project was undertaken during 2002/03 and is continuing to be pursued during 2003/04. These measures include the trialling of various leakage detection and pressure reduction techniques. During both years leakage detection using various leakage detection techniques has been undertaken however, to date, no significant leaks have been detected.

Table 8.4 Annual Water Losses from Water Supply System

	Annual Water Losses (ML/annum unless indicated otherwise)			
	2000/01	2001/02	2002/03	2003/04
Water Supplied	74,054 ²	73,566	77,627	72,882
Authorised Consumption	62,148	62,014	66,407	62,844
Water Losses	11,906	11,552	11,220	10,038
Apparent Losses¹	3,092	3,086	3,301	1,862
Real Losses¹	8,814	8,466	7,919	8,174
Real Losses/Connection/Day (litres)	122	115	106	133
Real Losses/Connection/Average Metre of Pressure (litres)	2.44	2.30	2.11	2.03
Real Losses (as a % of Water Supplied)	11.9%	11.5%	10.2%	11.2%

- Notes:
- 1 The term "apparent losses" refers to the difference between metered supply at the bulk sources and metered consumption. This can be misleading as it does not take into account known (and approved) non-metered usage such as flushing, reservoir cleaning and fire fighting. The term "real losses" refers to values that are adjusted to take the non-metered known (and approved) usage into account.
 - 2 Per the 2002/03 Audit Report, the difference in the water supplied volume for 2001 from Table 8.3 and 8.4 occurs as a result of an error in a supply meter at Tomago. The figures in Table 8.3 reflect the gross meter readings (ie they include the error). In Table 8.4 the water supplied volume has been reduced for the error. Were it to be shown as a gross number, the water loss numbers would need to be increased correspondingly, which would not be an accurate reflection of the actual losses.

Water consumption by sector is monitored by Hunter Water to examine changes from year to year.

In 2003 residential consumption increased as a result of the hot and dry conditions and increases in population growth to the region. Changes from 2001/02 for all other sectors were not considered significant. **Table 8.5** shows consumption by sector.

Table 8.5 Metered Consumption by Sector

Sector	Metered Consumption (ML/annum)					
	1999/00	2000/01	2001/02	2002/03	2003/04	Five-Year Average
Residential	34,753	38,609	38,886	41,953	40,066	38,853
Commercial	10,158	10,974	10,563	11,249	10,506	10,690
Industrial	11,418	8,518	8,364	8,927	8,075	9,060
Other	3,180	3,685	3,586	3,838	3,311	3,520
Total Consumption	59,509	61,786	61,669 ¹	65,967 ¹	61,958	62,178

Notes: 1 Per the 2002/03 Audit, the differences between Authorised Consumption (Table 8.4) & Total Consumption (Table 7.6) occur as a result of different definitions for each term. Authorised Consumption is utilised when measuring/benchmarking water loss and includes water for operational uses such as flushing, reservoir cleaning and fire fighting.

Recycled Water

Hunter Water reports that 4,475 ML of sewage effluent were recycled during 2003/04. This represents 6% of the supplied water and around 8.8% of the dry weather flows to wastewater treatment plants. This figure is lower than Hunter Water's target for 2003/04. Hunter Water was relying on Rhonda Colliery, its largest recycled water customer using it throughout the year. Rhonda Colliery used no recycled water during the year, adversely affecting the total volume of reuse water recycled.

Annual Reporting on Water Demand & Supply Indicators

In previous years Hunter Water has reported its compliance as part of its annual Community and Environment Report. These results are contained in Hunter Water's Environmental and ESD Indicators Report 2003/04 that has been published on Hunter Water's website. Hunter Water plans to include a report on its compliance for this year as part of its Annual Report. Hunter Water's Annual Report is currently in preparation but is yet to be published.

Ministerial Requirements arising from the 2002/03 Audit

Hunter Water has fully complied with the Ministerial Requirements arising from the 2002/03 Audit.

Recommendations arising from the 2002/03 Audit

The substantive recommendations arising from the 2002/03 Audit were taken up by the Minister and subsequently conveyed to Hunter Water as Ministerial Requirements. Hunter Water has fully complied with the Ministerial Requirements arising from the 2002/03 Audit and has thus fully complied with the recommendations arising from the 2002/03 Audit.

8.5 Factors Affecting Compliance

Hunter Water has fully complied with its Licence requirements for Water Supply and Demand. Accordingly no events or factors have been identified during the audit period that have affected Hunter Water's compliance with this part (Part 8) of the Operating Licence.

8.6 Recommendations

No recommendations are made regarding Hunter Water's compliance with Part 8 of the Operating Licence.

9 Environment – Indicators and Plans

9.1 Summary of Findings

Environmental Management Plan

Hunter Water achieved **full compliance** with requirements relating the content of its Environmental Management Plan (EMP) and its availability. Hunter Water achieved **high compliance** with the requirement for the EMP to be recognised in its business plans. Hunter Water's Business Plan 2000-2003 does not recognise the EMP. However Hunter Water is currently preparing its Strategic Business Plan 2004-2007 and the draft of this plan recognises the EMP as required by the Operating Licence. Additionally, Hunter Water is devoting resources to the implementation of the EMP.

Environmental and ESD Indicators

Hunter Water achieved **full compliance** with requirements relating to monitoring and compiling data regarding its performance against the environmental and ESD indicators.

Hunter Water achieved **high compliance** with requirements relating to reporting its performance against its environmental and ESD indicators. Although monitoring and data compilation met the requirements of the Operating Licence, reporting of trends in performance against the indicators could have been more rigorous.

Energy Management

Hunter Water achieved **high compliance** with the requirement to participate in the Energy Smart Business Program, or similar program administered by the Sustainable Energy Development Authority (SEDA). Hunter Water's MOU with SEDA lapsed during the audit period and a new MOU is currently being negotiated. Hunter Water achieved **full compliance** with the requirement to report on its energy management actions and activities.

9.2 Summary of Requirements

Part 9 of the Licence specifies requirements relating to environmental indicators and plans. The key requirements in this part (omitting the definitional clauses) are:

- Clause 9.1 – Relating to the EMP;
- Clause 9.2 – Relating to Hunter Water's environmental and ESD indicators; and
- Clause 9.3 – Relating to energy management.

This section of the audit report also addresses clause 11.2.1(e) – What the Audit is to Report On.

Clause 9.1 of the Operating Licence requires Hunter Water to produce a five-year Environmental Management Plan (EMP) by 30 September 2002, in consultation with the public. The EMP must include details of Hunter Water's environmental improvement strategies and objectives for its catchments, water storages, water supply system, sewerage system and drainage system, as well as for the environmental aspects of its other activities, such as energy management, waste minimisation and heritage. The EMP must endorse ESD principles and be recognised in Hunter Water's business plans. The EMP must set targets and timetables for environmental activities, with these targets using environmental and ESD indicators and requirements for energy management and catchment management. The EMP can only be materially amended following public consultation. The EMP must be made available to the public.

Clause 9.2 of the Operating Licence requires Hunter Water to produce, monitor and compile data on indicators of the direct impact of its activities on the environment and the extent to which its activities comply with the principles of ESD. The indicators must be developed by 30 September 2003, in consultation with the public. The indicators must be developed with regard to Commonwealth 'State of the Environment' reporting systems and must be consistent with the EMP. Hunter Water must report on its performance against the indicators.

Clause 9.3 of the Operating Licence requires Hunter Water to participate in the Energy Smart Business Program and report on activities undertaken under this program and other energy management or green power initiatives.

Clause 11.2.1(e) requires IPART or the auditor to investigate and report on Hunter Water's performance under Part 9 of the Operating Licence. This clause does not set requirements for Hunter Water but for IPART and/or the auditor. This section of the audit report addresses this clause of the Operating Licence.

9.3 Details of Compliance

Table 9.1 Environment – Indicators and Plan – Part 9 of Operating Licence

Clause	Requirement	Compliance	Findings
9.1.	Environmental Management Plan		
9.1.1	Hunter Water must produce a five-year Environmental Management Plan within three months of the Commencement date. After that Hunter Water must produce further five-year Environmental Management Plans every five years.	No Requirement	Audited in 2002/03 audit period and received full compliance. New EMP due in 2007. Work has not yet commenced on revising the EMP.
9.1.2	Hunter Water must engage in Public consultation in developing an Environmental Management Plan.	No Requirement	Audited in 2002/03 audit period and received full compliance.
9.1.3	The Environmental Management Plan must:	No Requirement	
9.1.3(a)	Contain details of Hunter Water's environmental improvement strategies and objectives for its catchments, Water storages, Water supply system, Sewerage system, and Drainage system, as well as the environmental aspects of its other activities such as energy management, waste minimisation and heritage.	Full Compliance	Audited in 2002/03 audit period and received full compliance. The EMP contains details of Hunter Water's environmental objectives, actions and targets for its activities. These are categorised under the following headings: <ul style="list-style-type: none"> • Water Resources; • Wastewater; • Community; • Stormwater; and • Corporate Responsibility. All activities listed in this clause are addressed within the relevant category.
9.1.3(b)	Endorse ESD principles.	Full Compliance	Audited in 2002/03 audit period and received full compliance. The EMP endorses ESD principles by incorporating sustainability into the actions, targets and indicators included in the EMP.

Clause	Requirement	Compliance	Findings
9.1.3(c)	Be recognised in Hunter Water's business plans.	High Compliance	<p>Hunter Water's Business Plan 2000-2003 was prepared before the EMP and did not recognise the EMP. Therefore, during the audit period the requirement of this clause of the Operating Licence was not met.</p> <p>However, during the audit period Hunter Water has pursued the implementation of actions contained in the EMP and this is viewed by the auditor to be a technical non compliance with the requirement of this clause of the Operating Licence.</p> <p>Hunter Water is currently preparing the Strategic Business Plan 2004-2007. A draft of the Strategic Business Plan 2004-2007 was provided to the auditor. This document references the EMP as well as the ESD Indicators.</p>
9.1.4	The Environmental Management Plan must set targets and timetables for environmental activities to be undertaken by Hunter Water over the term of the Environmental Management Plan. These targets must utilise the environmental and ESD indicators in clause 9.2 and also the reports, policies and indicators in clauses 9.3 and 10.1.	Full Compliance	The EMP references "Draft" ESD Indicators as it was approved by IPART (September 2002) prior to the ESD Indicators being approved by the Minister (March 2003). Nonetheless, the targets and timetables set in the EMP are aligned with the ESD Indicators.
9.1.5	Any material amendments may only be made to the Environmental Management Plan following Public consultation.	No Requirement	No material or other amendments to the EMP have been made to date. Amendments suggested by HWC staff are being held over until the new EMP is prepared in 2007.
9.1.6	Hunter Water must report on any material amendments made in accordance with 9.1.5.	No Requirement	No amendments to the EMP have been made to date.
9.1.7	The Environmental Management Plan must be provided to IPART on its completion and posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water, made available at its Customer centres for access or collection by any member of the public and lodged with public libraries in the Area of Operations, in each case also free of charge.	Full Compliance	The EMP is made freely available to the public as required by Clause 9.1.7 of the Operating Licence.

Clause	Requirement	Compliance	Findings
9.2.	Environmental and ESD Indicators		
9.2.1	In accordance with this section, Hunter Water must monitor and compile data on indicators of the direct impact of its activities on the environment and the extent to which its Services comply with the principles of ESD, whether such activities and Services are carried out by or on behalf of Hunter Water.	Full Compliance	<p>Hunter Water monitors and compiles data to enable it to report performance against its environmental and ESD indicators.</p> <p>The indicators fall within the following areas:</p> <ul style="list-style-type: none"> • Water Resources; • Wastewater; • Customers and Community; • Stormwater; • Corporate Responsibilities; • Energy Management; and • Financial and Service Delivery. <p>The indicators and associated measurements are generally well related to data that Hunter Water would otherwise collect as part of the ongoing management of its operations.</p> <p>Therefore, data is provided by the operating areas of Hunter Water for compilation in the Environmental and ESD Indicators Report. Hunter Water coordinates this process via workshops to ensure consistency of approach and timeliness of reporting.</p>
9.2.2	Hunter Water must develop a draft list of environmental and ESD indicators within 3 months of the Commencement date.	No Requirement	Audited in 2002/03 audit period and received full compliance.
9.2.3	In developing the environmental and ESD indicators, Hunter Water must have regard to the Commonwealth State of the Environment Reporting system and the 'Australia: State of the Environment Environmental Indicator Report' series produced by Environment Australia.	No Requirement	Audited in 2002/03 audit period and received full compliance.

Clause	Requirement	Compliance	Findings
9.2.4	The environmental and ESD indicators developed by Hunter Water must be consistent with the scope and objectives of the Environmental Management Plan.	No Requirement	Audited in 2002/03 audit period and received full compliance.
9.2.5	The draft list of environmental and ESD indicators developed by Hunter Water must undergo Public consultation.	No Requirement	Audited in 2002/03 audit period and received full compliance.
9.2.6	Within 3 months of the close of submissions, following Public consultation under clause 9.2.5, Hunter Water must present a final list of environmental and ESD indicators to the Minister for approval.	No Requirement	Audited in 2002/03 audit period and received full compliance.
9.2.7	Hunter Water must commence monitoring and compiling data on the environmental and ESD indicators from the date of approval by the Minister.	No Requirement	Audited in 2002/03 audit period and received full compliance.
9.2.8	Hunter Water must report its performance against its environmental and ESD indicators in its annual environment report. Hunter Water must publish the results of the environmental and ESD indicator monitoring in the environment report. The report must specify trends to allow comparison with previous results.	High Compliance	<p>Hunter Water's performance against its environmental and ESD indicators was reported in the Environmental and ESD Indicators Report 2002-2003, published on 1 September 2003.</p> <p>This report met the requirement to report performance under this clause of the Operating Licence and covered performance during the 2002/03 audit period.</p> <p>Some trends in performance are noted in the report. Examples include compliance with EPA licences for wastewater treatment works and odour complaints for wastewater treatment works.</p> <p>However, data is not provided to support comments made regarding performance trends in all cases. Examples include non-revenue water, biosolids reuse and progress with the WRAPP.</p>

Clause	Requirement	Compliance	Findings
			<p>The auditor considers that data should be reported to support comments made on performance trends for all indicators where data is available. It is recognised that data is not available to meaningfully report trends for all indicators as data for some indicators have only been collected for two years.</p> <p>Performance during the 2003/04 audit period was reported in the Environmental and ESD Indicators Report 2003/04, published on 1 September 2004. Similar comments regarding the reporting of trends can be made concerning this report. However, as this report was not published within the audit period the auditor has not considered this report in assessing compliance with the Operating Licence.</p> <p>Performance against a subset of the environmental and ESD indicators was reported in the Community and Environment Report 2002/03, published on 25 September 2003. Reporting against these priority indicators, rather than all indicators, was approved by the Minister. This approval has been sighted by the auditor.</p> <p>Hunter Water is planning to incorporate the Community and Environment Report for 2003-2004 into its Annual Report 2003-2004 in line with a triple bottom line approach to performance reporting.</p>
9.2.9	The environmental and ESD indicators in clause 9.2.6 must be reviewed as part of the Licence review referred to in clause 2.3.1.	No Requirement	This requirement applies to IPART. There is no compliance requirement for Hunter Water.
9.3.	Energy Management	No Requirement	
9.3.1	During this Licence, Hunter Water must participate in the Energy Smart Business Program, or similar program administered by SEDA.	High Compliance	Hunter Water participated in the Energy Smart Business Program administered by SEDA during the audit period. However, the MOU between SEDA and Hunter Water lapsed in December 2003 and therefore Hunter Water is not currently a participant in the program.

Clause	Requirement	Compliance	Findings
			<p>Having achieved the Bronze Award target during the 2002/03 audit period by reducing energy usage by 5%, Hunter Water considers that the program's Silver and Gold Award levels (10% and 15%, respectively) are not appropriate for the water industry. They are considered to be inappropriate as they were developed with a focus on buildings and do not take into account the influence on energy use by water utilities of the topography of the service area and pumping requirements to meet water demand. Hunter Water is currently negotiating a new MOU with the Department of Energy, Utilities and Sustainability (incorporates SEDA). This MOU is expected to include targets appropriate for Hunter Water's specific operations.</p> <p>Irrespective of the lapsing of the MOU, Hunter Water continues to pursue energy management actions. Based on these actions high compliance has been assessed.</p>
9.3.2	Hunter Water must report on any actions or activities undertaken by Hunter Water as part of the Energy Smart Business Program and any other energy management or green power initiatives.	Full Compliance	<p>Hunter Water's relevant actions and activities were reported in the Community and Environment Report 2002-03, published on 25 September 2003. These actions were undertaken during 2002/03 audit period.</p> <p>Hunter Water plans to report on actions and activities undertaken during the 2003-2004 audit period in its Annual Report 2003-2004.</p>

9.4 Discussion

9.4.1 Environmental Management Plan

Hunter Water achieved full or high compliance with the requirements of Clause 9.1 of the Operating Licence that were relevant for the audit period.

The EMP fully complies with all requirements of Clause 9.1 that relate to its content and availability.

Clause 9.1.3(c) requires that the EMP must be recognised in Hunter Water's business plans. Hunter Water's Business Plan 2000-2003 did not recognise the EMP however Hunter Water's Strategic Business Plan 2004-2007, currently being prepared, will recognise the EMP. Given that Hunter Water has pursued the implementation of actions contained in the EMP, this non compliance with the requirement of this clause of the Operating Licence is not viewed by the auditor to be significant and high compliance was achieved. The apparent cause of the non-compliance is the misalignment of the timing of Operating Licence requirements with the timing of Hunter Water's business planning process. It is noted that the period covered by the Strategic Business Plan 2004-2007 concludes when the current EMP and Operating Licence are scheduled for reissue following review and, possibly, amendment.

Hunter Water has made no material or other amendments to the EMP, therefore Clauses 9.1.5 and 9.1.6 of the Operating Licence have not been triggered. However, potential amendments to the EMP that are suggested internally or by external stakeholders are being recorded by Hunter Water for consideration when the EMP is revised in 2007.

9.4.2 Environmental and ESD Indicators

Hunter Water achieved full or high compliance with the requirements of Clause 9.2 of the Operating Licence that were relevant for the audit period.

Clause 9.2.1 requires Hunter Water to monitor and compile data regarding its performance against the environmental and ESD indicators. Hunter Water achieved full compliance with this requirement.

Clause 9.2.8 requires Hunter Water to report its performance against its environmental and ESD indicators, and specifically the report must specify trends to allow comparison with previous results. Hunter Water achieved high compliance with these requirements (rather than full compliance) as the auditor considered that the reporting of trends in performance in the Community and Environment Report 2002-2003 and the Environmental and ESD Indicators Report 2002-2003 could have been more rigorous. The auditor acknowledges that some indicators have only been in place since 2003 and reporting of trends against these indicators is not yet possible given the data set available. However, for some indicators data collected prior to 2003 is comparable with data collected now. Hunter Water has commented on trends in these cases but has not provided the relevant data in the report. The auditor considers that Hunter Water should report data to describe trends in its performance against the environmental and ESD indicators.

9.4.3 Energy Management

Hunter Water achieved high compliance with the requirements of Clause 9.3 of the Operating Licence that were relevant for the audit period.

Hunter Water's MOU with SEDA regarding the Energy Smart Business Program lapsed during the audit period due to Hunter Water concerns regarding the applicability of the Silver and Gold Level targets which are considered to be inappropriate to its business and services. These targets were developed with a focus on buildings and do not take into account the influence on energy use by water utilities of the topography of the service area and pumping requirements to meet demand. Therefore Hunter Water is no longer a member of the Energy Smart Business Program as required by the Operating Licence. However, Hunter Water has entered into negotiations with the Department of Energy, Utilities and Sustainability (incorporates SEDA) to agree a new MOU that includes appropriate targets. Therefore high compliance with the requirements of Clause 9.3.1 of the Operating Licence was achieved.

Hunter Water continues to pursue a range of actions and activities to improve its energy efficiency and reports on these activities in compliance with the requirements of Clause 9.3.2 of the Operating Licence.

9.5 Factors Affecting Compliance

No extraordinary events or factors affected Hunter Water's compliance with Part 9 of the Operating Licence during the audit period. No events or factors identified during the audit were predicted to affect Hunter Water's future compliance with Part 9 of the Operating Licence.

9.6 Recommendations

No recommendations are made regarding Hunter Water's compliance with Part 9 of the Operating Licence.

10 Catchment Management

10.1 Summary of Findings

Catchment Report

Hunter Water achieved **full compliance** in reporting its catchment management activities in the Catchment Report. Hunter Water achieved **full compliance** with reporting of five year water quality trends in the Williams River. Hunter Water achieved **high compliance** with: the monitoring of bulk water quality, activities conducted by Hunter Water under the Hunter Water Corporation Limited (Special Areas) Regulation 2003, Williams River Catchment Regional Environment Plan, Regional Planning Strategy and Seaham Weir Operations Plan; performance against the Water Management Licence and the Dam Safety Act; and other catchment, landcare or other supporting activities conducted by or on behalf of Hunter Water.

Hunter Water achieved **high compliance** in the implementation of recommendations made from the 2002/03 audit with respect to the Catchment Report achieving **full compliance** with reporting on chlorophyll-a trends and long term and five year trends of water quality and **high compliance** with reporting on groundwater quantity, quality and dependant ecosystems.

Hunter Water achieved **full compliance** with respect to public display and accessibility of the Catchment Report.

10.2 Summary of Requirements

This section of the audit report addresses clause 10.1 of the Operating Licence which relates to the Catchment Report and contains the following sub-clauses:

- Clause 10.1.1 - relating to the matters to be included and reported within the Catchment Report; and
- Clause 10.1.2 - relating to making the report readily accessible to the public.

This section of the audit report also addresses clause 11.2.1(f) – What the Audit is to Report On.

Clause 10.1 of the Operating Licence requires Hunter Water to prepare a report known as the 'Catchment Report⁴'. The specific details of what is required in respect to this Catchment Report are specified in sub-clauses 10.1.1 and 10.1.2 of the Operating Licence.

Sub-clause 10.1.1 of the Operating Licence requires Hunter Water to report its performance against its catchment management activities. The sub-clause contains five parts that specify Hunter Water's requirements to report on:

⁴ Hunter Water has interpreted the requirement for publication of the Catchment Report to occur in accordance with the Reporting Date specified in Part 1 (definition) of the Operating Licence – being 1 September of each year.

- a) bulk water quality including monitoring of parameters identified in Clause 6.3.2 (b) and Schedule 3 of the Operating Licence. In total, this part requires monitoring of physical properties of the water, the presence of 10 residual pesticides, 22 chemical constituents and two (2) radiological parameters;
- b) activities undertaken in accordance with statutory instruments:
 - Hunter Water (Special Areas) Regulation, 2003 – imposing controls on the intensity of agriculture, sewage disposal, surface water activities on drinking water reservoirs and extraction of groundwater in all of Hunter Water’s catchments;
 - Williams River Catchment Regional Environment Plan – designed to protect and improve the environmental quality of the Williams River by establishing a co-ordinated and consistent approach to the planning and management of the natural and built environments within the Williams River catchment which spans Dungog and Port Stephens local government areas;
 - The Williams River Regional Planning Strategy (1997) – controlling landuse through local environment plans to manage new developments and protect river banks; and
 - the Seaham Weir Operations Plan - designed to control the operation and maintenance of the Seaham Weir to ensure water levels and water extraction from the weir are controlled.
- c) performance against the levels of water extraction Hunter Water may take from surface and groundwater aquifer sources required by the Water Management Licence and the condition of its dams, ponds and detention basins under the Dam Safety Act, 1978;
- d) water or land management activities undertaken within the catchment conducted by or on behalf of Hunter Water with the purpose of improving the catchment’s ability to provide water of high quality; and
- e) five year trends observed in the Williams River against five specified key water quality indicator parameters and other routinely tested water quality parameters.

Sub-clause 10.1.2 of the Operating Licence requires Hunter Water to enable the public to access the Catchment Report by displaying the report on its internet website for people to be able to download the report from the website free of any charges imposed by Hunter Water. Hunter Water must also make the report available at its premises to be read or taken away free of any charges imposed by Hunter Water.

Clause 11.2.1(f) requires IPART or the auditor to investigate and report on Hunter Water’s performance under Part 10 of the Operating Licence. This clause does not set requirements for Hunter Water but for IPART and/or the auditor. This section of the audit report addresses this clause of the Operating Licence.

10.3 Details of Compliance

Table 10.1 Catchment Management – Part 10 of Operating Licence

Clause	Requirement	Compliance	Findings
10.1.	Catchment Report		
10.1.1	Hunter Water must report its performance against its catchment management activities, in a report to be known as the Catchment Report.	Full Compliance	<p>The 2002/03 Catchment Report was published on 1 September 2003 and falls within the 2003/04 period of this audit. This report was submitted to Hunter Water's Board in summary form on 18 September 2003 and signed minutes of the 25 September 2003 Meeting of Directors have been sighted acknowledging receipt of the 2002/03 Catchment Report.</p> <p>The 2003/04 Catchment Report, which the Licence requires be produced by 1 September 2004 (outside of the audit period), contains information relevant to the 2003/04 audit year. A copy of the draft report was made available to the auditor for viewing during audit interviews on 25 August 2004 and was shown to be substantially complete. The final 2003/04 Catchment Report was provided to the auditor on 2 September 2004. The final report contained sections that report on all aspects required in the Licence. The level of reporting of particular clauses varies and has resulted in less than full compliance in some instances. Details are provided in the descriptions of each clause.</p>
	<p>Finding and recommendation arising from the 2002/03 Operating Licence Audit Report:</p> <p><i>"Future Catchment Reports should have an expanded section on the groundwater sources and address the quantity, quality and dependant ecosystem attributes of the resource. This should be aligned with the new requirements for the Water Sharing Plan and Hunter Water major utility access licences".</i></p>	High Compliance	<p>Whilst the 2002/03 Catchment Report and 2003/04 Catchment Report share the same textual descriptions of the groundwater reserves, the 2003/04 report has been expanded to include new sections entitled 'Aquifer Performance' and 'Sustainable Groundwater Extraction Study' which addresses, in part, the 2002/03 recommendation. Full compliance for this clause cannot be awarded since the section of the report dealing with the Sustainable Groundwater Extraction Study only discusses what is proposed to be reported arising from the future study but does not report on actual, interim or anecdotal results of the health of groundwater dependent eco-systems.</p>

Clause	Requirement	Compliance	Findings
			<p>The Water Management Licence (WML) (the relevant utility access licence) was amended in the audit year and was finalised and issued on the 25th June 2004. In addition, the Water Sharing Plan (WSP) was also amended and re-gazetted during the audit year and implementation of the WSP was deferred until 1 July 2004. Part of the amended WML required a Sustainable Groundwater Extraction Study to be undertaken which would address the impacts of extraction on groundwater dependent ecosystems. This study is to be undertaken in the Tomago-Tomaree-North Stockton area by Hunter Water following the receipt of technical specifications to be provided by DIPNR. These specifications are due to be provided to Hunter Water in August/September 2004 (specifications had not been provided at the time of writing) following which Hunter Water have 12 months to undertake the study.</p> <p>Hunter Water incorporated the recommendations of the 2002/03 report with respect to groundwater sources. Consequently, the 2003/04 report has been expanded to include section that consider groundwater quantity, quality and ecosystem dependent ecosystems.</p> <p>However, Hunter Water has been unable to provide details on compliance in this area because the level of data was insufficient to make a definitive assessment of compliance.</p> <p>Given the long lead time for the results of DIPNR's technical specifications and the final outcomes of the Sustainable Groundwater Extraction Study due in 2006 to become available, it is recommended that Hunter Water demonstrate pro-activity in this area by keeping pace with the development of DIPNR's indicators and where such indicators are sufficiently established and robust, collect data on these interim lead indicators to report on the health of the catchment's groundwater and groundwater dependent ecosystems within its area of operations.</p>

Clause	Requirement	Compliance	Findings
	<p>The Catchment Report must include:</p> <p>(a) the monitoring results obtained by Hunter Water against the Bulk water quality parameters required by clause 6.3.2 (b) and specified in Schedule 3;</p>	High Compliance	<p>The 2003/04 Catchment Report does report on all of the nominated bulk water quality parameters as specified in Schedule 3 of the Operating Licence. This includes radiological parameters which are reported, but for which no data has been collected for the 2003/04 report since the presiding NHMRC Australian Drinking Water Guidelines, 1996 specify sampling intervals of every two years for groundwater supply and every five years for surface waters. The 2003/04 report does not coincide with either of these sampling intervals.</p> <p>However, this item has been assessed as high rather than full compliance because Hunter Water has not reported all the required parameters at all locations. Hunter Water has included the Boags Hill take off point where extractions are made to supply Grahamstown Dam in the reporting but has not taken any pesticide samples at this location and has sampled for only a subset of all listed chemical analytes.</p> <p>Under the definitions given in the Operating Licence, Hunter Water does not consider Boags Hill as a water storage but the Licence definition for Water Storage includes works used for the extraction and storage of water in rivers and lakes. The auditor considers that this would include Boags Hill as there is potential for untested waters containing pesticides or chemicals to be introduced into Grahamstown Dam. Refer to recommendation R10.1 for more information.</p> <p>Monitoring of bulk water quality is sub-contracted by Hunter Water Corporation to Hunter Water Australia (HWA). HWA samples bulk water quality in accordance with a pre-determined sampling schedule. Though specific rain event sampling is not included in this sampling. HWA undertakes analysis and reporting of samples to Hunter Water in accordance with its NATA certification. Hunter Water reviews the data collected by HWA and conducts Quality Assurance/Quality Control checks on data and flags missing data. Hunter Water has a probe located in the Williams River that uploads phosphorus and turbidity readings on a constant basis to Hunter Water's offices.</p>

Clause	Requirement	Compliance	Findings
	(b) details of activities conducted by Hunter Water under the Hunter Water Corporation Limited (Special Areas) Regulation 1997, Williams River Catchment Regional Environment Plan, Regional Planning Strategy and Seaham Weir Operations Plan;	High Compliance	<p>The 2003/04 Catchment Report includes sections that address the activities conducted by Hunter Water for each of the listed planning instruments. However full compliance cannot be awarded because the report does not fully address all of the matters that occurred during the year in this regard.</p> <p>Hunter Water advised in interviews that under the Special Areas regulations, measures to prevent surface water activities on its reservoirs include the erection of signage, random patrols by rangers and complaints from adjoining neighbours (who are also bound by the regulation).</p> <p>Hunter Water did not report in the Catchment Report any major development or land uses within the audit year that would have an impact on drinking water catchments.</p> <p>However, within the audit year, Hunter Water has provided upon request correspondence to Port Stephens Council outlining its views and concerns with respect to land use activities that may impact on catchment health including a proposed sand extraction operation, a rezoning application to accommodate a golf course and a rural residential subdivision. These identified land use activities fall wholly or partially within lands subject to Hunter Water's (Special Areas) Regulation 2003.</p> <p>Land re-zonings that occurred within the Special Area in 2003/04 were not deemed to be significant and no advancement of the motor racing and drag strip development reported in the 2002/03 Catchment Report occurred in the audit year. The auditor has sighted Hunter Water's original submission regarding its objections to the motor racing and drag strip development lodged in the 2002/03 audit year and a subsequent confirmation of its position on this issue submitted within the 2003/04 year.</p> <p>Hunter Water has identified the fish pump flush procedure as the only action arising from the Williams River Catchment Regional Environment Plan, Regional Planning Strategy demonstrating no additional action from the 2002/03 report.</p>

Clause	Requirement	Compliance	Findings
			The auditor has sighted documents provided by Hunter Water which demonstrate its participation in consultation with a range of organisations responsible for improving catchment health. The correspondence indicates that Hunter Water is a key member of these forums, however, Hunter Water's role is predominantly one of responding to the requests and initiatives of the other participant organisations and less so the pro-active management of issues.
	(c) details of Hunter Water's performance against the Water Management Licence and the Dam Safety Act 1978;	High Compliance	<p>The 2003/04 Catchment Report does contain sections that report on the Water Management Licence and the Dam Safety Act. However, full compliance for this item is not given because of a technical breach that results from the way the rolling averages are calculated for allowable groundwater extractions from Anna Bay sandbeds.</p> <p>Hunter Water negotiated terms of the licence with DIPNR during the audit year that were completed by December 2003. Hunter Water commenced operating under the new licence from 25 June 2004.</p> <p>This audit covers the period for 2003/04 within which Hunter Water was operating under the Water Management Licence (1998).</p>
	Water Management Licence (1998)		<p>The 2003/04 Catchment Report noted that Hunter Water gained the approval of DIPNR for the installation of nine new salt water intrusion monitoring bores to more accurately detect such intrusion following Hunter Water's determination of shortcomings within its groundwater monitoring program.</p> <p>Within the 2003/04 audit year, Hunter Water was in technical breach of its allowable groundwater extraction from the Anna Bay sandbeds. Consequently, full compliance of this clause can not be given. Further explanation of this determination is provided in the section - Factors Affecting Compliance.</p> <p>Hunter Water has maintained the Tomago-Anna Bay pipeline since it was commissioned in December 2003 to carry the base load of water required for the Anna Bay area. This has reduced the demand on the Anna Bay aquifer which is now used primarily to 'top-up' supply to Anna Bay during peak holiday loadings.</p>

Clause	Requirement	Compliance	Findings
			<p>The 2003/04 Catchment Report also reported that Hunter Water has continued studies to optimise the environmental benefits of environmental flow releases from Chichester Dam. Hunter Water demonstrated pro-activity in this regard within 2003/04 through trials to attenuate pulsing effects from Chichester Dam's hydro-electric outlet in advance of the release of DIPNR's Flow Release Acceptance Levels.</p> <p>Hunter Water attended meetings with the Strategic Liaison Committee in September 2003 and April 2004 which appear to be an effective forum to continue policy and operational linkages between Hunter Water and DIPNR.</p> <p>With respect to the Water Management Licence (1998) Hunter Water has reported the following for the audit period 2003/04:</p> <ul style="list-style-type: none"> • No new water storage bodies were installed. Hunter Water has commenced construction of the Stage II Grahamstown Dam augmentation; • Hunter Water rangers detected a failing in one of the Seaham Weir floodgates in April/May. Hunter Water had the rangers responsible for the area undertake the required repairs; <p>With the exception of the nine monitoring points approved by DIPNR, no new bores were installed and no new extraction points were commissioned. Further, the Hunter region was not declared a NSW drought affected area during the year so Hunter Water did not exercise its powers under this section of the Water Management Licence.</p>
	Dam Safety Act, 1978		<p>Hunter Water has progressed activities with respect to all three of its remaining structures prescribed under the Act. Hunter Water reported that Dora Creek effluent ponds were de-prescribed in 2003/04 though this same statement was made in the 2002/03 reporting period.</p>

Clause	Requirement	Compliance	Findings
			<p>The remedial works at Chichester Dam to improve the dam's ability to pass revised design floods that commenced in 2002/03 were completed in 2003/04. The Grahamstown Dam spillway outlet channel commenced construction in the 2003/04 year and a development application was lodged with Lake Macquarie City Council for upgrading the storage capacity of the Winding Creek detention basin.</p> <p>With respect to the Dam Safety Act, the 2003/04 audit year saw the five year surveillance audit lodged by the Dam Safety Committee to record dam safety information. This report was confirmed by inspections conducted by a Committee Officer. The committee was not required to issue any notices for actual or potentially unsafe structures to Hunter Water within the audit period.</p> <p>During the audit year Hunter Water undertook the clearing of vegetation from Grahamstown Dam as vegetation was considered to obscure the toe of the dam structure necessary to enable leaks of any size to be readily identified. Not all works were completed following intervention by the National Park and Wildlife Service (NPWS). Hunter Water secured the assistance of the Dam Safety Committee to authorise the clearing of the remaining vegetation with some additional safeguards to be incorporated for fauna as suggested by NPWS. This activity was not reported.</p>

Clause	Requirement	Compliance	Findings
	(d) other catchment, landcare or other supporting activities conducted by or on behalf of Hunter Water; and	High Compliance	<p>Hunter Water has reported within the Catchment Report other catchment, landcare and other supporting activities with which it is involved with respect to catchment management for the 2003/04 audit period. However, full compliance for this clause cannot be given because key events are not reported or the timing or currency of Hunter Water's activities in this regard as reported is, in some instances, misrepresented.</p> <p>Further detail on this assessment is provided below in discussion of the activities reported by Hunter Water in the Catchment Report. These activities are classified below regarding those that are in progress/ongoing and those that have been concluded or on which no progress has been observed during the 2003/04 audit period. Other activities undertaken by Hunter Water during the audit period but not reported are also discussed.</p> <p>Hunter Water has reported in interview that no new projects or programs regarding catchment management have been initiated during the 2003/04 audit year.</p> <p>Within the report, Hunter Water has reported that the following catchment activity has been successfully completed in the 2003/04 year:</p> <ul style="list-style-type: none"> • construction of the Bandon Grove fishway. <p>Within the report, Hunter Water has reported the following activities within the 2003/04 year which the auditor has found to be in progress or undergoing further development as part of ongoing strategies:</p> <ul style="list-style-type: none"> • Property management programs on two properties that had commenced in 2002/03. The findings of site condition reports are being incorporated into new leases as they arise; • Best Practice Riparian Management project with a new landholder agreeing for the trial to occur on their property; • the rehabilitation of the Williams River tributaries project – restricting stock access and re-vegetating stream banks;

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Feral Animal Management – expanded baiting and further research into the impacts of feral animals on native populations; Weed Management Program – ongoing weed control of Alligator weed and water hyacinth at Balickera Canal and lantana at Chichester Dam. <p>With respect to the status of monitoring for herbicide residual used for the control of Alligator weed in the Williams River, Hunter Water have reported during interview that spraying occurred twice during 2003/04.</p> <p>Water hyacinth was also sprayed. Following spraying, one (1) high residual amount was detected in NATA certified analysis. This water was re-tested and levels were not found to be elevated upon re-testing. Whilst results of testing were awaited, a tag-out procedure was implemented to prevent pumping.</p> <p>Documentation of this exceedance was requested from Hunter Water and a preliminary lab report from Hunter Water laboratories showing the identification of the exceedance and the re-testing has been sighted. The initial sampling of 16 ug/L exceeded the 10ug/L NHMRC guideline for glyphosphate. Re-testing one (1) week later showed levels of 6 ug/L.</p> <p>This event was not reported in the Catchment Report because Hunter Water uses the Annual Report for the DEC licence (for use of herbicides near waterways) as the basis for reporting in the Catchment Report and the Annual Report covers the period April 2003 to April 2004.</p> <p>Consequently, the event which occurred in 24 May 2004 fell outside of the DEC reporting period. Hunter Water advises that this event will be reported in the 2004/05 Annual Report to DEC and consequently in the 2004/05 Catchment Report. However, the Operating Licence does not link the reporting of such events to other Licences or permits under which Hunter Water operates and this event should have been reported within the 2003/04 Catchment Report.</p>

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Bush Fire Management Plan – three controlled hazard reduction burns were completed and a new 1.4km firebreak constructed. Hunter Water also reported the presence of its tankers, striker units and bushfire fighting crew; Balickera Canal Re-vegetation Project – suspended in 2003/04 to resolve issues with an adjoining landholder; and Conclusion of the Seaham Weir revegetation project due to dwindling support. The resources allocated for this project have been redirected to other catchment initiatives. <p>Within the Catchment Report, the following components/ catchment management initiatives have been reported but the auditor has determined that these components were not relevant to the 2003/04 period (due to completion, postponement or termination, or no further reported progress from periods prior to the 2003/04 audit year):</p> <ul style="list-style-type: none"> the status of hydro-generation at Chichester Dam; Hunter Water's status as an observer on the Boating Management Plan initiated from the recommendations of the 1996 Healthy Rivers Commission; Bats in Balickera Tunnel; funding of landcare initiatives; Hunter River Management Committee; Williams River Catchment Management Forum – progress on the actions reported in the 2002/03 audit not reported; and The Tomago/Tomaree Groundwater Management Committee. <p>Other activities undertaken by Hunter Water during the audit year but not reported in the Catchment Report are as follows:</p> <ul style="list-style-type: none"> Hunter Water reports during interview that it did not receive any calls regarding spills along roadways within the catchment (principally Pacific Highway) to its 24 hour response line during the audit year.

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Hunter Water has reported in interview instances of illegal entry into its catchments in the Tilligary Peninsula that has resulted in fires and vandalism of groundwater pump stations within the 2003/04 period. Whilst these matters are routinely reported by catchment rangers, and security patrols have been increased, incidents do continue to occur.
	<p>(e) five year water quality trends in the Williams River (at Hunter Water's monitoring point adjacent to Seaham Weir) against the following parameters:</p> <p>(i) total phosphorus;</p> <p>(ii) total nitrogen;</p> <p>(iii) faecal coliforms;</p> <p>(iv) chlorophyll-a;</p> <p>(v) turbidity; and</p> <p>(vi) other parameters as routinely tested and measured by Hunter Water.</p>	Full Compliance	<p>The 2003/04 Catchment Report provided five year water quality trends on data collected from 1999 to 2004 inclusive for total phosphorus, total nitrogen, thermotolerant coliforms, chlorophyll-a and turbidity. In addition, 5 year trends for 11 other routinely monitored parameters were included.</p> <p>All the trends (either increasing or decreasing) were graphed showing trend-lines under parametric and non-parametric statistical analyses and were reported in terms of statistical significance.</p> <p>The 2002/03 audit reported that there had been 'marginal increases in total phosphorus and turbidity levels, neither of which can be explained by Hunter Water'. Whilst no significant trend was noticeable in the five year data this upward trend continued in the 2003/04 extension of this data set. Hunter Water could not provide an explanation for this continuing trend.</p> <p>Whilst only fluoride provided a statistically meaningful trend in the five year data, 11 of the 17 parameters in the long term data had statistically significant trends. The five year fluoride significance result was explained as a data anomaly. The long term relationship between turbidity, NFR and total phosphorus was explored. The increase in copper levels whilst noticeable was superficially explained despite Hunter Water's acknowledgement that a clear disjunction existed between the upward trend in copper and the downward trending indicators for sewer discharges with which it is normally associated. Refer to recommendation R10.2 for more information.</p>

Clause	Requirement	Compliance	Findings
			<p>Hunter Water demonstrated awareness of their bulk water quality resulting from algal monitoring at Boags Hill, Chichester Dam and Seaham Weir by presenting observations relating to a change in the species mix of algae collected in the Williams River though this shift in make up could not be explained.</p> <p>During interview, Hunter Water identified that whilst macro-invertebrate studies had been conducted between Hunter Water and DIPNR in the Williams River during the 1990s and early 2000s (associated with an environmental flow issue from the Chichester Dam), biological monitoring was terminated by DIPNR due to confounding influences which made the results unclear. Hunter Water did not pursue further biological monitoring because it was seen to be the responsibility of DIPNR.</p>
	<p>Finding and recommendation arising from the 2002/03 Operating Licence Audit Report:</p> <p><i>“The non-compliance was of a technical nature and related to the omission of reporting in the Catchment Report on chlorophyll-a trends in the Williams River.”</i></p> <p><i>Recommendation “Hunter Water should ensure that results for Chlorophyll-a trends are reported within the Catchment Report for 2003/04.”</i></p>	Full Compliance	<p>Chlorophyll-a results were clearly reported and explained in the 2003/04 Catchment Report and were graphed for both five year and long term trends.</p> <p>Hunter Water advised during interview that reporting of chlorophyll-a was omitted from the 2002/03 report because historically Hunter Water has not reported trends that have not been statistically significant.</p> <p>Hunter Water has advised the auditor that the 2002/03 omission is not likely to recur in future reports because of internal reviews undertaken by a range of persons targeting different areas of the report and because the report is now cross-checked against the Operating Licence requirements.</p>

Clause	Requirement	Compliance	Findings
	<p>Finding and recommendation arising from the 2002/03 Operating Licence Audit Report:</p> <p><i>“Five year water quality trends for the Williams River, as required by the Licence, and suitable trend descriptions for recent catchment initiatives should be included in the Catchment Report, as well as trends for the complete record period (being 15 years). This will highlight any water quality trends that may be occurring in the medium-term as a result of land use changes and catchment management activities that may differ from long-term trends.”</i></p>	Full Compliance	<p>The 2003/04 Catchment Report provided long term water quality trends on data collected from 1987 to 2004 inclusive for total phosphorus, total nitrogen, thermotolerant coliforms, chlorophyll-a and turbidity. In addition 5 year trends for 11 other routinely monitored parameters were included. These parameters were common to those for which five year data was presented.</p> <p>All the trends (either increasing or decreasing) were graphed showing trend-lines under parametric and non-parametric statistical analyses and were reported in terms of statistical significance.</p>
10.1.2	<p>Hunter Water must also publicly display the report on its website on the internet for downloading free of any charges imposed by Hunter Water, and make it available at its premises for access or collection by any member of the public free of charge.</p>	Full Compliance	<p>The 2002/03 catchment report was available on the website at http://www.hunterwater.com.au/docs/reports/CatchmentReport2002-03.pdf and fulfilled the requirement to be accessible, attainable and free of any charges imposed by Hunter Water.</p> <p>Hard copies of the report were not on display or ready for immediate collection when requested at Hunter Water’s premises. However, staff were aware of the report and of its release date. Enquirers were encouraged to use their own means to access the report from the internet. However, copies were attainable for access or collection free of charge should the enquirer be prepared to wait for the document to be printed by Hunter Water staff.</p> <p>The 2003/04 report was published and provided to IPART by the reporting date on 1 September 2004 and was provided to the auditor on 2 September 2004. A downloadable version of the report was available from Hunter Water’s website on 6 September 2004.</p>

10.4 Discussion

Hunter Water has substantially met the requirements of the Operating Licence in the 2003/04 audit year. Specific details regarding the award of levels of compliance are reported in the following section with additional recommendations made.

10.5 Factors Affecting Compliance

10.5.1 Water Management Licence Modifications

The Water Management Licence authorises Hunter Water to extract water from surface and ground waters for the purpose of town water supply. A condition of the licence requires review every five years. This review conducted between Hunter Water and the Department of Infrastructure, Planning and Natural Resources (DIPNR – formerly DLWC) occurred by December 2003 (ie. within the audit year). Hunter Water was issued with an amended Licence in June 2004.

Whilst the amended licence does not have any immediate impact on Hunter Water's access to water sources, the 2003/04 Catchment Report reported the following future outcomes and impacts on Hunter Water:

- Redrafting of the groundwater access conditions to better reflect conditions contained within the Tomago-Tomaree-North Stockton Water Sharing Plan, originally gazetted in February 2003, and operational from 1 July 2004 (within the audit year).
- The auditor understands that the implementation of Water Sharing Plan (WSP) for the Tomago-Tomaree-North Stockton Groundwater Source (and all other sources covered by NSW's WSPs) was deferred due to liaison between the State and Federal Government on water policy until 1 July 2004. This delay provided the opportunity for re-gazettal of the WSP ensuring consistency between the revised WML and the WSP. The deferral did not allow for further engagement of community groups. This alignment is expected to be beneficial in streamlining the linkages between the two documents but it appears that these changes have dominated the activities of Hunter Water with respect to the implementation of the Water Management Licence for this audit year.
- The requirement to further investigate ways to minimise impacts on the ecology of the Chichester/Williams Rivers downstream of Chichester Dam. Environmental flow releases from Chichester Dam via the hydro-electric outlet are variable ranging from 5 to 30 ML per day in order to better match electricity demand. This has resulted in variations in river flow as far downstream as Dungog and is sufficient to be of concern in terms of the impact on river ecology. The new licence requires Hunter Water to examine options for mitigating this pulsed effect of releases.

- A study to determine a sustainable groundwater extraction strategy. The licence requires Hunter Water to assess and identify critical water levels at each bore station within the Tomago and Tomaree aquifers. These critical levels are to be determined by assessing key aquifer/environmental protection measures such as levels that must be maintained to prevent the drawing in of salt water and limiting the impact on groundwater dependent ecosystems.
- The development of surface water access rules for the lower Williams River. The previous licence allowed Hunter Water to access up to 1400ML per day of water from the Williams River, not always possible due to fluctuations in river flow and the quality of the water at Boags Hill extraction point. DIPNR licence Hunter Water taking into account environmental flow requirements on a daily basis and equity amongst all users. In order for DIPNR to do this, further information is required in particular the potential impact of Hunter Water's extractions on river flows at Seaham to the estuary and Seaham Weir operations. Hunter Water is undertaking this study in conjunction with DIPNR. It is due to be completed by 2006. After this time Hunter Water and DIPNR will collaboratively formulate new access rules into the licence, taking into account the potential for any future upgrade works.

10.5.2 Anna Bay groundwater extractions

The determination of 'high compliance' with respect to Clause 10.1.1c of the Water Management Licence relates to Hunter Water's breach of the 79 gigalitre extraction limit imposed on extractions from the Tomago Special Area prescribed by Section 4.11 of the Water Management Licence (1998). Whilst the actual extraction occurred in the 2002/03 year, through the calculations specified in the WML, this breach carried over into August 2003 placing it in the purview of this audit. Consequently, whilst the breach is a technical one, and one based on a rolling average calculation that has been eliminated in the revised 2003 Water Management Licence, full compliance cannot be determined as the former WML was still in force. Whilst over-extraction can present a significant environmental and catchment impact, it is not expected that this occurrence should recur in future years due in part to the new licence calculation protocol for over extraction and Hunter Water's implemented strategy of supplementing extraction of groundwater from the Anna Bay aquifer with water transported in the newly commissioned Tomago-Anna Bay pipeline.

10.5.3 Level of reporting

The auditor found very little factual alteration between the text of the 2002/03 Catchment Report and the 2003/04 report. Consequently, it was difficult to identify those activities that Hunter Water had undertaken and managed proactively within the audit year. Further, the Catchment Report limited discussion to a statement on whether compliance had been met or not and did not elaborate on what activities, strategies or initiatives Hunter Water had embarked on or developed within the audit year to achieve the stated levels of compliance. Additional and relevant activities and practices undertaken by Hunter Water during the audit period were identified by Hunter Water personnel during interviews. However, these additional activities and practices were not reported in the 2003/04 Catchment Report.

Recommendations

10.5.4 Key Recommendations

- R10.1 Hunter Water has included the Boags Hill take off point where extractions are made to supply Grahamstown Dam in the reporting but has not taken any pesticide samples at this location and has sampled for only a subset of chemical analytes. It is recommended that Boags Hill be included in the full suite of chemical, pesticide and radiological analyses as there is potential for untested waters containing these contaminants to be introduced into Grahamstown Dam. Testing should coincide with periods of extraction from the Williams River at Boags Hill where this water is intended for storage within Grahamstown Dam. Results should be reported in future Catchment reports.
- R10.2 The audit identified that the statistically significant differences identified in the statistical analysis and trending of water quality data over both five year and long term periods were largely un-explored. It is recommended that Hunter Water investigate the physical, chemical and other interactions occurring in the catchment to provide greater explanation in future Catchment Reports on the implications to the quality of bulk water and the health of the catchment for all significant trends both positive and negative that are observed in the data (five year and long-term).

10.5.5 Secondary Recommendations

With regards to clause 10.1.1, Hunter Water has been unable to provide details on compliance on groundwater resources because results arising from the Sustainable Groundwater Extraction Study are due in 2006 and are presently insufficient to make a definitive assessment of compliance. Given the long lead time for the results of DIPNR's technical specifications and the final outcomes of the Sustainable Groundwater Extraction Study due in 2006 to become available, it is recommended that Hunter Water:

- Demonstrate pro-activity in this area by keeping pace with the development of DIPNR's indicators and where such indicators are sufficiently established and robust, collect data on these interim lead indicators to report on the health of the catchment's groundwater and groundwater dependent ecosystems within its area of operations.

With regards to clause 10.1.1a, Hunter Water use HWA to undertake monitoring on a pre-determined schedule. Given the likely introduction of water quality influences resulting from first flush events, it is recommended that Hunter Water:

- Instigate a rain event water quality sampling program to strengthen the existing routine sampling regimen. Hunter Water should report the criteria for rain event sampling, and any exceedance results, in the 2004/05 Catchment Report.

In addition, Hunter Water had not undertaken macro-invertebrate or biological monitoring since the 1990's. Given the long term trending benefits of biological assay with respect to catchment health, Hunter Water should:

- Consider initiating biological assay of key waters and report progress and rationale for its decision in the 2004/05 Catchment Report.

With regard to clause 10.1.1b, access to water storage reservoirs and proximity to Seaham Weir is prevented by signage, random inspections by rangers and complaints received from adjoining neighbours. Hunter Water relies on passive methods to restrict recreational water users access to reservoirs. It is recommended that Hunter Water:

- Take the opportunity to undertake a proactive review of access to Seaham Weir and access to other water storage reservoirs; and
- Have the outcomes of this review be reported in the next audit. Reporting should include where relevant, strategies identified and any actions taken to manage access. This may include the use of physical barriers and other pro-active measures for water resources under its control and entering into agreements or understandings (consistent with Clause 3.3.4 of the Operating Licence) with those bodies vested with the power to restrict access.

With regard to clause 10.1.1d, Hunter Water undertakes a range of Catchment Management initiatives designed to protect the catchment and its ecosystem. Whilst Hunter Water's contributions to broader catchment management initiatives appear to be of benefit to the catchment, there appears to be limited status, measurement, structure and co-ordination of these activities by Hunter Water. In many cases Hunter Water is a 'silent partner' in the initiatives providing financial or in-kind support to the programs led and coordinated by other stakeholders within the catchment (principally the Hunter Catchment Management Authority). These initiatives do not always reflect Hunter Water's priorities with respect to the protection of drinking water supply.

The auditor recognises that effective catchment management requires central planning and coordination and does not propose duplication of this function. However, it is recommended that Hunter Water:

- Consider taking a more active role in this process and define and report on the initiatives undertaken with respect to Catchment Management;
- Report on the risks posed to the catchment and the actions/initiatives being undertaken to address such risks. This reporting is to include a definition of the expected specific outcomes of what the initiative will do for the catchment/Hunter Water, how this will be measured, what the interim results are and suggested inputs back to the manager of the initiative (Hunter Water or other) on how the initiative can be improved/adjusted to most effectively achieve beneficial outcomes for the catchment and Hunter Water.

With regard to clause 10.1.1d, following spraying for water hyacinth, one (1) high residual amount of pesticide was detected in NATA certified analysis. This water was re-tested and levels were not found to be elevated upon re-testing. It is recommended that Hunter Water:

- Ensure that any exceedances which fall within the period covered within the audit year are reported in the Catchment Report for that year.

With regard to clause 10.1.1d, Hunter Water has reported that it recently commenced six (6) monthly meetings with Lake Macquarie City Council, Port Stephens Council and Cessnock City Council to discuss development trends. However, these meeting commenced in the 2004/05 audit year. It is recommended that:

- The 2004/05 audit of the Operating Licence investigate the degree to which catchment issues are specifically raised and addressed at these meetings and the extent these are reported in the Catchment Report.

With regard to clause 10.1.1d, Hunter Water reported that illegal entry, fires and vandalism continue to occur in some catchment areas. It is recommended that Hunter Water:

- Investigate and report on measures used to deter illegal entry and intrusion of catchment areas in future reports and report on pro-active strategies to protect key assets such as pump stations

With regard to clause 10.1.2, copies of the Catchment Report were not available for immediate viewing and collection at Hunter Water premises, though they were available to be printed off by Hunter Water staff on request. It is recommended that Hunter Water:

- Consider the merit of placing one hard copy of the Catchment Report for public viewing at each Customer Centre so that these can be viewed immediately by interested persons; and
- Provide public internet access at its Customer Centres to allow free and immediate public access to reports that are to be made available on-line.

11 Complaint and Dispute Handling

11.1 Summary of Findings

Hunter Water has achieved **full compliance** or **high compliance** in relation to all clauses of the Operating Licence associated with complaint and dispute handling. Several steps have been taken during the year as part of Hunter Water's commitment to continuous improvement of complaint and dispute handling procedures. These include improvements in the quality of complaints handling procedures. Improvements planned for the future will also assist in improving the rate at which complaints are resolved.

The external dispute resolution scheme managed by EWON (Energy and Water Ombudsman NSW) continues to service Hunter Water in a manner which complies with the Licence and with which Hunter Water is very satisfied. The majority of complaints received by EWON have been satisfactorily resolved.

11.2 Summary of Requirements

Part 12 of the Licence specifies requirements relating to complaint and dispute handling. The key requirements in this part (omitting the definitional clauses) are:

- Clause 12.1 – Dispute handling procedures: This clause covers procedures for handling internal complaints, dissemination of information about these procedures and reporting about complaints.
- Clause 12.2 – External Dispute Resolution Scheme: This clause covers the establishment, mode of operation, information dissemination, review and reporting about external resolution scheme.
- Clause 12.3 – Complaints to other bodies: This clause requires a report on complaints made to courts or tribunals.

Two submissions about complaints have been received and are addressed in this chapter.

Clause 11.2.1(h-k) requires IPART or the auditor to investigate and report on Hunter Water's on-going compliance with its Customer Contract, code of practice for debt and discontinuity, the effectiveness of complaints handling procedures and complaints made against Hunter Water in a court or tribunal. This section of the audit report addresses these clauses of the Operating Licence.

11.3 Details of Compliance

Table 11.1 Complaint and Dispute Handling – Part 12 of Operating Licence

Clause	Requirement	Compliance	Findings
12.1.	Internal Complaint Handling Procedures		
12.1.1	Hunter Water must establish internal complaints handling procedures for receiving, responding to and resolving complaints by Customers and Consumers against Hunter Water.	Full compliance	Community Relations Policy 12, Complaints Management, created in 1997, was updated in February 2003. Reports were sighted and work at the Contact Centre observed. Both demonstrated that Hunter Water is receiving, responding to and resolving complaints.
12.1.2	The internal complaints handling procedures of Hunter Water must be based on the Australian Standard AS4269 -1995 Complaint Handling.	Full compliance	Policy 12, Complaints Management outlines the internal complaints procedures. The Policy is based on the Australian Standard. It was last updated in February 2003. There were no recommendations in relation to this policy in the 2002/03 audit.
12.1.3	Hunter Water must make available to Customers and Consumers information concerning its internal complaints handling procedures which explains how to make a complaint and how the procedure works.	Full compliance	<p>A pamphlet about the internal complaints handling procedure ("Resolving Customer Disputes") is available at Customer Centres and was sent to all customers in bills in the cycle commencing July 2003. It can also be downloaded from the website.</p> <p>It states that interpreter services are available but this statement is not made in other languages as it is on the pamphlet about the customer contract.</p> <p>There are three ways of making complaints. These are by telephone, in person at a Customer Centre and in writing by email or by letter. Information about this process can be found with some difficulty on the website, a problem recognised by Hunter Water. This will be improved.</p>
12.1.4	Hunter Water must provide information of the nature described in clause 12.1.3 to Customers and Consumers through their bills at least once each year. Hunter Water may provide this information in the pamphlet referred to in clause 12.2.6.	Full compliance	Information was sent to all customers in bills in the cycle commencing July 2003 and is scheduled to be sent again in the November 2004 to February 2005 cycle.

Clause	Requirement	Compliance	Findings
12.1.5	The Customer complaint handling, complaint resolution process and Customer redress provided to Customers under the Customer Contract must be reviewed and amended where necessary by Hunter Water to ensure that it is based on the Australian Standard AS4269-1995 Complaint Handling.	High compliance	<p>The policy (Policy 12) was reviewed in February 2003 to better address the Australian Standard.</p> <p>Particular aspects of the Standard are addressed in the following:</p> <p><i>Training</i> - Hunter Water provides training about complaint handling to customer service staff, supervisors and managers. This training is supported by fact sheets and information on the intranet about common or topical issues which may arise when customers enquire or complain. Training is given when customer service staff are employed, on a 6 monthly basis using feedback from customer surveys and then on an ad hoc basis as needs are identified. Throughout the year there have been reminders and updates focusing on response times, ownership of issues, record keeping, internal escalation and feedback to customers. Customer Service training was conducted in June 2003 in conflict resolution and handling difficult customer interactions. The Employee Services section of Hunter Water keeps a track of training received by each individual but there was no written record of the training provided for the customer service staff as a whole. For this reason there is less than full compliance with this clause.</p> <p><i>Resources</i> - The telephone and complaint recording equipment has been assessed by Hunter Water as now being inadequate to provide efficient service to customers. A new telephone system will be installed into the new building towards the end of next year. It will enable better response times (currently 38 seconds) and will enable customers to leave recorded messages. The recommendations made in a submission to the Board suggest that this will provide better information and better service. This combined with the new billing system to be installed in the next 12 months will enable staff to respond better to calls. Staff are not rotated but many Contact Centre employees are part time, working only 5 days per fortnight and at most times, the majority of contacts made by customers are inquiries rather than complaints.</p> <p>While Customer Service Indicators (Chapter 5) show that there has been a decline in the rate of resolution of complaints, a new Case Investigations Group has been established and is being tested for its effectiveness over the next 18 months. This group investigates particular cases and its purpose is to improve case management, particularly in</p>

Clause	Requirement	Compliance	Findings
			<p>relation to speed of complaint resolution.</p> <p>Complaints, once received, are managed by the Case Investigations Group with input sought from other areas in Hunter Water. These become part of a report to the Managing Director and the Board. Any trends are acted on as necessary and reported each month and in the annual report to IPART.</p>
12.1.6	<p>Hunter Water must report on the following details concerning complaints made against Hunter Water which are handled by its internal complaints handling procedures:</p> <p>(a) the number and types of complaints received on a month by month basis, classified by Suburb into one or more of the following categories:</p> <p>(i) water quality, including health and aesthetic parameters;</p> <p>(ii) continuity of water supply;</p> <p>(iii) water pressure;</p> <p>(iv) sewage overflow;</p> <p>(v) sewage odour;</p> <p>(vi) drainage services; and</p> <p>(vii) customer billing.</p> <p>(b) the number and type of complaints resolved or not resolved (on a month by month basis) in sufficient detail and using sufficient classifications to enable IPART to gain a reasonable understanding of how and how well those complaints were resolved or why complaints were not resolved, as the case may be; and</p>	Full compliance	<p>The report was delivered to IPART on September 1 and has been examined in detail by the auditor. It provides details of complaints and service calls by month, by suburb and by subject of the complaint. A summary appears in the discussion section of this chapter.</p> <p>When asked how well complaints are resolved, Hunter Water staff said that they keep regular contact with customers to provide status reports until the matter is resolved. If a complaint is not resolved customers may ask for further clarification from Hunter Water or contact EWON.</p> <p>The time taken to resolve complaints, noted in the Customer Service indicators in Chapter 5, has increased. This is apparently due to staffing levels or work distribution systems in this area and Hunter Water has now introduced changes, including establishing the Case Investigations Group, to the way in which resolution of complaints is managed.</p>
	(c) any problems of a systemic nature arising from the complaints.	Full compliance	Daily patterns of systemic problems are assessed from complaints and are then addressed.

Clause	Requirement	Compliance	Findings
12.2.	External Dispute Resolution Scheme		
12.2.1	Within 1 month of the commencement date, Hunter Water must establish a Dispute Resolution Scheme for the resolution by a Dispute Resolution Body of disputes between Hunter Water and its Customers and between Hunter Water and Consumers of the nature described in 12.2.3.	No requirement	This requirement was satisfied in the previous audit period.
12.2.2	The Dispute Resolution Scheme so established by Hunter Water is subject to the Minister's approval.	No Requirement	Approved by Minister. Copy of Minister's media release provided.
12.2.3	The Dispute Resolution Body is to hear disputes relating to complaints made by Customers and Consumers in relation to the following issues: (a) water quality, including health and aesthetic parameters; (b) continuity of water supply; (c) water pressure; (d) sewage overflow; (e) sewage odour; (f) drainage services; and (g) customer billing.	Full compliance	The report from Hunter Water about EWON was sent to IPART on September 1. It shows that EWON has heard disputes in all the categories defined by this clause.
12.2.4	The Dispute Resolution Scheme must comply with the minimum standards, so far as applicable, specified in the Benchmarks for Industry-based Consumer Dispute Resolution Schemes released by the Commonwealth Minister for Customs and Consumer Affairs in August 1997.	Full compliance	EWON meets the National Benchmarks for Industry Based Customer Dispute Resolution as noted in the 2002/03 report to IPART, noted again in the 2003/04 report and the external review conducted by Urbis Keys Young in January 2002. There has been no other assessment of EWON in the current audit year.

Clause	Requirement	Compliance	Findings
12.2.5	The Dispute Resolution Scheme must have the following features:		
	(a) the decision-making process of the Dispute Resolution Body and administration of the scheme is to be independent from Hunter Water and Subsidiaries of Hunter Water;	Full compliance	The articles and constitution of EWON demonstrate that EWON is independent from Hunter Water and any subsidiaries.
	(b) Hunter Water agrees to abide by the decisions of the Dispute Resolution Body in relation to disputes referred to it for resolution;	Full compliance	In becoming a member of EWON, Hunter Water has agreed "to be bound by and observe the terms of the Constitution" (Clause 11.8.2 (a)) and under Clause 6.2 "All decisions by the Ombudsman under paragraph 6.1 shall be automatically binding upon members." Hunter Water's report to IPART about EWON says "determinations are binding on members, but the customer may elect whether or not to accept the Ombudsman's decision".
	(c) the Dispute Resolution Scheme must adopt informal proceedings which discourage a legalistic adversarial approach;	Full compliance	There is no direct data kept to assess informality. The procedures outlined in the report about EWON are designed to discourage a legalistic adversarial approach, to be informal and to be fair.
	(d) decisions of the Dispute Resolution Body should be fair and be seen to be fair, by observing the principles of procedural fairness, by making its decisions based upon the information before it, and by having specific criteria upon which its decisions are based;	Full compliance	EWON says that an external review is conducted every second year. The January 2002 report sent to the auditor was by Urbis Keys Young. It reports customer reactions to the service and this includes measurements on process and outcomes. It reports against industry benchmarks of accessibility, independence, fairness, accountability, efficiency and effectiveness. EWON is considered by the Review to fulfil all of these aspects in a highly positive manner. The procedures are outlined clearly and the Review mentioned above judges EWON to be fair in its procedures, using information before it to make decisions.
	(e) the Dispute Resolution Scheme is to operate efficiently by keeping track of disputes referred to it, ensuring complaints are dealt with by the appropriate process and by the Dispute Resolution Body regularly reviewing the operation of the Dispute Resolution Scheme; and is to be funded by Hunter Water.	Full compliance	EWON uses a tracking system which monitors process as well as outcome (customer satisfaction, how many finalised) and provides weekly and monthly reports to Hunter Water about contacts. The Council of EWON, which includes a member from Hunter Water, reviews the operation of the Scheme at its meetings.

Clause	Requirement	Compliance	Findings
	f) the Dispute Resolution Scheme is to be free of cost to Customers and Consumers.	Full compliance	The Scheme is free of charge to customers and consumers. Hunter Water pays approximately \$65,000 per annum. The fee is based on the number and levels of complaints received by EWON and enables EWON to function without a charge to customers.
12.2.6	Hunter Water must prepare a pamphlet that explains how the Dispute Resolution Scheme operates and how it can be accessed. The pamphlet should cover both the Internal complaint handling procedures developed under clause 12.1 and the External Dispute Resolution scheme.	Full compliance	The pamphlet has been prepared and is available at Customer Centres, on the website and was sent to all customers in the bills of the July to October 2003 billing cycle. The auditor notes that accessibility to assistance for those who are non English speaking is not expressed in different languages as with the pamphlet about the Customer Contract. This is recommended.
12.2.7	Hunter Water must provide the pamphlet to Customers and Consumers through their bills, at least once each year.	Full compliance	"Resolving Customer Disputes" was sent to all customers in bills in July 2003.
12.2.8	Hunter Water must provide IPART with written reports of the determinations made by the Dispute Resolution Body based on information available to Hunter Water and information reasonably obtained from the Dispute Resolution Body. Where considered appropriate by Hunter Water and the Dispute Resolution Body, confidentiality arrangements are to be made so as not to disclose the Customer or Consumer's identity in such reports.	Full compliance	Report provided to IPART. There were no determinations in the audit year.
12.2.9	Hunter Water must report on information available to Hunter Water and information reasonably obtained from the Dispute Resolution Body. The report must contain the following information: (a) how the scheme works; (b) the number and types of complaints received by the Dispute Resolution Body, classified by Suburb into one or more of the following categories:	Full compliance	The report contains the required information, some of which is discussed in the body of this report.

Clause	Requirement	Compliance	Findings
	(i) water quality including health and aesthetic parameters; (ii) continuity of water supply; (iii) water pressure; (iv) sewage overflow; (v) sewage odour; (vi) drainage services; and (vii) customer billing; and (c) in relation to (b), a summary of (i) the outcome of those complaints; (ii) the time taken to resolve complaints; (iii) the procedure for resolving complaints; (iv) any problems of a systemic nature arising from the complaints; and (d) any other relevant information required by IPART to be included in the report.		
12.2.10	Hunter Water must also publicly display the report provided under clause 12.2.9 on its website on the internet for downloading free of any charges imposed by Hunter Water, and make it available at its premises for access or collection by any member of the public free of charge.	Full compliance	The report for 2003/04 has been placed on the Hunter Water website. It is also available on request at the customer centres.

Clause	Requirement	Compliance	Findings
12.3	Complaints to other bodies		
12.3.1	<p>Hunter Water must report on complaints made against Hunter Water to a court or tribunal, such as the Consumer Trader and Residential Tribunal, (based on information available from these bodies and Hunter Water itself as a party to the complaint) containing the following details:</p> <p>(a) the number and types of complaints received by such other bodies;</p> <p>(b) the outcome of complaints;</p> <p>(c) how the complaints were resolved;</p> <p>(d) any problems of a systemic nature arising from the complaints; and</p> <p>(e) any other relevant information required by IPART to be included in the annual report.</p>	Full compliance	<p>Hunter Water reports that there were three complaints, one each made to:</p> <ul style="list-style-type: none"> • IPART about billing; • Department of Fair Trading by a customer seeking compensation; and • Consumer Trade and Tenancy Tribunal about property damage. <p>The outcome of each is also reported.</p>

11.4 Discussion

Clause 12.1 Dispute Handling Procedures

Hunter Water achieved full or high compliance with all aspects of this section of Part 12.

In general Hunter Water has focused on three areas to improve its performance in handling complaints:

- Improving the communication and timeliness of investigations across the organisation so that customer's issues are resolved as quickly as possible. This has not yet resulted in improvements in the times taken to resolve complaints.
- A new centralised Case Investigations Team has been established to manage all operational complaints, the aim being to achieve consistency, timeliness and quality results for customers.
- Development of the Case Management Module of the new Customer Information System (CIS) to be implemented by July 2005. The CIS provides a significant opportunity for Hunter Water to enhance its customer relations for the future and the Case Management Module will assist in identifying areas where improvements can be made.

As noted in the 2002/03 audit, Hunter Water has an effective complaints handling policy (Policy 12) which was updated in February 2003 to ensure its compliance with AS 4268 – 1995.

Hunter Water works with two systems for logging service difficulties and customer complaints:

- The Asset and Operations Management System (AOMS) recording all service calls about water, sewerage and drainage systems; and
- The Complaints Management System (CMS) receiving all complaints and other calls from customers.

In some cases a contact may be recorded on both systems when a customer expresses dissatisfaction with Hunter Water's service as well as requiring an immediate fault repair. The internal complaints report refers to contacts made on both systems.

In meeting the Australian Standard and the Policy, training is given to customer service staff when they first join and then on an ad hoc basis and as the results of surveys are made available. The surveys work to provide feedback to staff.

The auditor noted that there is no record of the training provided, except on individual staff's records. We therefore recommend that this be done and that an annual report be prepared about customer service training.

The Standard recommends that staff receiving complaints are rotated to relieve stress. This is not the practice of Hunter Water but many are part time, working only 5 days per fortnight, providing them with time to recover from the stress of complaints.

A new Case Investigations Team has been established and is being tested for its effectiveness over the next 18 months. This small and specialised group will investigate particular cases and will provide a consistency in handling complaints. If the group achieves expectations, it will provide a new area in which customer service staff can work and therefore provide variety and relieve stress.

As noted in last year's audit report, a new telephone system will be installed into the new building towards the end of next year. It will enable better response times (current average is 38 seconds) and will mean that customers can leave recorded messages. Hunter Water believes that this should provide better information and better service. This combined with the new billing system to be installed in the next 12 months will enable staff to respond better to calls.

Complaints, once received, are managed by the Case Investigations Group with input sought from other areas in Hunter Water. These become part of a report to the Managing Director and the Board. Any trends are acted on as necessary and reported each month and in the annual report to IPART.

Analysis of Complaints

Calls from customers reporting faults in the Contact Centre are initially logged in the Asset Management System and only become complaints if this is requested by the customer, if it relates to a systemic problem or if the customer is not happy with the way in which the service call has been handled. The calls and complaints received through both systems have been reported and are summarised in **Table 11.2**.

Table 11.2 Complaints and Service Calls Received

Category	Total complaints and service calls received in 2002/03	Total complaints and service calls received in 2003/04
Water quality	2,562	1,497
Continuity of water supply	443	726
Water pressure	1,079	580
Sewage overflow	5,468	5,621
Sewage odour	533	528
Drainage services	30	34
Customer billing	2,037	1,724
Total	12,152	10,710

Table 11.3 Calls Received by Each System

Category	AOMS service calls	CMS
Water quality	1337	160
Continuity of water supply	558	168
Water pressure	438	142
Sewage overflow	5,511	110
Sewage odour	420	108
Drainage services	0	34
Customer billing	0	1,724
Total	7,764	2,446

There were a total of 3,032 complaints recorded in the CMS. The discrepancy between this and the total in **Table 11.3** is due to the fact that not all complaints fit into the above categories. **Table 11.4** compares these complaints in all categories with those of last year.

Table 11.4 All Categories of Complaints

Category	2002/03		2003/04	
Asset Enquiry	129	140	5%	4%
Billing Enquiry ¹	912	914	30%	31%
Capital Works Contract	152	73	2%	5%
Community Consultation	0	1	0%	0%
Compensation/Insurance	148	181	6%	5%
Customer Service	109	67	2%	4%
Developer Services	28	30	1%	1%
Metering	248	307	10%	8%
Miscellaneous	121	99	3%	4%
Non-Standard Services	10	13	0%	0%
Operations Maintenance	317	333	11%	11%
Payment Options	19	67	2%	1%
Privacy	1	4	0%	0%
Property Details	66	145	5%	2%
Sewer Odour ¹	113	103	3%	4%
Sewer Overflow ¹	59	96	3%	2%
Stormwater & Drainage ¹	20	28	1%	1%
Technical Enquiry	4	2	0%	0%
Water Conservation	0	24	1%	0%
Water Continuity ¹	81	158	5%	3%
Water Pressure ¹	218	110	4%	7%
Water Quality ¹	228	137	5%	8%
TOTAL	2983	3032	100%	100%

Note: 1. Operating Licence Categories

While there had been a significant increase in complaints from 2001/02 to 2002/03 this has not been the case for this audit year. In the categories required by the audit, the total decreased.

The report to IPART says that there have been slight variations in percentage terms for some categories. There had been reductions in the following areas:

- Water quality;
- Water pressure;
- Customer service; and
- Capital works.

There were increases in the following:

- Metering;
- Payment options;
- Property;
- Sewer overflow; and
- Water continuity.

In response to complaints, Hunter Water also reports that there has been action to improve complaints handling in the areas of Insurance/compensation and property restoration. Credit management and meter management structure and processes have also been improved. Other improvements are noted above.

Consistent with the requirements of the Licence, the report also summarises the monthly trends by suburb for each category.

Clause 12.2 External Dispute Resolution Scheme

The external dispute resolution scheme is provided by the Energy and Water Ombudsman NSW (EWON). Since Hunter Water became a member of the EWON Council in July 2002, customers have the option of taking their unresolved disputes to the Ombudsman for resolution.

Hunter Water achieved full compliance in this section of the licence and reports high levels of satisfaction with the service provided by EWON. A pamphlet about the service is distributed as required by the licence as is the annual report from EWON. Hunter Water reports that EWON strives to provide an excellent and valuable service.

The procedure outlined by EWON meets the criteria of the licence and Hunter Water has provided a report on the results from the scheme for the year ended September 2004 to IPART.

The report contains all the required information and shows that there were 237 contacts made to EWON by Hunter Water customers from 1 July 2003 to 30 June 2004. There was a significant increase in the number of enquiries compared with last year. Hunter Water suggests that this may be due to confusion by customers arising from the White Pages directory listing of EWON's number under 'water complaints' and customers believing that they were contacting Hunter Water directly. These mistaken contacts, although counted, were referred to Hunter Water. This problem has since been rectified by EWON.

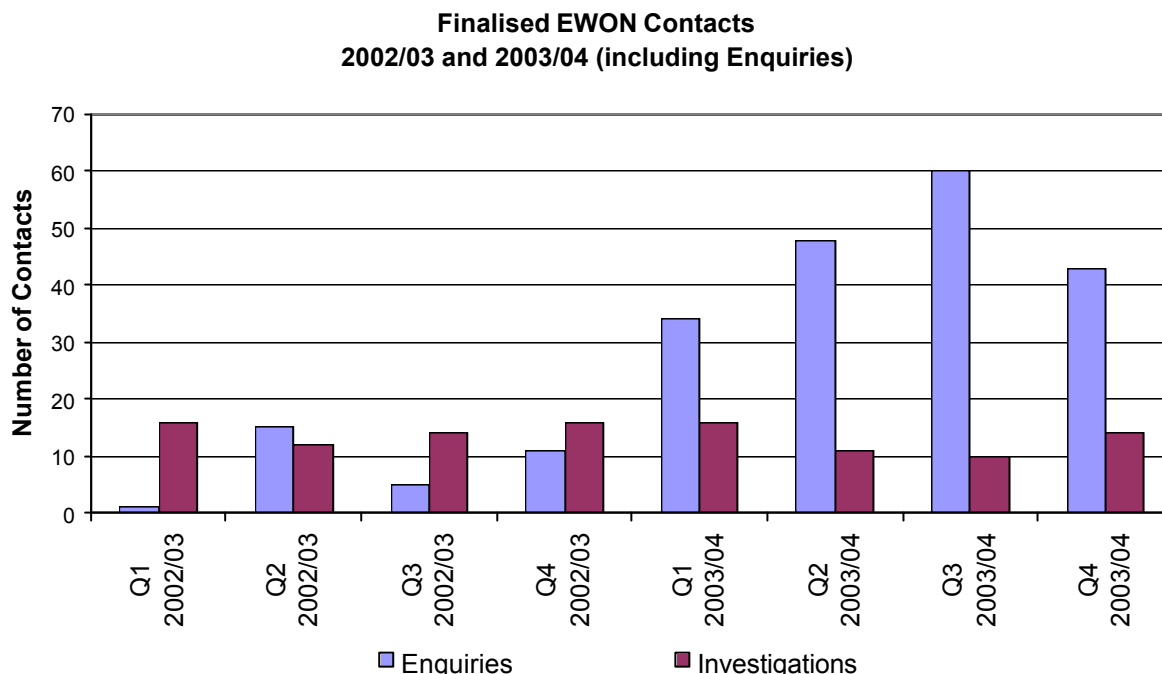
The 237 contacts (0.1% of the 190,000 customers) comprised:

- 186 enquiries; and
- 51 contacts requiring investigation.

Figure 11.1, included in this year's report to IPART from Hunter Water, shows that while there have been more enquiries (as noted above), the number of completed contacts (51) was consistent with the 2002/03 year (58). The percentage of Level One complaints (where

resolution by contacting Hunter Water for information) resolved in 15 to 30 days has decreased from 47% to 10% while the percentage resolved in 31 to 90 days has increased from 7% to 33%.

Figure 11.1 Finalised EWON Contacts



An important recent improvement in the service provided by EWON is that it attempts to refer all complaints back to a higher authority within Hunter Water when customers first call. This is an important step for Hunter Water since their fee to EWON is based on the number of complaints resolved by EWON.

The auditor contacted EWON about their views on the effectiveness of the scheme and Hunter Water's handling of complaints as requested by IPART. EWON has provided a copy of the review on their services conducted in January 2002. The Review, conducted by Urbis Keys Young, reports that:

"There is widespread agreement that EWON has performed very well and to an extremely high standard in its first three years of operation. Indeed, as an evaluator, it is rare to come across such a high degree of consensus in a performance review of this kind."

IPART has also requested that the Ombudsman be asked to comment on Hunter Water's handling of customer service issues. The Ombudsman, when interviewed, said that "Hunter Water is keen to resolve customer issues and that their emphasis is to try to keep customer complaints at the lowest level". A submission to this audit by EWON has also been received and is discussed below.

Clause 12.3 Complaints to Other Bodies

Hunter Water reports that there were three complaints, one each made to:

- IPART where a customer disputed a range of matters related to Hunter Water's legal customer relationship. The customer was informed in writing about the legal basis for the relationship with property owners, not tenants.

- Department of Fair Trading where a customer sought compensation for work done by a plumbing firm following Hunter Water's issuing a "notice to rectify". No determination has been made.
- Consumer Claims Tribunal where a customer rejected an ex gratia offer by Hunter Water following water damage to household goods due to a water main leak. The Tribunal has no jurisdiction in this matter.

11.4.1 Submissions

1. Submission from the Energy and Water Ombudsman NSW (EWON)

In its submission (**Appendix E**) EWON has raised issues associated with the Customer Contract, the Code of Practice on Debt and Disconnection and the external dispute resolution process.

The Customer Contract

EWON has suggested that IPART may wish to review issues outlined when the Contract is next reviewed. These relate to:

- providing clarity to customers regarding costs and fees associated with debts that Hunter Water can recover;
- convergence between Hunter Water and other utilities in relation to interest payable on debts; and
- clarification of this in the Contract; equality of methods of payment available and written notification about debts and disconnection.

With reference to this last point, EWON has commented:

"It would appear that those who have a poorer payment history may not be provided with any information in the proposed recovery notice about possible alternative payment arrangements, nor are they advised to contact Hunter Water to discuss their situation."

This issue was raised with Hunter Water who says that this is not the case:

"Hunter Water advises all customers that are sent a Reminder Notice and/or Notice of Proposed Recovery of the option to contact Hunter Water to discuss their account balance or alternative payment arrangements. All bills to all customers (including those with a poor payment history) have a standard statement on the back that reads as follows: 'PAYMENT DIFFICULTIES: Call 1300 657657 to discuss options available which may include a short extension or payment by instalments.'"

"The Code of Debt & Disconnection brochure is issued to all customers (including those with a poor payment history) with their accounts once per annum and is readily available on the website. This brochure is also specifically sent to all customers with Restriction/Disconnection pending (including occupiers). The Code outlines all the options and urges customers to contact us as soon as possible to discuss these options."

2. Public Submission about Taste and Odour from a Customer

This public submission has been provided in **Appendix F** in summarised form to respect the confidentiality request of the complainant.

This submission addresses consistent and repeated complaints by one customer about Hunter Water's response to taste and odour problems. The customer has stated that he is a former employee of Hunter Water and appears to have considerable knowledge about the system. One of the matters he raises in his submission refers to an alleged response by Hunter Water to his request for water testing results to be more transparent and says that he was told "only if someone forced us to do it."

Hunter Water has reported that water is monitored for taste and odour on a weekly basis by a panel and action is taken if there is any elevation. When and if customers complain they are informed about the issue.

11.5 Factors Affecting Compliance

11.5.1 Internal Dispute Resolution Process

Records of training provided to staff have not been kept by Hunter Water and therefore it was not possible to report full compliance with clause which requires that complaint handling procedures comply with Australian Standard.

11.5.2 External Dispute Resolution Process

EWON conducts surveys every two years. The last survey was not conducted in this audit year and therefore it is not possible to discuss any changes since last year.

With reference to the qualities of the service offered by EWON, it is difficult to assess "informality" and "fairness" but EWON has outlined its procedures designed to meet this requirement and a report on an external review was provided as evidence of the quality of the service.

11.6 Recommendations

11.6.1 Key Recommendations

It is recommended that Hunter Water:

R11.1 Records, in a manner suitable for reporting purposes, training of customer service staff for each audit year.

11.6.2 Secondary Recommendations

It is recommended that Hunter Water:

- Provides some information about access to other translation services in information about complaint handling and EWON.



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

I N V I T A T I O N T O T E N D E R

2003/04 OPERATIONAL AUDIT OF HUNTER WATER CORPORATION

1 BACKGROUND

The Independent Pricing and Regulatory Tribunal of New South Wales (IPART) is seeking suitably qualified consultants to conduct an audit of Hunter Water Corporation's (Hunter Water's) performance against its Operating Licence.

Hunter Water is a State Owned Corporation that provides water, sewerage and some stormwater drainage services to almost 500,000 consumers within the localities of Newcastle, Lake Macquarie, Maitland, Cessnock and Port Stephens.

In accordance with the *Hunter Water Act 1991*, the NSW Government granted an Operating Licence to Hunter Water. This licence was amended in 2002 and the amended licence came into force on 1 July 2002. A requirement of the Operating Licence is that an annual Operational audit be undertaken of the Corporation's performance of its obligations under the Licence. The Tribunal is required to conduct this annual Audit. A copy of the Operating Licence can be found at www.hunterwater.com.au.

Information gathered as part of the Audit is used to report on Hunter Water's performance and make recommendations to the Minister for Energy and Utilities (the Minister responsible for Hunter Water) on:

- a) the granting, amendment or cancellation of the Operating Licence;
- b) the imposition, amendment or cancellation of conditions in relation to the Operating Licence;
- c) action to be taken, and sanctions to be applied, in respect of a contravention of the Operating Licence; and
- d) remedial action that may be warranted as a result of a contravention of the Operating Licence.¹

The Department of Environment & Conservation, Department of Infrastructure, Planning and Natural Resources and Department of Health continue to regulate the Corporation's activities concerning the environment, use of the water resource and public health respectively.

¹ Part 18A (2) *Hunter Water Act 1991*.

2 OBJECTIVES OF CONSULTANCY

The objective of the consultancy is to advise and report to the Tribunal on Hunter Water's performance against its Operating Licence for the period from 1 July 2003 to 30 June 2004. In undertaking this task the auditor must:

1. review and assess the level of compliance achieved by Hunter Water against the Operating Licence criteria set out in Attachment 1;
2. assess and report on progress by the Corporation in implementing the Ministerial Requirements set out in Attachment 2;
3. identify any factors that have affected the performance for the period from 1 July 2003 to 30 June 2004; and
4. based upon the audit assessment, make recommendations on how Hunter Water can improve its performance in the future.

The auditor is required to report on the extent of compliance with the Operating Licence requirements. The audit process should take account of public submissions and the views of stakeholders including environment, social welfare and public interest groups. The Tribunal will advertise for public submissions and the auditor will be responsible for investigating and reporting on these issues as part of the audit process.

The auditor will be responsible for assessing and interpreting the audit requirements and ensuring that the audit process satisfies all statutory requirements. Notwithstanding this, the audit report should reflect the emphasis of the *Hunter Water Act 1991* and the Operating Licence on water quality, system performance, environmental and consumer issues.

2.1 Outputs

The main outputs from the Audit are:

1. two draft reports and a final written report addressing the objectives of the consultancy;
2. discussions and meetings with the Tribunal and/or Tribunal Secretariat;
3. presentations to the Tribunal and/or Tribunal Secretariat which outline the major issues and findings.

The draft reports should be provided in three bound copies and a loose leaf copy. The final written report should be provided in 6 bound copies and 1 loose-leaf copy, as well as in two electronic forms (MS Word and PDF format suitable for web publication).

The auditor should note that the final report will be publicly released. As such the report should be clearly and logically set out and written in plain English, avoiding the use of unnecessary technical terms. On completion of the audit, the auditor's reports, working papers and advice provided to the Tribunal will become the property of the Tribunal.

2.2 Format of Report

The Tribunal has a preferred format for the final report that includes:

- a summary of compliance with the requirements of the Operating Licence and Ministerial Requirements and a summary of key recommendations,
- a summary of key audit findings expressed in the context of the HWC organisation, its legislated objectives and its regulatory environment,
- for each section of the licence and for any Ministerial Requirements:
 - a summary of findings,
 - a summary of requirements,
 - details of compliance,
 - a discussion of any relevant factors affecting compliance, a discussion of any other relevant issue.

Further details of the Tribunal's preferred format will be provided to the successful tenderer.

3 CONDITIONS OF TENDER

3.1 Timing

The successful tenderer must be able to meet the following work schedule:

Contract Program		
Month	Date	Activity
July	Wed 14	Start of contract
August	Mon 23	Delivery of first draft Audit Report (First milestone)
	Tues 31	Discussion of first draft with Tribunal Secretariat (if required)
September	Mon 20	Delivery of second draft Audit Report (Second milestone)
	Wed 29	Discussion of second draft with Tribunal and/or Secretariat
October	Mon 18	Delivery of final Audit Report (Third milestone)
	Wed 27	Discussion of final Audit Report with Tribunal and/or Secretariat (if required)
		End of Contract

Auditors should note that all audit material may not be available from Hunter Water until after 14 July 2004. For this reason the dates in the table for discussion of drafts and the final report are indicative and will be subject to negotiation between the Tribunal Secretariat and auditor. Weekly, formal progress updates will be required to be provided to IPART in writing. Progress meetings in addition to those in the above table are expected. The detailed consultancy work plan should reflect these.

3.2 Fee

The fee quoted is to be inclusive of all costs including Goods and Services Tax, incidental expenses and disbursements. Payments will be due within 28 days of receiving an invoice as per an agreed payment schedule. The consultant may wish to outline a draft payment schedule.

A detailed breakdown of the consultancy costs is required with the proposal. The proposal should include estimates of the time required for the project, auditors to be involved in the project, their rates, and a total fee estimate. Staff costs should be clearly reconciled to the detailed work plan. Costs should allow for presentations to the Tribunal, discussion and meetings with staff of the Tribunal, and stakeholder meetings as required.

3.3 Proposal

The consultancy proposal should demonstrate an appreciation for the task as well as describe the intended approach for carrying it out. The personnel to be involved, including resumes detailing their experience should be listed. A detailed work plan is also required. Details of previous clients who can be contacted are also desirable.

3.4 Presentation

Shortlisted tenderers may be required to make a presentation on their proposal as part of the tender evaluation process.

3.5 Criteria for selection

In selecting the successful consultant the Tribunal will consider the following matters:

- in-depth understanding and expertise in the areas encompassed in the Operating Licence (ie. Water quality, system performance, consumer and environmental issues)
- extent of knowledge about water and sewerage businesses
- experience in similar projects
- understanding of Hunter Water's regulatory framework
- proposed consultancy fee
- adequate resourcing and ability to provide results within the stated time frame
- proposed audit and quality assurance procedures
- guaranteed availability of key staff
- demonstrated ability to enlist the agencies' cooperation whilst engendering a sense of acceptance of the relevant outcomes.

The successful tenderer will be able to put together an audit team with specific experience in each of the core auditable areas (water quality, system performance, consumer and environmental issues) and will include in its consultancy proposal details of the audit team structure having regard to these categories. Tenderers may form a consortium with other firms or consultants to achieve the required set of skills in the areas of water science, engineering, environment and consumer issues.

3.6 Acceptance of Tender

The Tribunal reserves the right to:

- accept no tender at all
- postpone indefinitely the acceptance of a tender
- call for new tenders
- appoint one or more tenderers to undertake the review
- approve or reject any sub-contractors the tenderer may wish to appoint.

3.7 Disclosure of information on Government Contracts

Potential tenderers should note that Government contracting guidelines may require the routine disclosure of the following information:

- details of contract (description of project to be completed or goods / services to be provided or property to be transferred; commencement date of the contract; the period of the contract);
- the full identity of the successful tenderer including details of cross ownership of relevant companies;
- the price payable by the agency and the basis for future changes in this price;
- the significant evaluation criteria and the weighting used in tender assessment; and
- provisions for re-negotiation (where applicable).

3.8 Consultancy Contract

The successful tenderer will be obliged to enter into a contract with the Tribunal prior to commencing the Audit.

The Tribunal has a consultancy contract that covers issues including, but not limited to:

- consultancy information and documentation;
- ownership of intellectual property;
- conflicts of interest;
- confidentiality; and
- insurance.

The Tribunal reserves the right to modify contract terms for the final contract as it considers appropriate. A copy of the Tribunal's draft contract is available on request.

4 PARTIES TO THE AUDIT

The party managing and commissioning the Audit is the Independent Pricing and Regulatory Tribunal of New South Wales. The primary contact is:

Michael Sedwell	Analyst
	tel: 61-2-9290-8408
	e-mail: michael_sedwell@ipart.nsw.gov.au

The primary contact point for the auditors within Hunter Water will be:

Anne Fullick	Manager Compliance and Review
	tel: 61-2-4979-9582
	e-mail: anne.fullick@hunterwater.com.au

5 LODGEMENT OF TENDER

Four bound copies and 1 loose-leaf copy of the tender should be lodged in a sealed envelope marked '2003/04 HUNTER WATER OPERATIONAL AUDIT' and addressed to:

	Ms Meryl McCracken
	General Manager, Support Services
	Independent Pricing and Regulatory Tribunal of NSW
at,	PO Box Q290
	QVB POST OFFICE NSW 1230
or,	Level 2
	44 Market Street
	SYDNEY NSW 2000

so that it is received by no later than 5.00 pm Sydney time, on Friday 2 July 2004.

ATTACHMENT 1 COMPLIANCE AUDIT SPECIFICATIONS

The basic audit requirements are prescribed in clause 11.2 of the Hunter Water Operating Licence. The auditor is to assess compliance with these specifications and ensure that the audit process satisfies all statutory obligations. Key aspects of these documents are summarised below, but the auditor is referred to the Act and the Operating Licence to determine the full context.

Operating Licence Reference	Requirements	Additional Comments
11.2.1 (a) compliance by HWC with its obligations under Part 5 of this Licence	5.1 Customer Contract (see also 11.2.1 (h)) 5.2 Complaint handling, complaint resolution & debt & disconnection procedures relating to consumers 5.3 Code of practice on debt and disconnection (see also 11.2.1 (i)) 5.4 Consultative forum	Customer Contract The auditor should report on the number & value of rebates paid against the different rebate categories. Customer service indicators The Minister for Energy in April 2002 set out a number of customer service indicators against which HWC is required to collect data. The Audit should include a section which sets out performance against these indicators.

Operating Licence Reference	Requirements	Additional Comments
11.2.1 (b) compliance by HWC with its obligations under Part 6 of this Licence	6.2 Drinking Water Quality – Standards 6.3 Drinking Water Quality – Monitoring 6.4 Drinking Water Quality – Reporting 6.5 Drinking Water Quality – Planning 6.6 Drinking Water Quality – Other grades of water 6.7 Drinking Water Quality – Environmental water quality	<p>Drinking water quality is a fundamental part of the audit. As such it is vital that the auditor responsible for this section of the audit has extensive experience in this area.</p> <p>Taste & odour</p> <p>Water taste and odour issues occur occasionally in HWC's area of operations, as a result of the presence of metabolites of certain blue-green algae and actinomycetes – Geosmin and MIB. The Auditor should consider the level of complaints received and the appropriateness of HWC's response to the issue.</p>

Operating Licence Reference	Requirements	Additional Comments
11.2.1 (c) compliance by HWC with its obligations under Part 7 of this Licence	7.3 System Performance Standards 7.5 System Performance Indicators	<p>This is an important area of the Audit which measures fundamental aspects of HWC operational performance and service delivery to customers. The Tribunal considers it essential that the auditor responsible for this aspect of the audit has extensive technical engineering knowledge.</p> <p>Reliance on information provided by HWC alone will not be sufficient; analysis and interpretation of asset management practices and other factors which underlie the overall result is required.</p> <p>The auditor should also endeavour to consider and report HWC's 2003/04 performance against its historical context.</p> <p>Water continuity standard</p> <p>In 2002/03 HWC came close to breaching this standard. Given this context, the Tribunal believes that the adequacy of HWC's asset management practices and assessment of options to improve performance in this area should be scrutinised by the auditors this year.</p> <p>Accuracy of reporting against system performance standards and indicators</p> <p>The auditor is required under the Licence to ensure that system performance indicators are reported in an "<i>accurate, complete</i>"² fashion. There is also a need to have confidence in the accuracy of the system performance standards.</p> <p>The auditor is required to assess the accuracy of reporting for both the system performance standards and indicators. In undertaking this task, the auditor should consider the nature of the parameter measured, reporting systems and methods used and where possible, best practice by water utilities within Australia.</p>

² Clause 1.1, Schedule 4, Hunter Water Corporation, *Operating Licence*

Operating Licence Reference	Requirements	Additional Comments
11.2.1 (d) compliance by HWC with its obligations under Part 8 of this Licence	8.3 Integrated Water Resources Plan 8.4 Water Conservation Target 8.5 Water Demand & Supply Indicators	<p>This section of the audit should consider and comment on trends in the demand for water within HWC's area of operations and the effectiveness of the various demand and supply side strategies contained in HWC's Integrated Water Resources Plan (IWRP).</p> <p>As the IWRP is only around 18 months old, the Auditor should note that long term data in the same form as required under the IWRP may not be available in all cases.</p>
11.2.1 (e) compliance by HWC with its obligations under Part 9 of this Licence	9.1 Environmental Management Plan 9.2 Environmental & ESD Indicators 9.3 Energy Management	
11.2.1 (f) compliance by HWC with its obligations under Part 10 of this Licence	10.1 Report performance against catchment management activities, bulk water quality results, the Water Management Licence and Dams Safety Act	

Operating Licence Reference	Requirements	Additional Comments
<p>11.2.1 (j) The effectiveness of HWC's internal complaint handling process under clause 12.1 and external dispute resolution scheme under clause 12.2</p>	<p>12.1 Report on complaints made against HWC which are handled by the internal complaints handling procedures.</p> <p>12.2 Report on complaints received by the external disputes resolution body (the Energy and Water Industry Ombudsman)</p>	<p>Internal complaint handling procedures</p> <p>The two primary systems operating within HWC for logging service difficulties and customer complaints are:</p> <ul style="list-style-type: none"> the Asset and Operations Management Systems (AOMS) which records service calls relating to water, sewerage and drainage; and the Complaints Management System (CMS) which records complaints received from customers <p>HWC do not treat all service calls logged into AOMS as a complaint – the service call will be escalated and recorded in CMS as complaint only if the customer requests it, if it relates to a systemic problem with HWC's systems or if the customer is not satisfied with the action taken by HWC to rectify the service fault.</p> <p>For the purposes of the Audit, all complaints and service calls should be reported to ensure full transparency.</p> <p>External dispute resolution scheme</p> <p>The auditor is expected to contact the Energy and Water Industry Ombudsman to seek their views on the effectiveness of both the scheme and HWC's handling of customer service issues.</p>
<p>11.2.1 (k) complaints made against Hunter Water to a court or tribunal under clause 12.3</p>	<p>12.3 Report on complaints made against HWC to a court or tribunal</p>	

ATTACHMENT 2 SUMMARY OF MINISTERIAL REQUIREMENTS AND AUDIT RECOMMENDATIONS FROM THE 2002/2003 OPERATIONAL AUDIT

Summary of Ministerial Requirements arising from the 2002/03 Operational Audit

Reference	Requirement
Water quality	1. "...the incident response plan should be tested during 2004 using relevant scenarios to ensure that management are well trained."
Water quality – taste and odour	<p>2. "It is recommended that taste testing ... occur at Chichester and Grahamstown on a daily basis so that taste and odour problems can be identified as soon as they occur.</p> <p>3. It is recognised that identifying a trigger for taste and odour problems is the subject of significant research across Australia. Continued investment by Hunter Water in research is recommended with specific emphasis on their water supply system.</p> <p>4. Hunter Water should investigate methods for reducing the time taken to address the problem. Methods investigated could include PAC (powdered activated carbon) dosing when taste and odour problems occur while a substitute source is brought online or investigation of other technologies to remove taste and odour compounds.</p> <p><i>I require Hunter Water to report to me on its progress in fulfilling these requirements by no later than 31 March 2004."</i></p>
Water continuity standard	5. "Hunter Water should report to IPART and the Minister for Energy and Utilities on the causes of the near breach of its water continuity standard over 2002/2003. This report should detail actions being taken by Hunter Water to ensure that it can meet the standard over the remainder of the Licence term under normal operating conditions."
Accuracy of reporting systems	<p>6. "An internal audit should be conducted to assess the accuracy and completeness of reporting across Hunter Water in relation to water quality, systems performance, rebates and the IWRP. As an interim measure until automated report generation is available, additional management controls should be implemented to ensure the accuracy of the numbers being reported. When automated reporting is available, the existing system and new system should be run in parallel for a suitable period of time to ensure reporting accuracy and completeness.</p> <p><i>Additional quality controls should be employed in further updates to the IWRP."</i></p> <p><i>I support this recommendation and require Hunter Water to provide both the Tribunal and myself with copies of the internal audit report into the matters raised by no later than 31 March 2004.</i></p>

Demand/supply balance	<p>7. <i>The Tribunal has recommended that Hunter Water should annually report progress in fulfilling the IWRP, setting out planned and actual expenditure against individual actions under the Plan, as well as estimated water savings and increases in the sustainable yield. I am advised that Sydney Water currently reports progress towards its demand management obligations using a similar format.</i></p> <p><i>Accordingly, I require Hunter Water to discuss a suitable reporting format with IPART and to adopt the agreed reporting format in time for the next Audit of the Licence.</i></p> <p>8. <i>Finally, as you are aware, the Government has for some time been concerned with improving water conservation on a state-wide basis.</i></p> <p><i>I require Hunter Water to provide both the Tribunal and myself with a comprehensive report which:</i></p> <ul style="list-style-type: none"> <i>• outlines Hunter Water's achievements to date in the conservation of water; and</i> <i>• considers new water conservation measures with Hunter Water could feasibly introduce</i> <p><i>Hunter Water should give consideration in this report to whether water conservation measures adopted or under consideration by Sydney Water are feasible for introduction by Hunter Water. This report should be provided no later than 28 February 2004.</i></p>
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OPERATING LICENCE



2002-2007



caring for our
community and the
environment

HUNTER WATER CORPORATION
PO BOX 5171 HRMC NSW 2310
432 KING STREET NEWCASTLE WEST
WWW.HUNTERWATER.COM.AU

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1. DEFINITIONS AND INTERPRETATION

1.1. Definitions

In this Licence:

Act means the Hunter Water Act 1991.

Annual audit is defined in clause 11.1.1 as the annual operational audit of Hunter Water.

Area of operations means the area expressed in Section 16 of the Act and specified in Schedule 1.

[Note: Hunter Water has the area of operations that Hunter Water Corporation Limited had immediately before it ceased to be a company State Owned Corporation, together with any areas specified by that date by Gazette in accordance with Section 16(1)(c) of the Act. Section 16 requires that the area of operations be specified in the operating Licence.]

ARMCANZ means the Agriculture and Resource Management Council of Australia and New Zealand.

[Note: ARMCANZ has been replaced by the Natural Resources Ministerial Council following changes approved by COAG in June 2001. However, the 1996 Guidelines still remain in force.]

Bulk water means water that is in a Water storage.

Commencement date means the date at law on which this Licence commences.

Competition Principles Agreement means the agreement so described made on 11 April 1995 between the Commonwealth, States and internal territories, as in force from time to time.

Consultative Forum means the consultative body referred to in clause 5.4.

Consumer means any person who uses the Services, whether or not they are a Customer.

Customer means any person who is taken to have entered into a Customer Contract under Section 36 of the Act, or to have entered into a contract on terms relating to the imposition of charges under Section 39 of the Act.

Customer Contract means the contract annexed as Schedule 2, as varied from time to time in accordance with Section 38 of the Act.

Drainage service means the Drainage service provided by Hunter Water under the Licence which includes the collection, transportation, treatment and disposal of runoff surface water via the Drainage system.

Drainage system means the drainage mains, pipes or channels, and other equipment provided, managed, operated and maintained by Hunter Water to provide Drainage services.

Dispute Resolution Body means a reputable person possessing qualifications and experience in the resolution of disputes by way of mediation or otherwise and includes a person who carries out investigative functions in the nature of an ombudsman.

Drinking water means Bulk water that, (following Water treatment to the standard for use as drinking water specified in the Drinking water guidelines defined in clause 6.1), is supplied via the Water supply system primarily for human consumption but which has other personal, domestic or household uses such as bathing and showering.

Ecologically Sustainable Development or ESD has the same meaning as in the Protection of the Environment Administration Act 1991.

Environmental Management Plan means a plan concerning the environment which contains, at a minimum, the details set out in clause 9.1.

EPA means the Environment Protection Authority constituted by the Protection of the Environment Act 1991.

Hunter Water means the Hunter Water Corporation constituted as a corporation by the Act.

Hunter Water Board means the body established under the Hunter Water Board Act 1988.

IPART means the Independent Pricing and Regulatory Tribunal of NSW constituted under IPART Act.

IPART Act means the Independent Pricing and Regulatory Tribunal Act 1992.

Licence means this operating Licence granted under Section 12 of the Act to Hunter Water.

Local Environment Groups may include the Central Coast Centre for Sustainability, Green Alliance Network, United Residents Group for the Environment of Lake Macquarie Inc, Wilderness Society Newcastle and groups representing landcare interests in the Williams River valley and such organisations as Hunter Water or IPART may nominate.

Memorandum of understanding means a memorandum of understanding to which clauses 3.3.1 to 3.3.4 apply.

Minister means the Minister responsible for administering those provisions of the Act relating to this Licence.

National Parks and Wildlife means the National Parks and Wildlife Service constituted by the National Parks and Wildlife Act 1974.

NSW Fisheries means the NSW Department of Fisheries.

NSW Health means the NSW Department of Health.

NHMRC means the National Health and Medical Research Council.

Other Grades of water means water supplied by Hunter Water that is not Drinking water.

Property means;

- (a) an individual dwelling or premises used for any purpose;
- (b) land, whether built on or not (excluding Public land); or
- (c) a lot in a strata plan that is registered under the Strata

Schemes (freehold Development) Act 1973 or the Strata Schemes (Leaseholder Development) Act 1986, that is connected to, or for which a connection is available to, Hunter Water's Water supply system or Sewerage system or within a declared drainage area.

Public consultation has the meaning given by clause 1.2.1.

Public land means land vested in or under the control of a Minister of the Crown or a public authority.

Rental Bond Board means the Rental Bond Board constituted by the Landlord and Tenant (Rental Bonds) Act 1977.

Recycled water means discarded water of any origin whether clean or contaminated, which, after Water Treatment, if any, is suitable for other uses, except as Drinking water.

Reporting date means 1 September in each year of this Licence.

Reporting period means the 12 months of the financial year ending on 30 June immediately preceding a Reporting date.

Review means the review of this Licence under clause 2.3.1.

[Note: the review is to commence on or about 1 January 2006.]

SEDA means the Sustainable Energy Development Authority constituted by the Sustainable Energy Development Act 1995.

Services means collectively:

- (a) the Water service;
- (b) the Sewerage service; and
- (c) the Drainage service.

Sewage overflow means a discharge of untreated or partially treated sewage from the Sewerage system, occurring in wet weather or dry weather.

Sewerage service means the Sewerage service provided by Hunter Water under the Licence which includes the collection, transportation, treatment and disposal of sewage via the Sewerage system.

Sewerage system means the sewer mains, pipes, treatment plants and other equipment provided, constructed, managed, operated and maintained by Hunter Water to provide Sewerage services.

SOC Act means the State Owned Corporations Act 1989.

State Environment Groups may include the Nature Conservation Council of NSW, the Total Environment Centre and other such other organisations as Hunter Water or IPART may nominate.

Subsidiary has the same meaning as in the SOC Act.

[Note: Section 3(1) of the State Owned Corporations Act 1989 defines a subsidiary to mean "a body corporate that is a subsidiary of a state owned corporation as determined in accordance with the Companies (New South Wales) Code or any other applicable law, and (in relation to a statutory SOC) includes a body corporate that would be such a subsidiary if the statutory SOC were a company SOC".]

Suburb means the suburb assigned a geographical name under the Geographical Names Act 1966.

Systems means collectively:

- (a) the Water supply system;
- (b) the Sewerage system; and
- (c) the Drainage system.

Waste water means any discarded water of any origin, clean or contaminated, that is discharged into the Sewerage system or the Drainage system.

Water management licence means a water management licence or such other licence of the same or similar type, granted under the Water Act 1912 or the Water Management Act 2000.

Water storages means Hunter Water's dam walls, pumps and other works used for the extraction and storage of:

- (a) water in rivers and lakes;
- (b) water occurring naturally on the surface of the ground; and
- (c) sub-surface waters.

Water service means the Water service provided by Hunter Water under the Licence which includes the storage, treatment, transfer and delivery of water via the Water supply system.

Water supply system means the storages, water mains, pipes, treatment plants and other equipment provided, constructed, managed, operated and maintained by Hunter Water to provide Water services.

Water treatment means a process for treating water that may include disinfection, filtration or chemical or biological processes or a combination of such.

1.2. Interpretation

Public Consultation

1.2.1 If this Licence requires that something undergo Public consultation, it requires as a minimum that:

- (a) notice of that thing and the nature and timing of the consultation be:

- (i) advertised in a major daily newspaper circulating in the Area of Operations;
 - (ii) communicated to government agencies, organisations, and persons to whom it would reasonably be expected notice should be given, which may include Local Environment Groups and State Environment Groups;
 - (iii) displayed on Hunter Water's website and at Hunter Water's Customer centres;
 - (iv) given to the Consultative Forum; and
 - (v) given to IPART.
- (b) submissions be sought from the public and that these submissions be considered by the person conducting the review.

Reporting

1.2.2 In this Licence, unless otherwise provided, where there is a requirement on Hunter Water to report on or to provide information in relation to a matter, Hunter Water must, in addition to anything else it is required to do:

- (a) report on or provide information in relation to that matter on each Reporting Date and for each corresponding Reporting period; and
- (b) report on or provide information in relation to that matter to IPART or to the person which IPART directs, including without limitation, to the person undertaking the annual audit of this Licence under clause 11.1.2.

1.2.3 Clause 1.2.2 does not extend to clauses 5.4.8, 6.4.4 and 7.7.1 which apply as they so provide.

Use of Information by IPART

1.2.4 Information provided to IPART under this Licence may be used by IPART for the purpose of an investigation or report under IPART Act in relation to Hunter Water, or in the discharge of any function lawfully conferred on IPART.

General provisions

1.2.5 In this Licence, unless the contrary intention appears:

- (a) the word person includes an individual, a body corporate, an unincorporated body or other entity and one or more of each of them;
- (b) a reference to a law (including the Act) includes regulations made under the law;
- (c) a reference to regulations includes ordinances, codes, Licences, orders, permits and directions;
- (d) a reference to a law, regulations, guidelines, any Memorandum of understanding, plan or other strategy, standards, or list of indicators includes consolidations, amendments, variations, re-enactments, or replacements of any of them;
- (e) a reference to a person includes a reference to the person's executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation) and assigns;
- (f) a reference to a year means a calendar year that ends on 31 December;
- (g) a reference to a financial year means a period of 12 months that ends on 30 June;
- (h) a reference to a clause or Schedule is to a clause of or Schedule to this Licence;
- (i) where an expression is defined, different grammatical forms of that expression have a corresponding meaning;
- (j) the singular includes the plural and vice versa.

1.2.6 If any part of this Licence is prohibited, void, voidable, illegal or unenforceable, then that part is severed from the Licence but without affecting the continued operation of the remainder of the Licence.

1.2.7 A reference in this Licence to any organisation, association, society, group or body shall, in the event of it ceasing to exist or being reconstituted, renamed or replaced or if its powers or functions are transferred to any other entity, body

or group, refer respectively to any such entity, body or group, established or constituted in lieu thereof or succeeding to similar powers and functions.

1.2.8 If there is disagreement between Hunter Water and IPART as to the proper interpretation of any term of this Licence, the matter must be referred to the Minister for resolution by him or a person appointed by him.

1.2.9 The italicised explanatory notes in this Licence do not form part of this Licence.

1.2.10 Where IPART is required to do some act or thing under this Licence, Hunter Water must provide reasonable assistance to IPART, or other person nominated by IPART, with the intent of enabling that act or thing to be done.

1.2.11 If there is any inconsistency between this Licence and a Memorandum of understanding or between this Licence and a Customer Contract (including any interpretation of any provision), this Licence will prevail to the extent of the inconsistency, in each case.

1.2.12 Any clause of this Licence that expressly or impliedly requires Hunter Water to vary the Customer Contract is subject to Section 38 of the Act and is of no force or effect unless the variation is approved by the Governor under Section 38 of the Act.

2. INFORMATION ABOUT THIS LICENCE

2.1. Objectives of this Licence

2.1.1 The objective of this Licence is to enable and require Hunter Water to lawfully provide the Services within its Area of Operations. Consistent with this objective, this Licence requires Hunter Water to:

- (a) meet the objectives and other requirements imposed on it in the Act;
- (b) comply with the quality and performance standards in this Licence;
- (c) recognise the rights given to Customers and Consumers by the Act and the Licence; and
- (d) be subject to Annual audits of compliance with this Licence.

2.2. Duration of Licence

- 2.2.1 This Licence is for a term of 5 years commencing on the Commencement date.

[Note: the Commencement date is defined in clause 1.1.]

- 2.2.2 Notwithstanding the expiry of the term, the Governor may renew this Licence in accordance with the Act.

[Note: Section 15 of the Act allows the Governor to renew the Licence for a maximum of 5 years at a time.]

2.3. Review of Licence

- 2.3.1 On or about 1 January 2006, a review of this Licence must be commenced:

- (a) to determine whether this Licence is fulfilling its objectives;
- (b) in relation to any matter required to be reviewed by this Licence; and
- (c) to determine the terms of any renewal of this Licence.

- 2.3.2 This review is to be undertaken by IPART, unless the Minister otherwise determines.

- 2.3.4 The person undertaking the review must engage in Public consultation as part of the review.

- 2.3.5 The person undertaking the review must report to the Minister within 12 months of commencing the review on the following:

- (a) the findings of the review;
- (b) any recommendations for amendment to this Licence, including any additional terms to be included in any renewal of this Licence; and
- (c) any recommendations for amendment to any law that adversely impacts on this Licence.

2.4. Licence amendment

- 2.4.1 Subject to the Act, this Licence may be amended by the Governor by notice in the Government Gazette.

[Note: Section 14 of the Act requires that the Licence may only be amended in the manner specified in the Licence.]

2.5. Contravention of Licence

- 2.5.1 Hunter Water acknowledges that, if the Minister is of the opinion that Hunter Water has contravened this Licence, the Minister may take action against Hunter Water under the Act.

[Note: Section 17 of the Act provides that, where the Minister is of the opinion that Hunter Water contravenes this Licence, the Minister may serve a letter of reprimand on Hunter Water; or the Governor may direct that Hunter Water is to pay a monetary penalty not exceeding \$150,000 or the Governor may direct that the operating Licence is to be cancelled in accordance with Section 18.]

- 2.5.2 Hunter Water acknowledges that if it knowingly contravenes the operating Licence, IPART may take action against Hunter Water under the Act.

[Note: Section 17A of the Act provides that where Hunter Water knowingly contravenes this Licence, the Tribunal may require Hunter Water to undertake remedial action or may impose a monetary penalty not exceeding \$10,000 for the first day on which the contravention occurs and a further \$1000 for each subsequent day (not exceeding 30 days) on which the contravention continues.]

2.6. Cancellation of Licence

- 2.6.1 This Licence may be cancelled by the Governor in the circumstances described in the Act.

[Note: Section 18 sets out the circumstances in which this Licence may be cancelled by the Governor. These include where Hunter Water ceases, otherwise than as authorised by the operating Licence, to do any of the things referred to in Section 13 of the Act; or where Hunter Water is, in the Minister's opinion, in material default in compliance with the Licence viewed in terms of the operation of the operating Licence as a whole; or where Hunter Water is insolvent within the meaning of Section 460 of the Corporations Law

or has been convicted of a criminal offence punishable by a fine of at least \$10,000 or, if Hunter Water were a natural person, imprisonment for 12 months or more.]

3. HUNTER WATER'S RESPONSIBILITIES

3.1. Responsibilities of Hunter Water under this Licence and other laws

3.1.1 Hunter Water must comply with this Licence and all applicable laws.

[Note: Hunter Water has obligations under a number of laws including:

- ▶ Hunter Water Act 1991;
- ▶ State Owned Corporations Act 1989;
- ▶ Protection of the Environment Operations Act 1997;
- ▶ Public Health Act 1991;
- ▶ Water Legislation Amendment (Drinking Water and Corporate Structure) Act 1998;
- ▶ Water Act 1912;
- ▶ Water Management Act 2000;
- ▶ Environmental Planning and Assessment Act 1979;
- ▶ Independent Pricing and Regulatory Tribunal Act 1992; and
- ▶ Dams Safety Act 1978.]

3.2. Responsibility of Hunter Water under the Hunter Water Act

3.2.1 Hunter Water acknowledges that its principal objectives under Section 13 of the Act are:

- (a) to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable Systems and Services for supplying water, providing Sewerage services and disposing of Waste water;
- (b) to provide, operate, manage and maintain a Drainage service within the capacity of the Drainage service

included in the business undertaking transferred under Part 3 by the Hunter Water Board to Hunter Water as at the date of the transfer of the business undertaking;

(c) to ensure that the Systems and Services meet the quality and performance standards specified in the Licence in relation to water quality, service interruptions, price levels and other matters determined by the Governor and set out in the Licence; and

(d) to maintain in accordance with the Licence, procedures under which Hunter Water is to consult with its Customers at regular intervals in relation to the provision of the Systems and Services referred to in paragraphs (a) to (c).

3.3. Memorandum of understanding

3.3.1 Hunter Water must use its best endeavours to maintain a Memorandum of understanding with NSW Health for the term of this Licence.

3.3.2 The purpose of a Memorandum of understanding is to form the basis for co-operative relationships between the parties to the memorandum. In particular, the memorandum with NSW Health is to recognise the role of NSW Health in providing advice to the Government of NSW in relation to drinking water quality standards and the supply of water which is safe to drink.

3.3.3 It is acknowledged that as at the Commencement date Hunter Water has entered into Memoranda of understanding with both the EPA and the Department of Land and Water Conservation in order to set out the framework for co-operative relationships between the parties to the memoranda.

3.3.4 Clause 3.3.1 does not limit the persons with whom Hunter Water may have a Memorandum of understanding.

4. LICENCE AUTHORISATION AND AREA OF OPERATIONS

4.1. What the Licence authorises and regulates

4.1.1 This Licence is granted to enable and require Hunter Water to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable Systems for providing the Services throughout the Area of Operations.

4.1.2 Hunter Water must ensure that the Systems comply with the quality and performance standards required in this Licence or required to be developed under this Licence.

4.2. Powers not limited

4.2.1 This Licence does not restrict or affect Hunter Water's power to carry out any functions imposed under any applicable law.

4.3. Area of Operations

4.3.1 The Area of Operations may be varied only as permitted under the Act.

[Note: The Area of Operations for Hunter Water is listed in Schedule 1 of this Licence. Section 16 of the Act states that subject to certain requirements the Governor may specify the Area of Operations by order published in the NSW Government Gazette.]

4.4. Connection of Services

4.4.1 Subject to clause 4.4.2 and Hunter Water continuing to be in compliance with any applicable law, Hunter Water must ensure that its Services are available for connection on request within its Area of Operations.

4.4.2 Connection to the Services is subject to any conditions Hunter Water may determine to ensure the safe, reliable and financially viable supply of Services to Properties in the Area of Operations in accordance with this Licence. Satisfactory compliance with the conditions of connection is to be taken as forming an essential requirement for gaining Hunter Water's approval for connection of a Property to a water main or sewer main under this Licence.

[Note: Services are provided under the Customer Contract at Schedule 2 of this Licence, or other contracts as provided for by Section 37 of the Act.]

4.5. Non-exclusive Licence

4.5.1 This Licence does not prohibit another person from providing services in the Area of Operations that are the same as or similar to the Services, if the person is lawfully entitled to do so.

5. CUSTOMER AND CONSUMER RIGHTS

5.1. Customer Contract

5.1.1 The Customer Contract sets out the rights and obligations of Customers and Hunter Water in relation to the Services provided through Systems required under this Licence. These rights and obligations are in addition to the rights and obligations conferred by the Act and any applicable law.

5.1.2 The Customer Contract automatically applies to the persons to whom under the Act or any applicable law, it is expressed to apply.

5.1.3 A copy of the Customer Contract, and any variations to it must be posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water, and made available at its premises for access or collection by any member of the public, also free of any charges imposed by Hunter Water.

5.1.4 The Customer Contract may only be varied in accordance with the Act.

[Note: The Customer Contract is set out in Schedule 2 of this Licence. Division 5 of Part 5 of the Act contains various provisions in relation to the Customer Contract.

Section 38 provides that Hunter Water may vary the Customer Contract with the approval of the Governor. Section 38 requires that a variation of the Customer Contract must be published in a daily newspaper circulating in the Area of Operations at least 6 months before the variation becomes effective, or a shorter period of notice approved by the Minister. A copy of the notice must also be given to the Customer.]

5.1.5 Unless otherwise required by the Minister, IPART must initiate a review of the Customer Contract. The review must be completed within 12 months of the Commencement date.

5.1.6 The review must have regard to the system performance standards in Part 7 of this Licence.

5.1.7 By the date of completion of the review, the person undertaking the review must produce a report setting out its findings and recommendations. A copy of the report must be provided to the Minister upon its completion.

5.1.8 Within 3 months of the completion of the review of the Customer Contract under clause 5.1.5, Hunter Water must, if directed by the Minister, take all steps necessary to issue a new Customer Contract that addresses the recommendations of the review report.

5.1.9 Within 3 months of the completion of the review of the Customer Contract under clause 5.1.5, Hunter Water must prepare a pamphlet that:

- (a) provides a brief explanatory introduction to the Customer Contract;
- (b) summarises the key rights and obligations of Customers under the Customer Contract; and
- (c) lists Hunter Water's local offices and emergency contact numbers in its Area of Operations.

5.1.10 The pamphlet prepared under clause 5.1.9 must be updated when changes are made to the Customer Contract and must be posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water and also disseminated by Hunter Water free of charge:

- (a) by placing sufficient copies with the Rental Bond Board for collection by interested persons;
- (b) to Customers or Consumers, at least once every two years with their bills; and
- (c) to any other person on request.

5.1.11 Subject to the Act, Hunter Water may enter into other contracts or arrangements for the supply of Services. The terms of any such contract or arrangement are such as may be negotiated between Hunter Water and any such person.

5.2. Consumers

5.2.1 Hunter Water must fulfil its obligations under the Customer Contract relating to complaint handling and complaint resolution procedures, as if those obligations also extended to Consumers.

5.2.2 Where Consumers are liable to Hunter Water for charges for water use, Hunter Water must fulfil its obligations under the Customer Contract relating to debt and disconnection procedures as if those obligations also extended to Consumers.

5.3. Code of practice and procedure on debt and disconnection

5.3.1 Within 6 months of the Commencement date, Hunter Water must develop a code of practice and procedure on debt and disconnection (collectively "Code").

5.3.2 The Code must:

- (a) provide for deferred payment or payment by installment options for charges; and
- (b) provide that the payment options referred to in (a) are to be advised in bills.

5.3.3 Hunter Water must ensure that the rights and obligations in the Code are incorporated into the Customer Contract as if it were part of the Customer Contract.

5.3.4 Hunter Water must disseminate free of charge information on its Code;

- (a) by placing sufficient copies with the Rental Bond Board for collection by interested persons;
- (b) to Customers or Consumers, at least once each year with their bills; and
- (c) to any other person on request.

5.4. Consultative Forum

5.4.1 Hunter Water must establish and regularly consult with a Consultative Forum to enable community involvement in issues relevant to the performance of Hunter Water's obligations under this Licence.

5.4.2 The Consultative Forum may be utilised by Hunter Water, among other things, to provide it with high quality advice on the interests of Customers and Consumers of Hunter Water, on the Customer Contract and on such other key issues related to Hunter Water's planning and operations as Hunter Water may determine, consistent with the Consultative Forum Charter developed under clause 5.4.7.

5.4.3 A Consultative Forum under this Licence must be established within 6 months of the Commencement date.

- 5.4.4 If prior to the Commencement date Hunter Water appointed persons to a forum similar to a Consultative Forum, that forum and its membership will continue subject to this clause and will be regarded as a Consultative Forum for the purposes of this Licence. The term of the members of that forum will expire no later than six months after the Commencement date. After that the membership of the Consultative Forum must be determined in accordance with the Consultative Forum Charter established under clause 5.4.7. Members appointed to that forum prior to the Commencement date are eligible to be re-appointed to a Consultative Forum unless the Consultative Forum Charter otherwise provides.
- 5.4.5 Hunter Water must at all times appoint the members of the Consultative Forum.
- 5.4.6 Subject to clause 5.4.4, at all times, the membership of the Consultative Forum must between them include a representative from at least each of the following:
- (a) business and Consumer groups;
 - (b) organisations representing low income households;
 - (c) people living in rural and urban fringe areas;
 - (d) residential Consumers;
 - (e) environmental groups;
 - (f) local government; and
 - (g) people from non-English speaking backgrounds.
- 5.4.7 Within 3 months of the Commencement date, Hunter Water must develop in consultation with the Consultative Forum, a Consultative Forum Charter for the duration of this Licence that addresses the following issues:
- (a) the role of the Consultative Forum;
 - (b) selection criteria on how members will be drawn from the community, and information on how vacancies for membership will be advertised,
 - (c) the procedure for appointment of members,
 - (d) the term of members,
 - (e) information on how the Consultative Forum will operate;
 - (f) a description of the type of matters that will be referred to the Consultative Forum;
 - (g) procedures for the conduct of Consultative Forum meetings, including the appointment of a chairperson;
 - (h) communicating the outcome of the Consultative Forum's work to Hunter Water;
 - (i) procedures for tracking issues raised and ensuring appropriate follow-up of those issues; and
 - (j) funding and resourcing of the Consultative Forum by Hunter Water.
- 5.4.8 Hunter Water must provide the Consultative Forum with information within its possession or under its control necessary to enable the Consultative Forum to discharge the tasks assigned to it, other than information or documents over which Hunter Water or another person claims confidentiality or privilege.
- 5.4.9 A copy of the Consultative Forum Charter must be posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water, and made available at its offices for access or collection by any member of the public, also free of charges imposed by Hunter Water.
- 5.4.10 Hunter Water must report on the establishment and operations of the Consultative Forum and the development of the Consultative Forum Charter.
- 5.4.11 As part of the Licence review referred to in clause 2.3.1, IPART must evaluate and report on the effectiveness of the Consultative Forum and compliance with the Consultative Forum Charter.

6. WATER QUALITY

6.1. Definitions

In this Part:

Aesthetic guideline values means the concentration or measure of a physical or chemical characteristic of water that is associated with good water quality. Some examples include turbidity, pH and colour.

Drinking water guidelines means collectively:

- (a) the 1996 NHMRC and ARMCANZ Australian Drinking water guidelines; and
- (b) the guidelines in (a) as amended, updated or supplemented from time to time as specified by NSW Health.

Health guideline values means the concentration or measure of a physical, chemical, biological or radionuclide characteristic of water that, based on present knowledge, does not result in any significant risk to the health of a person over a lifetime of consumption.

Multi-barrier approach means an approach in which the overall risk of an incident occurring is significantly reduced by implementing and optimising several barriers from Water storages through to the ultimate Consumer.

Physical characteristics of Drinking water means those physical characteristics of Drinking water specified in the Drinking water guidelines including dissolved oxygen, hardness, pH, taste and odour, total dissolved solids, true colour and turbidity.

6.2. Drinking Water Quality - Standards

6.2.1 Hunter Water must comply with the following relating to Drinking water:

- (a) the Drinking water guidelines relating to Health guideline values specified by NSW Health; and
- (b) the Drinking water guidelines relating to Aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc.

6.2.2 If there is an inconsistency between the Health guideline values in clause 6.2.1(a) and the Aesthetic guideline value in clause 6.2.1(b), the Health guideline value is to prevail.

[Note: A significant aim of the Drinking water quality standards is to ensure that Hunter Water achieves appropriate public health outcomes. The Drinking water guidelines include catchment and system management practices to minimise the risk of contamination to water supplies, for example, the catchment management practices required to minimise the risk of contamination by *Cryptosporidium* and *Giardia*.]

6.2.3 In delivering the Water services, Hunter Water must have regard to the concepts of risk minimisation practices and system management of public water supplies in the Drinking water guidelines (including in relation to *Cryptosporidium* and *Giardia*).

[Note: In releasing draft guidelines on *Cryptosporidium* and *Giardia*, NHMRC has stated that it is not possible to set guideline levels for *Cryptosporidium* and *Giardia* in Drinking water because there is a lack of a suitable method to identify organisms in Drinking water that cause human infection.]

6.2.4 In assessing Hunter Water's compliance with clause 6.2, pH levels in cement mortar lined pipes will be assessed in the range 6.5 – 9.2, in accordance with the Drinking water guidelines.

[Note: Fact Sheet 25 of the Drinking water guidelines sets out the pH levels applicable to cement mortar lined pipes.]

6.3. Drinking Water Quality - Monitoring

6.3.1 Hunter Water must prepare, to the satisfaction of NSW Health, an Annual Comprehensive Water Quality Monitoring Plan for the Water supply system by 30 April each year, for the duration of this Licence.

6.3.2 The Annual Comprehensive Water Quality Monitoring Plan for the Water supply system must provide for performance monitoring and regular sampling, laboratory testing and processes to ensure quality control, as required by NSW Health. The monitoring of water quality must include:

- (a) the health parameters and the aesthetic parameters for which compliance is required under clauses 6.2.1 (a) and (b); and
- (b) the parameters relating to Bulk water as are specified in Schedule 3.

[Note: The characteristics of water that are listed in Schedule 3 are those that may not, without additional treatment, be substantially removed or reduced through Water treatment processes used by Hunter Water.]

6.3.3 The monitoring must assess the quality of Drinking water supplied by Hunter Water to Customers and Consumers. The sampling frequency and the locations chosen for the monitoring should be such that the results are representative of the quality of water supplied to Customers and Consumers, to the satisfaction of NSW Health.

6.3.4 Hunter Water must undertake Drinking water quality monitoring during this Licence as required by NSW Health.

6.3.5 Where the Drinking water guidelines recommend monitoring at a Customer's or Consumer's tap, Hunter Water must monitor at the Property boundary from a Water service pipeline directly off a watermain which is representative of the quality of water supplied to the Customer or Consumer.

[Note: The requirement for an Annual Comprehensive Water Quality Monitoring Plan is also found in the Memorandum of understanding between NSW Health and Hunter Water, July 1999.]

6.4. Drinking Water Quality - Reporting

6.4.1 A monthly summary of Hunter Water's water quality monitoring test results must be placed on its website on the internet each month and also made available at its offices for access or collection by any person, free of any charges imposed by Hunter Water.

6.4.2 Hunter Water must produce an Annual Water Quality Report that compares actual Drinking water quality against the requirements of the Drinking water guidelines. The Annual Water Quality Report must provide detail on the Health guideline values and Aesthetic guideline values for which compliance is required under clause 6.2.1.

6.4.3 The Annual Water Quality Report must also include a summary of monitoring information, including information relating to Bulk water parameters as specified in clause 6.3.2 and Schedule 3. The Annual Water Quality Report must indicate water quality trends and problems, and a summary of system failures (significant and major water quality incidents) over the previous financial year and action taken to resolve them and how public health was protected.

6.4.4 The Annual Water Quality Report must be prepared by 30 November each year, unless otherwise agreed, and must relate to the immediately preceding financial year. The report must be provided to IPART, and must also be placed on Hunter Water's website on the internet for downloading by the public free of any charge imposed by Hunter Water and also made available at its offices for access or collection by any person, also free of charge.

6.5. Drinking Water Quality - Planning

6.5.1 Hunter Water must maintain, to the satisfaction of NSW Health, a Five-Year Water Quality Management Plan.

[Note: The requirement for the development of a Five-Year Water Quality Management Plan is also found in the Memorandum of understanding between NSW Health and Hunter Water, July 1999. The MOU requires that Hunter Water develop a strategy for the comprehensive management of water quality issues outlining its current and long-term management and public health aspects of wastewater disposal and reuse]

6.5.2 The Five-Year Water Quality Management Plan must include strategies for the comprehensive management of all aspects of the water supply cycle necessary to ensure that the quality of Drinking water supplied to Customers and Consumers complies with clause 6.2.1. The Plan should adopt the Multi-barrier approach to protection of Drinking water outlined in the Drinking water guidelines covering catchment management and Bulk water, treatment, disinfection and Water supply system management.

6.5.3 Hunter Water must prepare, to the satisfaction of NSW Health, an Annual Water Quality Improvement Plan for the Water supply system by 31 March in each year, unless otherwise specified following the review under clause 6.5.5.

6.5.4 The Annual Water Quality Improvement Plan must incorporate system and operational changes needed to address problems identified through Drinking water quality monitoring data and through periodic system inspections and evaluations, the aim of which is to reduce risks to public health and meet any Aesthetic guideline values applying to Hunter Water in or by this Licence.

6.5.5 The Annual Water Quality Improvement Plan must be reviewed as part of any review of the Licence to assess its continued effectiveness and whether there is a continued need for the plan each year.

[Note: The requirement for an Annual Drinking Water Quality Improvement Plan is also found in the Memorandum of understanding between NSW Health and Hunter Water, July 1999.]

6.5.6 Hunter Water must assess the risks of failing to comply with clause 6.2, in relation to Drinking water. Hunter Water must conduct this risk assessment within six months of the Commencement date, and must review its risk assessment at least twice during this Licence.

6.5.7 Hunter Water must maintain, to the satisfaction of NSW Health, an Incident Management Plan, which must remain in place until any new plan is developed in agreement with NSW Health.

6.5.8 The Incident Management Plan must contain, or incorporate by reference, procedures and protocols for the coordinated management of Drinking water incidents including media and stakeholder liaison and any notification of public health advice received from NSW Health to Customers.

[Note: The requirement for a Comprehensive Incident Management Plan is also found in the Memorandum of understanding between NSW Health and Hunter Water, July 1999.]

6.6. Other Grades of water

6.6.1 Other Grades of water supplied by Hunter Water must be supplied according to relevant guidelines and requirements prescribed by EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture, and other relevant government agencies.

6.6.2 Where there is a conflict between any of the guidelines, requirements or standards applying to Hunter Water under clause 6.6.1 the Minister's decision will prevail.

6.6.3 Hunter Water must use its best endeavours to reach agreement with persons to whom Other Grades of water is supplied, as to the water quality standards that are to apply to that water for use other than as Drinking water.

The terms of the arrangements must at minimum include:

- (a) the standard of the quality of the water supplied;
- (b) the purpose of the supply;
- (c) the continuity of the water supplied; and
- (d) the costs to be paid by Customers for the supply of water to them.

6.6.4 Hunter Water must advise persons to whom Other Grades of water is supplied, of the potential uses for the Other Grades of water and of the requirement of the water to undergo Water treatment, if it is to be used as Drinking water.

6.7. Environmental Water Quality

6.7.1 Hunter Water must report its performance against any environmental water quality requirements for any discharges or water releases required by Licences issued to it by the EPA or the Department of Land and Water Conservation.

7. SYSTEM PERFORMANCE

7.1. Definitions

In this Part:

Low pressure area is a Suburb or part thereof described in clause 7.7.1 (a).

Planned water interruption means a Water interruption for which notice has been given by Hunter Water to the occupier of the Property.

Power failure means a failure of the electricity power supply system of the supplier servicing Hunter Water where that power supply system is used by Hunter Water as the primary source of power for its systems.

Pressure incident has the same meaning as in clause 7.3.2 of this Licence.

Third party damage means damage to goods or fixtures that is caused by a person other than Hunter Water or an agent of Hunter Water acting within the scope of its authority.

Unplanned water interruption means a Water interruption for which no notice has been given by Hunter Water to the occupier of the Property and includes a Water interruption that results from Third party damage or a Power failure.

Uncontrolled sewage overflow means a Sewage overflow on Property or Public land where the overflow is not intended by Hunter Water.

Water interruption means a disruption in the supply of water from the Water supply system up to the point at which a Property connects to Hunter Water's main that services that Property.

7.2. Interpretation

Commencement and cessation of a Water interruption

7.2.1 A Water interruption will be taken to have commenced:

- (a) In the case of an Unplanned Water interruption, on the earlier of:
 - (i) the time that Hunter Water is aware that a Water interruption has occurred or the time that, having regard to all the circumstances, Hunter Water ought reasonably to have become aware of a Water interruption;
 - (ii) the time that a Water interruption is estimated by Hunter Water to have occurred by the application of well accepted methodologies or practices designed to estimate such occurrences; and
 - (iii) the time that Hunter Water is informed of a Water interruption by a person.
- (b) In the case of a Planned water interruption, at the time that the water is interrupted for work that is specified in the notice given by Hunter Water.
- (c) A Water interruption will be taken to have ended at the time that Hunter Water reasonably estimates that the Water interruption ceases.

Commencement and cessation of a Pressure incident

7.2.2 Clause 7.2.1 (a) and (c) applies (with all necessary changes) to a Pressure incident as if the reference in that clause to a Water interruption were a reference to a Pressure incident.

Commencement and cessation of Sewage overflows

7.2.3 Clause 7.2.1 (a) and (c) applies (with all necessary changes) to an Uncontrolled sewage overflow as if the reference in that clause to a Water interruption were a reference to an Uncontrolled sewage overflow.

7.3. System Performance Standards

Water Continuity Standard

7.3.1 Hunter Water must ensure that no more than 14,000 Properties in a financial year experience one or more Water interruptions (whether a Planned water interruption or an Unplanned water interruption) which taken together have a cumulative duration exceeding 5 hours.

Water Pressure Standard

7.3.2 Hunter Water must ensure that no more than 4,800 Properties in a financial year experience one or more pressure incidents, where a "Pressure incident" is an event where the water pressure to a Property falls below 20 metres head at the point of connection of the Property to Hunter Water's main, other than as a result solely of:

- (a) a Water interruption;
- (b) water usage by authorised fire authorities in the case of a fire; or
- (c) operational problems (including breaks in a main or a failure of a pump) that are temporary and short term in nature.

Sewage Overflows Standard

7.3.3 Hunter Water must ensure that the number of Uncontrolled sewage overflows in a financial year (other than on Public land) does not exceed 6,500.

7.4. Reporting on system performance

Reporting on Water Interruptions

7.4.1 Hunter Water must report on the number of Properties that experience a Planned water interruption, an Unplanned water interruption or an experience as described in clause 7.3.1 of this Licence.

Reporting on Water Pressure

7.4.2 Hunter Water must report on the number of Properties that experience one or more Pressure incidents described in clause 7.3.2 of this Licence.

Reporting on Sewage Overflows

7.4.3 Hunter Water must report on the number of Uncontrolled sewage overflows (other than on Public land) and whether the Uncontrolled sewage overflow occurred in dry weather or wet weather.

Publication of reports

7.4.4 A copy of the reports provided under clause 7.4 must be posted on Hunter Water's website for downloading and also made available at its premises for access or collection by any member of the public, in each case free of any charge imposed by Hunter Water.

7.5. System Performance Indicators

7.5.1 Schedule 4 applies.

7.5.2 Hunter Water must report its performance against the system performance indicators in Schedule 4 and must make the report publicly available by posting it on its website for downloading, and make it available at its premises for access or collection by any member of the public, in each case free of any charge imposed by Hunter Water.

7.6. Keeping of records on Water interruptions, low pressure and Sewage overflows

7.6.1 Hunter Water must maintain such records as are necessary to meet its obligations under clauses 7.3 and 7.4 of this Licence and Schedule 4.

7.6.2 Despite any other obligations in this Licence, Hunter Water must maintain records of the nature and type of Water interruptions, Pressure incidents and Sewage overflows classified by reference to the Suburb in which these interruptions, incidents or overflows occur.

7.7. Report on low pressure areas

7.7.1 Within six months of the Commencement date, Hunter Water must report to IPART on the following matters relating to water pressure that is less than 20 metres head:

- (a) the Suburbs or part thereof in which this is experienced on a consistent and systemic basis;
- (b) the number of Properties affected in each Suburb or part thereof;
- (c) the range of pressure and average pressure received by the Properties affected in each Suburb or part thereof; and
- (d) an analysis of the reasons for low pressure in each Suburb or part thereof, and options for rectification of the low pressure.

8. WATER DEMAND AND SUPPLY

8.1. Definitions

8.1.1 In this Part:

Average residential water consumption means the total quantity of water supplied by Hunter Water to Residential properties in a Reporting period, divided by the number of those Residential Properties.

Discount rate means the rate applied to the future value of costs and benefits to determine its Present value.

Five year rolling average for annual residential water consumption means, in relation to a Reporting date, the number derived by the following formula:

$$A = B/5,$$

where A is the Five year rolling average for annual residential water consumption, and B is the sum of the Average residential water consumption calculated at a Reporting date plus the Average residential water consumption on the four immediately preceding Reporting dates.

IWA publication means the Manual of Best Practice Series entitled Performance Indicators for Water Supply Services, ISBN 1 900222 272, published by the International Water Association (IWA) London 2000 (the "original document") and includes, if that original document is updated or revised, the original document as so updated or revised but only if the updated or revised original document contains a table or otherwise that:

- (a) is the same as or in similar terms to table 4 of the original document; and
- (b) contains parameters for reporting that are the same as or at least as extensive as the parameters in table 4 of the original document.

Large Customer means a Customer whose consumption in a Reporting period exceeds 50,000 kilolitres.

Plan means the plan described in clause 8.3.1.

Present value means the current value of costs and benefits that is derived by discounting the future value of those costs and benefits by the appropriate Discount rate.

Residential Property means a Property:

- (a) whose dominant use is residential; or
- (b) on land categorised as residential under the Local Government Act 1993.

[Note: Residential Property is made up of individual houses, individual strata title units and individual flats that are lived in on a residential basis. Section 516 of the Local Government Act 1993 defines how land is to be categorised as residential.]

Water balance table means the table so described or identified in the IWA publication, which for the avoidance of doubt, in the case of the IWA publication defined as the "original document" is table 4.

Water restriction means a restriction by Hunter Water in the use of water from a Water storage that is authorised by the Minister.

8.2. Interpretation

8.2.1 Where there is a reference to options developed under the integrated water resources plan, this includes an option or any combination of options.

8.3. Integrated Water Resources Plan

Development of the Plan

- 8.3.1 Hunter Water must develop a plan that complies with this part, which in its final form will be known as the Integrated Water Resources Plan ("Plan").
- 8.3.2 Hunter Water must develop a draft of the Plan by no later than 30 September 2002, and must post the draft Plan on Hunter Water's website on the internet on that date for a period of not less than 28 days.
- 8.3.3 Hunter Water must engage in Public consultation in developing the Plan and must take into account comments received as part of the Public consultation process in preparing the final version of the Plan which must be completed by 1 March 2003.
- 8.3.4 The Plan must be posted on Hunter Water's website on the internet for downloading, and made available at its premises for access or collection by any member of the public, free of any access charge imposed by Hunter Water.
- 8.3.5 Hunter Water must regularly review the Plan, of its own motion or as directed by IPART. Hunter Water may amend any material provisions in the Plan only following Public consultation and after taking into account comments received as part of that Public consultation process. Following amendment, the Plan must be made available as required by clause 8.3.4.
- 8.3.6 Hunter Water must report on any material amendments made in accordance with clause 8.3.5.
- 8.3.7 So far as reasonably practicable Hunter Water must, when developing or reviewing the Plan (including the methodology for the Plan), rely on and apply relevant best practice research available in the public domain and endeavour to continually refine and renew its methodologies to reflect current best practice.
- 8.3.8 As part of the Licence review referred to in clause 2.3.1, IPART must evaluate and report on the outcomes achieved by the Plan.

Content and Methodology of the Plan

8.3.9 The Plan must enable Hunter Water to respond to the water needs in the Area of Operations, having regard to the financial, social and environmental costs of all reasonably available options to manage demand and supply of water.

[Note: The Plan is to provide a framework for Hunter Water in long-term water resource planning to meet the needs for water usage in the Area of Operations. The planning approach seeks to identify the optimum solution for meeting future water needs by examining supply and demand factors on an equal and integrated basis.]

8.3.10 The Plan must indicate:

- (a) how Hunter Water will manage supply augmentation, real losses of water from its Water systems and demand for water within its Area of Operations over the next 10 years, and include Present value calculations for 20 years;
- (b) the planning assumptions, including drought management assumptions employed;
- (c) the operational strategy in relation to water resource management; and
- (d) all other relevant matters employed.

8.3.11 The Plan must quantify the maximum reliable quantity of water that Hunter Water can derive from one year to the next, from its existing Water storages, taking into account and quantifying all relevant factors including but not limited to:

- (a) the capacity of the Water storages, and the rates of depletion and recovery of water in the Water storages at current rates of consumption;
- (b) climatic data, trends and projections; and
- (c) constraints on extraction of water to the Water storages, including those imposed by the Water Management Licence.

8.3.12 The Plan must make projections of the total demand for water within Hunter Water's Area of Operations, having regard to relevant factors influencing demand for water, including but not limited to:

- (d) total growth in consumption, including specific growth rates across the residential, commercial and industrial sectors;
- (e) rates and trends in leakage and real losses, in terms of the components of the Water balance table in the IWA publication;
- (f) rates and trends in the demand for Recycled water; and
- (g) actual and potential reductions in demand resulting from Hunter Water's initiatives.

8.3.13 In developing the Plan, Hunter Water must utilise Present value calculations, providing justifications for the Discount rate and other inputs used in the calculations.

Identifying the Options and associated costs

8.3.14 The Plan must identify and evaluate all reasonably practicable options to manage demand and supply of water within its Area of Operations, must define the relevant projected outputs from each option and must list the non-financial advantages and disadvantages of each option.

8.3.15 In evaluating the options identified under clause 8.3.14 Hunter Water must take all necessary steps to ensure that the Plan;

- (a) quantifies the estimated costs of each option identified, which must include the financial (capital and operating), social and environmental costs of each option for each year of the Plan;
- (b) compares the financial, social and environmental costs of each option, in order to determine the least cost option.

8.3.16 If Hunter Water is unable reasonably to quantify the social and environmental costs of the options developed under clause 8.3.15, it must instead quantify such social and environmental costs as it is able and provide a description of those that it is unable to quantify.

8.3.17 Hunter Water must adopt the least cost option determined under clause 8.3.15 unless there are reasonable and substantive reasons for adopting a different option and those reasons are described in detail in the Plan.

Results of the Plan

- 8.3.18 Applying the Plan and the matters in clause 8.3, Hunter Water must outline targets, standards, indicators or other proposals for consideration as part of the Licence review under clause 2.3.1.

Annual Reporting on the Plan

- 8.3.19 Hunter Water must report its performance against the Plan.

8.4. Water Conservation Target

- 8.4.1 Hunter Water must ensure that the five year rolling average for annual residential water consumption calculated at a Reporting date is equal to or less than 215 kilolitres ("Water conservation target").
- 8.4.2 Hunter Water must report its compliance with the Water conservation target.
- 8.4.3 Hunter Water must comply with the Water conservation target until replaced (if at all) by some or all of the proposals in clause 8.3.18 that are approved as part of the review of the Licence Review under clause 2.3.1.

8.5. Water Demand & Supply Indicators

Security of Supply

- 8.5.1 Hunter Water may impose Water restrictions only as approved by the Minister.
- 8.5.2 Hunter Water must report on the nature and length of each Water restriction imposed in a Reporting period and whether (based on information reasonably available to Hunter Water) it is likely to impose a Water restriction in the ensuing Reporting period or at any other time during this Licence.
- 8.5.3 Hunter Water must report on the criteria it applies in determining whether to request that the Minister authorise a Water restriction.
- 8.5.4 Hunter Water must report on the quantity of water (in megalitres) supplied from each Water storage.

Losses from the Water System

- 8.5.5 Hunter Water must report against each of the components in the Water balance table consistent with the definitions and methodology in the IWA publication.
- 8.5.6 Hunter Water must report on the differences in the outcomes in applying clause 8.5.5 between one Reporting period and an immediately preceding Reporting period.

[Note: The Water Services Association of Australia (WSAA) publishes Benchmarking of Water Losses in Australia (incorporating the User Manual for the Benchloss Software), which includes a table showing Standard Components of Water Balance for Australian Transmission or Distribution Systems. The WSAA water balance table if consistent with the IWA publication may be used in compiling the report required by clause 8.5.5.]

Recycled Water

- 8.5.7 Hunter Water must report on the quantity of Recycled water (in megalitres) supplied in a Reporting period for the following applications:
- (a) for industrial or commercial use;
 - (b) for direct use in irrigation; or
 - (c) for uses, other than those described in (a) or (b).

Demand Management

- 8.5.8 Hunter Water must report on the total quantity of water (in megalitres) supplied by it for each of the following :
- (a) consumption by persons in Residential Properties;
 - (b) industrial and commercial uses (excluding use by a Large Customer); and
 - (c) consumption by Large Customers.
- 8.5.9 In its report, Hunter Water must compare each application in 8.5.8, with the corresponding application in the immediately preceding Reporting period, and indicate whether all or some of the following factors, (or other factors of which Hunter Water is aware), contributed to the difference (if any) in the comparison:

- (a) growth in the Customer base;
- (b) climatic impact;
- (c) the nature or extent of consumption of Recycled water; or
- (d) demand management initiatives.

8.6. Annual reporting on Water Demand & Supply Indicators

- 8.6.1 Hunter Water must report its performance against the water demand and supply indicators under clauses 8.5.1 to 8.5.9. The report may be included in the report on the environmental and ESD indicators required under clause 9.2.8.
- 8.6.2 Hunter Water must also publicly display the report provided under clause 8.6.1 on its website on the internet for downloading free of any charges imposed by Hunter Water, and make it available at its premises for access or collection by any member of the public free of charge.

9. ENVIRONMENT – INDICATORS AND PLAN

9.1. Environmental Management Plan

- 9.1.1 Hunter Water must produce a five-year Environmental Management Plan within three months of the Commencement date. After that Hunter Water must produce further five-year Environmental Management Plans every five years.
- 9.1.2 Hunter Water must engage in Public consultation in developing an Environmental Management Plan.
- 9.1.3 The Environmental Management Plan must:
 - (a) contain details of Hunter Water's environmental improvement strategies and objectives for its catchments, Water storages, Water supply system, Sewerage system, and Drainage system, as well as the environmental aspects of its other activities such as energy management, waste minimisation and heritage;
 - (b) endorse ESD principles; and
 - (c) be recognised in Hunter Water's business plans.

- 9.1.4 The Environmental Management Plan must set targets and timetables for environmental activities to be undertaken by Hunter Water over the term of the Environmental Management Plan. These targets must utilise the environmental and ESD indicators in clause 9.2 and also the reports, policies and indicators in clauses 9.3 and 10.1.

- 9.1.5 Any material amendments may only be made to the Environmental Management Plan following Public consultation.

- 9.1.6 Hunter Water must report on any material amendments made in accordance with 9.1.5.

- 9.1.7 The Environmental Management Plan must be provided to IPART on its completion and posted on Hunter Water's website on the internet for downloading free of any charges imposed by Hunter Water, made available at its Customer centres for access or collection by any member of the public and lodged with public libraries in the Area of Operations, in each case also free of charge.

9.2. Environmental and ESD Indicators

- 9.2.1 In accordance with this section, Hunter Water must monitor and compile data on indicators of the direct impact of its activities on the environment and the extent to which its Services comply with the principles of ESD, whether such activities and Services are carried out by or on behalf of Hunter Water.
- 9.2.2 Hunter Water must develop a draft list of environmental and ESD indicators within 3 months of the Commencement date.
- 9.2.3 In developing the environmental and ESD indicators, Hunter Water must have regard to the Commonwealth State of the Environment Reporting system and the 'Australia: State of the Environment Environmental Indicator Report' series produced by Environment Australia.
- 9.2.4 The environmental and ESD indicators developed by Hunter Water must be consistent with the scope and objectives of the Environmental Management Plan.
- 9.2.5 The draft list of environmental and ESD indicators developed by Hunter Water must undergo Public consultation.

- 9.2.6 Within 3 months of the close of submissions, following Public consultation under clause 9.2.5, Hunter Water must present a final list of environmental and ESD indicators to the Minister for approval.
- 9.2.7 Hunter Water must commence monitoring and compiling data on the environmental and ESD indicators from the date of approval by the Minister.
- 9.2.8 Hunter Water must report its performance against its environmental and ESD indicators in its annual environment report. Hunter Water must publish the results of the environmental and ESD indicator monitoring in the environment report. The report must specify trends to allow comparison with previous results.
- 9.2.9 The environmental and ESD indicators in clause 9.2.6 must be reviewed as part of the Licence review referred to in clause 2.3.1.
- 9.3. Energy Management**
- 9.3.1 During this Licence, Hunter Water must participate in the Energy Smart Business Program, or similar program administered by SEDDA.
- 9.3.2 Hunter Water must report on any actions or activities undertaken by Hunter Water as part of the Energy Smart Business Program and any other energy management or green power initiatives.
- 10. CATCHMENT MANAGEMENT**
- 10.1. Catchment Report**
- 10.1.1 Hunter Water must report its performance against its catchment management activities, in a report to be known as the Catchment Report. The Catchment Report must include:
- (a) the monitoring results obtained by Hunter Water against the Bulk water quality parameters required by clause 6.3.2 (b) and specified in Schedule 3;
 - (b) details of activities conducted by Hunter Water under the Hunter Water Corporation Limited (Special Areas) Regulation 1997, Williams River Catchment Regional Environment Plan, Regional Planning Strategy and Seaham Weir Operations Plan;
 - (c) details of Hunter Water's performance against the Water Management Licence and the Dam Safety Act 1978;
 - (d) other catchment, landcare or other supporting activities conducted by or on behalf of Hunter Water; and
 - (e) five year water quality trends in the Williams River (at Hunter Water's monitoring point adjacent to Seaham Weir) against the following parameters:
 - (i) total phosphorus;
 - (ii) total nitrogen;
 - (iii) faecal coliforms;
 - (iv) chlorophyll-a;
 - (v) turbidity; and
 - (vi) other parameters as routinely tested and measured by Hunter Water.
- 10.1.2 Hunter Water must also publicly display the report on its website on the internet for downloading free of any charges imposed by Hunter Water, and make it available at its premises for access or collection by any member of the public free of charge.
- 11. OPERATIONAL AUDITS OF THIS LICENCE**
- 11.1. Commission of audits**
- 11.1.1 IPART must initiate an operational audit of Hunter Water as soon as practicable after 30 June each year covering the preceding financial year, as required by this Part (the "Annual audit"). However the first Annual audit under this Licence will cover the period from the Commencement date to 30 June 2003.
- [Note: IPART is to arrange for the conduct of an operational audit covering the financial year 2001/02.]
- 11.1.2 The Annual audit must be conducted by IPART or by a person, other than Hunter Water or its Subsidiary, that IPART considers is suitably qualified to perform the Annual audit.

11.1.3 As part of the Annual audit, IPART must invite members of the public to make submissions to it. IPART may also undertake any other Public consultation it considers appropriate.

11.2. What the audit is to report on

11.2.1 IPART or the person undertaking the Annual audit must investigate and prepare a report on the following:

- (a) compliance by Hunter Water with its obligations under Part 5 of this Licence
- (b) compliance by Hunter Water with its obligations under Part 6 of this Licence;
- (c) compliance by Hunter Water with its obligations under Part 7 of this Licence;
- (d) compliance by Hunter Water with its obligations under Part 8 of this Licence;
- (e) Hunter Water's performance under Part 9 of this Licence;
- (f) compliance by Hunter Water with its obligations under Part 10 of this Licence;
- (g) compliance by Hunter Water with its obligations under Part 11 of this Licence;
- (h) on-going compliance by Hunter Water with its Customer Contract and specific areas of non-compliance;
- (i) Hunter Water's compliance with its code of practice and procedure on debt and disconnection under clause 5.3 and any similar initiatives developed by Hunter Water;
- (j) The effectiveness of Hunter Water's internal complaint handling process under clause 12.1 and external dispute resolution scheme under clause 12.2;
- (k) Complaints made against Hunter Water to a court or tribunal under clause 12.3; and
- (l) any other matter required by this Licence or the Act to be assessed or considered as part of the Annual audit.

11.2.2 Despite clause 11.2.1, IPART or the persons undertaking the Annual audit must not investigate a matter under clause 11.2.1 if the investigation of that matter is properly the responsibility of the EPA, NSW Health or the Department of Land and Water Conservation and the relevant agency has undertaken an investigation of the matter. However, IPART may, as part of the Annual Audit:

- (a) report on Hunter Water's implementation of any Memorandum of understanding referred to in clause 3.3;
- (b) satisfy the requirement in clause 11.2.1 to investigate and report on a matter under clause 11.2.1 by including in its report consideration of the findings, the situation at the end of the Licence audit period and Hunter Water's response to the findings, of any investigation of the matter by EPA, NSW Health or the Department of Land and Water Conservation under this clause; and
- (c) request Hunter Water to provide information relating to an investigation of a matter by the EPA, NSW Health or the Department of Land and Water Conservation which is ordinarily within their regulatory activities, in accordance with clause 11.5.

11.2.3 IPART must ensure that, subject to clause 11.2.2, the report of the Annual audit addresses the matters in clause 11.2.1 and advises the Minister on the following matters:

- (a) any failure by Hunter Water to meet operational standards or any other requirements imposed on Hunter Water under this Licence;
- (b) areas in which Hunter Water's performance under this Licence may be improved;
- (c) any changes to the Licence and the Customer Contract that IPART considers necessary;
- (d) any penalties or remedial action required as a result of Hunter Water's performance under the Licence;
- (e) whether the Minister should recommend that Hunter Water's Licence be cancelled by the Governor under Section 18 of the Act for reasons identified in the Annual audit report; and

- (f) any other matter relating to the Annual audit or IPART functions that it considers appropriate.

11.3. Reporting of audit

- 11.3.1 IPART must ensure that the report of the Annual audit is presented to the Minister within 1 month after its receipt by IPART.
- 11.3.2 Unless otherwise directed by the Minister, IPART is to make the report of the Annual audit publicly available within 1 month after its receipt by the Minister by posting it on IPART's website for downloading, and making copies available at its premises for access or collection by any member of the public, in both cases free of charge.
- 11.3.3 Where the Annual audit report has identified non-compliance with this Licence, in addition to whatever other action is taken or required to be taken, the Minister may require Hunter Water to promptly advertise publicly and notify Customers and Consumers, of the areas in which its performance has not complied, the reasons why and the measures that will be taken by it to address the non-compliance. Such advertisements and notices must, unless the Minister otherwise provides, be in a form reasonably acceptable to IPART.

11.4. Additional audits

- 11.4.1 IPART must initiate additional audits of Hunter Water if required by the Minister.
- 11.4.2 An additional audit may address one or more of the matters in clause 11.2.1 or any other matter required by the Minister.
- 11.4.3 The provisions of this Part applying to the Annual audit will apply equally to additional audits under clause 11.4.1 (all necessary changes having been made), to the extent that those provisions are relevant.

11.5. Provision of Information

- 11.5.1 Hunter Water must provide IPART with all information within its possession or under its control (subject to clause 11.5.5) necessary to the conduct of the Annual audit or an additional audit, including whatever information is requested by IPART.

- 11.5.2 The information sought under clause 11.5.1 must be made available within a reasonable time of it being requested.

- 11.5.3 For the purposes of an audit, Hunter Water must, within a reasonable time of being required by IPART or a person appointed by IPART, permit IPART or the person appointed:

- (a) to have access to any works, premises or offices occupied by Hunter Water;
- (b) to carry out inspections, measurements and tests on, or in relation to, any such works, premises or offices;
- (c) to take on to or into any such premises, works or offices any other persons or equipment as necessary for the purposes of performing the audit;
- (d) to inspect and make copies of, and take extracts from, any books and records of Hunter Water that are maintained in relation to the performance of Hunter Water's obligations in accordance with this Licence; and
- (e) to discuss matters relevant to the audit with Hunter Water's employees.

- 11.5.4 If Hunter Water contracts out any of its activities to third parties (including a Subsidiary) it must take all reasonable steps to ensure that, if required by IPART, and such third parties provide information and do the things specified in this Part that extend to Hunter Water as if that third party were Hunter Water.

- 11.5.5 For the purpose of an audit, the information to be provided by Hunter Water or a third party under clause 11.5.4 to IPART or the person appointed by IPART will include information over which Hunter Water, such a third party or other person claims confidentiality or privilege. IPART or the person appointed by IPART is required to enter into reasonable arrangements with Hunter Water or such third party to ensure that the confidential or privileged information is kept confidential.

12. COMPLAINT AND DISPUTE HANDLING

12.1. Internal Complaint Handling Procedures

12.1.1 Hunter Water must establish internal complaints handling procedures for receiving, responding to and resolving complaints by Customers and Consumers against Hunter Water.

12.1.2 The internal complaints handling procedures of Hunter Water must be based on the Australian Standard AS4269-1995 Complaint Handling.

12.1.3 Hunter Water must make available to Customers and Consumers information concerning its internal complaints handling procedures which explains how to make a complaint and how the procedure works.

12.1.4 Hunter Water must provide information of the nature described in clause 12.1.3 to Customers and Consumers through their bills at least once each year. Hunter Water may provide this information in the pamphlet referred to in clause 12.2.6.

12.1.5 The Customer complaint handling, complaint resolution process and Customer redress provided to Customers under the Customer Contract must be reviewed and amended where necessary by Hunter Water to ensure that it is based on the Australian Standard AS4269-1995 Complaint Handling.

12.1.6 Hunter Water must report on the following details concerning complaints made against Hunter Water which are handled by its internal complaints handling procedures:

- (a) the number and types of complaints received on a month by month basis, classified by Suburb into one or more of the following categories:
 - (i) water quality, including health and aesthetic parameters;
 - (ii) continuity of water supply;
 - (iii) water pressure;
 - (iv) Sewage overflow;
 - (v) sewage odour;
 - (vi) Drainage services; and

(vii) Customer billing.

- (b) the number and type of complaints resolved or not resolved (on a month by month basis) in sufficient detail and using sufficient classifications to enable IPART to gain a reasonable understanding of how and how well those complaints were resolved or why complaints were not resolved, as the case may be; and
- (c) any problems of a systemic nature arising from the complaints.

12.2. External Dispute Resolution Scheme

12.2.1 Within 1 month after the Commencement date, Hunter Water must establish a Dispute Resolution Scheme for the resolution by a Dispute Resolution Body of disputes between Hunter Water and its Customers and between Hunter Water and Consumers of the nature described in 12.2.3.

12.2.2 The Dispute Resolution Scheme so established by Hunter Water is subject to the Minister's approval.

12.2.3 The Dispute Resolution Body is to hear disputes relating to complaints made by Customers and Consumers in relation to the following issues:

- (a) water quality, including health and aesthetic parameters;
- (b) continuity of water supply;
- (c) water pressure;
- (d) Sewage overflow;
- (e) sewage odour;
- (f) Drainage services; and
- (g) Customer billing.

12.2.4 The Dispute Resolution Scheme must comply with the minimum standards, so far as applicable, specified in the Benchmarks for Industry-based Consumer Dispute Resolution Schemes released by the Commonwealth Minister for Customs and Consumer Affairs in August 1997.

12.2.5 The Dispute Resolution Scheme must have the following features:

- (a) the decision-making process of the Dispute Resolution Body and administration of the scheme is to be independent from Hunter Water and Subsidiaries of Hunter Water;
- (b) Hunter Water agrees to abide by the decisions of the Dispute Resolution Body in relation to disputes referred to it for resolution;
- (c) the Dispute Resolution Scheme must adopt informal proceedings which discourage a legalistic adversarial approach;
- (d) decisions of the Dispute Resolution Body should be fair and be seen to be fair, by observing the principles of procedural fairness, by making its decisions based upon the information before it, and by having specific criteria upon which its decisions are based;
- (e) the Dispute Resolution Scheme is to operate efficiently by keeping track of disputes referred to it, ensuring complaints are dealt with by the appropriate process and by the Dispute Resolution Body regularly reviewing the operation of the Dispute Resolution Scheme; and
- (f) the Dispute Resolution Scheme is to be free of cost to Customers and Consumers and is to be funded by Hunter Water.

12.2.6 Hunter Water must prepare a pamphlet that explains how the Dispute Resolution Scheme operates and how it can be accessed. The pamphlet should cover both the Internal complaint handling procedures developed under clause 12.1 and the External Dispute Resolution scheme.

12.2.7 Hunter Water must provide the pamphlet to Customers and Consumers through their bills, at least once each year.

12.2.8 Hunter Water must provide IPART with written reports of the determinations made by the Dispute Resolution Body based on information available to Hunter Water and information reasonably obtained from the Dispute Resolution Body.

Where considered appropriate by Hunter Water and the Dispute Resolution Body, confidentiality arrangements are to be made so as not to disclose the Customer or Consumer's identity in such reports.

12.2.9 Hunter Water must report on information available to Hunter Water and information reasonably obtained from the Dispute Resolution Body. The report must contain the following information:

- (a) how the scheme works;
- (b) the number and types of complaints received by the Dispute Resolution Body, classified by Suburb into one or more of the following categories:
 - (i) water quality including health and aesthetic parameters;
 - (ii) continuity of water supply;
 - (iii) water pressure;
 - (iv) Sewage overflow;
 - (v) sewage odour;
 - (vi) Drainage services; and
 - (vii) Customer billing; and
- (c) in relation to (b), a summary of:
 - (i) the outcome of those complaints;
 - (ii) the time taken to resolve complaints;
 - (iii) the procedure for resolving complaints;
 - (iv) any problems of a systemic nature arising from the complaints; and
- (d) any other relevant information required by IPART to be included in the report.

12.2.10 Hunter Water must also publicly display the report provided under clause 12.2.9 on its website on the internet for downloading free of any charges imposed by Hunter Water, and make it available at its premises for access or collection by any member of the public free of charge.

12.3. Complaints to other bodies

12.3.1 Hunter Water must report on complaints made against Hunter Water to a court or tribunal, such as the Consumer Trader and Residential Tribunal, (based on information available from these bodies and Hunter Water itself as a party to the complaint) containing the following details:

- (a) the number and types of complaints received by such other bodies;
- (b) the outcome of complaints;
- (c) how the complaints were resolved;
- (d) any problems of a systemic nature arising from the complaints; and
- (e) any other relevant information required by IPART to be included in the annual report.

13. PRICING

13.1.1 Hunter Water must set the level of fees, charges, and other amounts payable for its services subject to the terms of this Licence, the Act and the maximum prices and methodologies for Hunter Water's Services determined from time to time by IPART.

[Note: Division 6 of part 5 of the Act governs the nature of fees and charges which may be imposed by Hunter Water. Under the terms of the IPART Act, Hunter Water is a government agency for which IPART has standing reference to conduct investigations and report on the determination of pricing for services supplied and pricing policies.]

14. LIABILITY ISSUES

14.1. Contracting out

14.1.1 Subject to the Act, SOC Act and any other applicable law, Hunter Water may contract out the provision, construction, operation, management or maintenance of any of the Systems and Services that are the subject of this Licence.

14.1.2 Contracting out under clause 14.1.1 does not relieve Hunter Water of its responsibility to comply with its obligations under this Licence.

14.2. Damage and Compensation to Persons

14.2.1 Hunter Water is required by Section 22 of the Act to do as little damage as practicable in exercising its functions under Division 2 of Part 5 of the Act, and in circumstances specified in that provision, to compensate persons who suffer damage by the exercise of those functions.

14.3. Competitive Neutrality

14.3.1 Subject to the Act, the SOC Act and any applicable law, Hunter Water must comply, and must ensure that its Subsidiaries comply, with the competitive neutrality policies and guidelines adopted by New South Wales under clause 3 of the Competition Principles Agreement.

14.3.2 This Part is in addition to any obligations of Hunter Water under the Trade Practices Act 1974 and the Competition Code of NSW and other States and Territories as applicable.

[Note: For example Section 46 of the Trade Practices Act 1974 prohibits a corporation that has a substantial degree of power in a market from taking advantage of that power for the purpose of:

- (a) eliminating or substantially damaging a competitor of the corporation or of a body corporate that is related to the corporation in that or any other market;*
- (b) preventing the entry of a person into that or any other market; or*
- (c) deterring or preventing a person from engaging in competitive conduct in that or any other market.]*

15. NOTICES

15.1.1 Schedule 5 applies.

SCHEDULE 1

1. AREA OF OPERATIONS

- 1.1.1 The islands in that part of the Hunter River between the confluence with the Williams River and the entrance of the Hunter River (including Newcastle Harbour).
- 1.1.2 Any land under the waters of that part of the Hunter River between its confluence with the Williams River and the entrance of the Hunter River (including Newcastle Harbour) upon which there is erected any wharf, pier, jetty, building or other structure.
- 1.1.3 The Cities of Newcastle, Maitland, Cessnock and Lake Macquarie.
- 1.1.4 The Shire of Port Stephens.
- 1.1.5 Those parts of the Shire of Singleton described as follows:
- (a) All that area of land situated at Branxton in the Parish of Branxton County of Northumberland in the State of New South Wales commencing at a point being the south-western corner of Portion 91 in the Parish of Branxton bounded thence on the south by the southern boundaries of Portions 91, 90 and 89 easterly to a point on the western boundary of McMullins Road bounded thence once again on the south by a line on the prolongation of the southern boundary of Portion 89 aforesaid easterly to the south western corner of Portion 101 bounded thence again on the south by the southern boundaries of Portions 101 and 103 easterly to a point on the western boundary of Portion 102 bounded thence on the west by part of that boundary southerly to a point on the northern boundary of Portion 97 bounded thence on the south by part of the northern boundary of Portion 97 and the northern end of a Reserved Road easterly to a point on the western boundary of Lot 4 in Deposited Plan 533318 bounded thence on the west by part of that boundary southerly to a point on the north-western boundary of Dalwood Road bounded thence again on the west by a line on the prolongation of the western boundary of Lot 4 aforesaid southerly to the north-western corner of Lot 1 in Deposited Plan 237057 bounded thence on the west by the western boundary of Lot 1 aforesaid

southerly to its south-western corner bounded thence on the south by the southern boundaries of Lots 1, 2, 3, 4 and 5, Deposited Plan 237057 easterly to the south-western corner of Lot 9 in Deposited Plan 237057 bounded thence on the east and the south by the western and northern boundaries of Lot 9 aforesaid northerly and easterly to a point on the western boundary of a road 20.115 metres wide bounded thence on the east by the western boundary of that road and the eastern boundaries of Lots 8, 7 and 6 in Deposited Plan 237057 northerly to a point on the south-eastern boundary of Dalwood Road bounded thence again on the east by a line on the prolongation of the eastern boundary of Lot 6 aforesaid northerly to the south-western corner of Lot 1 in Deposited Plan 570761 bounded thence on the east and south by the western and part of the northern boundaries of Lot 1 in Deposited Plan 570761 northerly and easterly to the south-western corner of Lot 1 in Deposited Plan 178671 bounded thence on the east by the western boundary of Lot 1 in Deposited Plan 178671 and part of the western boundary of Lot 102 in Deposited Plan 630223 northerly to the south-eastern corner of Lot 6 in Deposited Plan 242267 bounded thence on the northwest by the south-eastern boundaries of Lots 6, 5, 4 and 3 in Deposited Plan 242267 south-westerly to a point on the eastern boundary of Lot 3 in Deposited Plan 19331 bounded thence on the west by part of that boundary southerly to the south-eastern corner of Lot 3 in Deposited Plan 19331 bounded thence on the north-west by the south-eastern boundaries of Lots 3 and 4 in Deposited Plan 19331 south-westerly to the south-western corner of Lot 4 aforesaid bounded thence on the east by part of the western boundary of Lot 4 in Deposited Plan 19331 northerly to the south-eastern corner of Lot 7 in Deposited Plan 241035 bounded thence on the north by the southern boundaries of Lots 7, 6, 5, 4, 3, 2 and 1 in Deposited Plan 241035 westerly to a point on the eastern boundary of McMullins Road bounded thence on the south by a line on the prolongation of the southern boundary of Lot 1 in Deposited Plan 241035 westerly to a point on the western boundary of McMullins Road bounded thence on the north-east by the south-western boundary of McMullins Road northwesterly to the south-eastern corner of Lot 6 in Deposited Plan

- 539087 bounded thence on the north by part of the southern boundary of Lot 6 aforesaid westerly to the north-eastern corner of Lot 2 in Deposited Plan 539084 bounded thence on the west and north by the eastern and southern boundaries of Lot 2 aforesaid southerly and westerly to a point on the eastern boundary of Elderslie Road bounded thence on the west by part of the eastern boundary of Elderslie Road southerly to the eastern prolongation of the southern boundary of Lot 12 in Deposited Plan 595347 bounded thence on the north by that prolongation and the southern boundary of Lot 12 aforesaid westerly to a point on the eastern boundary of Part Portion 68 in the Parish of Branxton County of Northumberland bounded thence on the west by that boundary southerly to a point on the northern boundary of Portion 195 bounded thence on the south by part of that boundary easterly to a point on the western boundary of Elderslie Road bounded thence on the east by part of the western boundary of Elderslie Road northerly to the western prolongation of the southern boundary of Portion 91 bounded thence on the south by that prolongation easterly to the point of commencement; and
- (b) All that area of land situated at Branxton in the Parish of Branxton County of Northumberland in the State of New South Wales being part of Lot 1 in Deposited Plan 803446 commencing at a point being the south-western corner of Portion 24 in the Parish of Branxton County of Northumberland bounded thence on the east by the western boundaries of Portion 24 aforesaid Lot 2 and Lot 1 in Deposited Plan 609579 northerly to the north-western corner of Lot 1 aforesaid bounded thence again on the east by a line on the prolongation of the western boundary of Lot 1 northerly to the southern boundary of the Great Northern Railway bounded thence generally on the north by that boundary westerly to the left bank of Black Creek bounded thence generally on the west by the bank of that Creek southerly to the northern prolongation of the eastern boundary of Portion 44 in the Parish of Belford County of Northumberland bounded thence on the west by that prolongation and the eastern boundary of Portion 44 aforesaid southerly to the northern boundary of the Parish of Rothbury County of Northumberland bounded thence on the south by part of that boundary easterly

to a point being the intersection of that boundary and the southern prolongation of the western boundary of Portion 24 Parish of Branxton bounded thence on the east by a line on that prolongation northerly to the point of commencement.

- 1.1.6 Any other land occupied by the Licensee's works at the Transfer Date and any other Properties connected to a water or sewer main of the Licensee at the Transfer Date.
- 1.1.7 Any other land specified by the Governor by order published in the Gazette.

SCHEDULE 2

1. CUSTOMER CONTRACT

SCHEDULE 2 IS THE CUSTOMER CONTRACT AND IS PUBLISHED AS A SEPARATE DOCUMENT.

SCHEDULE 3

1. BULK WATER MONITORING PARAMETERS

1.1 Pesticides

Aldrin	HCB	Heptochlor
BHC	DDT	Lindane
Chlordane	DDD	PCB
DieldrinDDE		

1.2 Chemical

Antimony	Copper	Selenium
Arsenic	Cyanide	Sodium
Barium	Iodide	Sulphide
Beryllium	Lead	Tin
Boron	Mercury	Zinc
Cadium	Nickel	Silver
Chromium	Molybdenum	

1.3 Radiological

Gross alpha	Gross beta
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SCHEDULE 4

1. SYSTEM PERFORMANCE INDICATORS

1.1 Preamble

The auditor appointed under clause 11.1.2 will only audit whether Hunter Water has produced the reports required under this Schedule and whether those reports are accurate, complete and have been provided by the time and in the manner required by this Schedule.

1.2 Reporting on Water interruptions

1.2.1 Hunter Water must report on the number of Properties affected by Planned water interruptions and Unplanned water interruptions where the duration of the Water interruption is:

- (a) less than 1 hour;
- (b) between 1 hour and 5 hours;
- (c) between 5 hours and 12 hours;
- (d) between 12 hours and 24 hours; and
- (e) more than 24 hours.

1.2.2 Hunter Water must report on the number of Properties affected by Water interruptions:

- (a) on two occasions;
- (b) on three occasions;
- (c) on four occasions; or more in a Reporting period.

1.2.3 Hunter Water must report on the number of Properties affected by a Planned water interruption that did not commence at the time specified in the notice.

1.2.4 If during a Reporting period, 250 or more Properties were affected in a single event by either a Planned water interruption or an Unplanned water interruption, either of which is longer than 5 hours, Hunter Water must report on the events that resulted in those Properties being so affected.

1.3 Reporting on Water Pressure

1.3.1 Hunter Water must report on the number of Properties, not in a low pressure area, that experienced more than one Pressure incident in a financial year.

1.4 Reporting on Sewage Overflows

1.4.1 Hunter Water must report on the number of Uncontrolled sewage overflows (other than on Public land) in dry weather caused or resulting from:

- (a) a blockage in the main pipe in the Sewerage system;
- (b) a blockage in a branch pipe in the Sewerage system;
- (c) Third party damage; or
- (d) an event other than one described in (a), (b) or (c).

1.4.2 Hunter Water must report on:

- (a) the number of Priority 1 sewage overflows to which it responded in less than one hour and those to which it responded in more than one hour.
- (b) the number of Priority 2 sewage overflows to which it responded in less than 3 hours and those to which it responded in more than three hours.

1.4.3 Hunter Water must report on the number of Uncontrolled sewage overflows on Public land that occurred in dry weather and in wet weather.

1.4.4 Hunter Water must report on the number of Properties affected by an Uncontrolled sewage overflow in dry weather where the period since the last Uncontrolled sewage overflow in dry weather on that Property is less than 12 months.

1.4.5 Hunter Water must report on the number of Public land locations affected by more than one Sewage overflow (whether occurring in wet or dry weather) where the period since the last Sewage overflow at that location (or in the vicinity of that location) is less than 12 months.

2. DEFINITIONS

2.1.1 Expressions used in this Schedule that are defined in clause 7.1 of the Licence have the meaning given to them in clause 7.1.

2.1.2 In this Schedule:

Priority 1 sewer overflow means a Sewage overflow caused by a break, collapse, blockage or overloading of the Sewerage system that results in or contributes to:

- (i) personal injury, illness, disease or disability or a significant risk of or increased risk of personal injury, illness, disease or disability;
- (ii) significant damage to goods, fixtures or buildings, including an overflow inside a building;
- (iii) significant environmental impact, including an overflow outside a building where there is significant risk to health, whether or not it is an impact that Hunter Water is required by law to report, or
- (iv) an interruption of the Sewerage service.

Priority 2 sewer overflow means a Sewage overflow caused by a cracked pipe or partial blockage within the Sewerage system that results in or contributes to:

- (i) minor damage to goods, fixtures or buildings; or
- (ii) minor environmental impact (including unpleasant odours) not posing a significant health risk, whether or not it is an impact that Hunter Water is required by law to report.

3. INTERPRETATION

- 3.1 Clause 7.2 of this Licence applies to this Schedule in the same way as it applies to Part 7 of the Licence.

SCHEDULE 5

1. ADDRESS FOR NOTICES

1.1 Address Details

Any notice or other communication under this Licence between IPART and Hunter Water must be in writing and addressed as follows:

Hunter Water Corporation
Managing Director
Hunter Water Corporation
593-605 Hunter Street
NEWCASTLE WEST NSW 2302

Independent Pricing and Regulatory Tribunal
Tribunal Chairman
Independent Pricing and Regulatory Tribunal
Level 2
44 Market Street
SYDNEY NSW 2000

1.2 Receipt of communication

A notice will be considered received:

- (a) if delivered in person, when delivered;
- (b) if delivered by mail, 5 days from and including the date of postage;
- (c) if delivered by electronic communication, upon actual receipt of the communication by the recipient.

1.3 Amendment to address details

An addressee named in clause 1.1 of this Schedule may change its address particulars by notice to the other addressee named in that clause.

ACCOUNT & GENERAL ENQUIRIES

1300 657 657

24 HOUR EMERGENCY & SERVICE FAULTS

1300 657 000

VISIT OUR WEBSITE AT

www.hunterwater.com.au

DIRECT EMAIL ENQUIRIES TO

enquiries@hunterwater.com.au



BOOLAROO OFFICE

143 MAIN ROAD
OPPOSITE COUNCIL



CESSNOCK OFFICE

16 VINCENT STREET
WOLLOMBI ROAD END



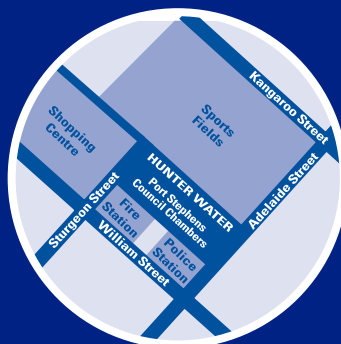
MAITLAND OFFICE

285 HIGH STREET
IN COUNCIL CHAMBERS



NEWCASTLE OFFICE

595 HUNTER STREET
GROUND FLOOR ON RIGHT



RAYMOND TERRACE OFFICE

118 PACIFIC HIGHWAY
IN COUNCIL CHAMBERS



Summary of Ministerial Requirements arising from the 2002/03 Operational Audit

Reference	Requirement
Water quality	1. "...the incident response plan should be tested during 2004 using relevant scenarios to ensure that management are well trained."
Water quality – taste and odour	<p>2. "It is recommended that taste testing ... occur at Chichester and Grahamstown on a daily basis so that taste and odour problems can be identified as soon as they occur.</p> <p>3. It is recognised that identifying a trigger for taste and odour problems is the subject of significant research across Australia. Continued investment by Hunter Water in research is recommended with specific emphasis on their water supply system.</p> <p>4. Hunter Water should investigate methods for reducing the time taken to address the problem. Methods investigated could include PAC (powdered activated carbon) dosing when taste and odour problems occur while a substitute source is brought online or investigation of other technologies to remove taste and odour compounds.</p> <p><i>I require Hunter Water to report to me on its progress in fulfilling these requirements by no later than 31 March 2004."</i></p>
Water continuity standard	5. "Hunter Water should report to IPART and the Minister for Energy and Utilities on the causes of the near breach of its water continuity standard over 2002/2003. This report should detail actions being taken by Hunter Water to ensure that it can meet the standard over the remainder of the Licence term under normal operating conditions."
Accuracy of reporting systems	<p>6. "An internal audit should be conducted to assess the accuracy and completeness of reporting across Hunter Water in relation to water quality, systems performance, rebates and the IWRP. As an interim measure until automated report generation is available, additional management controls should be implemented to ensure the accuracy of the numbers being reported. When automated reporting is available, the existing system and new system should be run in parallel for a suitable period of time to ensure reporting accuracy and completeness.</p> <p><i>Additional quality controls should be employed in further updates to the IWRP."</i></p> <p><i>I support this recommendation and require Hunter Water to provide both the Tribunal and myself with copies of the internal audit report into the matters raised by no later than 31 March 2004.</i></p>

Demand/supply balance	<p>7. <i>The Tribunal has recommended that Hunter Water should annually report progress in fulfilling the IWRP, setting out planned and actual expenditure against individual actions under the Plan, as well as estimated water savings and increases in the sustainable yield. I am advised that Sydney Water currently reports progress towards its demand management obligations using a similar format.</i></p> <p><i>Accordingly, I require Hunter Water to discuss a suitable reporting format with IPART and to adopt the agreed reporting format in time for the next Audit of the Licence.</i></p> <p>8. <i>Finally, as you are aware, the Government has for some time been concerned with improving water conservation on a state-wide basis.</i></p> <p><i>I require Hunter Water to provide both the Tribunal and myself with a comprehensive report which:</i></p> <ul style="list-style-type: none"> <i>• outlines Hunter Water's achievements to date in the conservation of water; and</i> <i>• considers new water conservation measures with Hunter Water could feasibly introduce</i> <p><i>Hunter Water should give consideration in this report to whether water conservation measures adopted or under consideration by Sydney Water are feasible for introduction by Hunter Water. This report should be provided no later than 28 February 2004.</i></p>
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MEMORANDUM OF UNDERSTANDING BETWEEN HUNTER WATER CORPORATION AND ENVIRONMENT PROTECTION AUTHORITY

2000 – 2005

1.0 INTRODUCTION

- 1.1 This memorandum of understanding (MOU) sets the framework and ongoing process for interaction between the Hunter Water Corporation (HWC) and the Environment Protection Authority (EPA) from the date of signature to 30 June 2005.

This MOU will be subject to review after this date or earlier as may be agreed to by both organisations.

ROLE OF EPA

- 1.2 The Protection of the Environment Administration Act 1991 sets objectives for the EPA to:

- protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development; and
- reduce the risk to human health and prevent the degradation of the environment.

The EPA's mission is to guide the community to achieve and maintain a healthy environment in a productive NSW. The EPA endeavours to improve the state of the environment in NSW by:

- reducing emissions to air and minimising their impact on the community;
- improving the health and sustainability of NSW waterways;
- minimising the adverse impact of chemicals and hazardous substances on the environment and public health;
- minimising the overall waste produced by society, promoting effective programs for reusing and recycling or reprocessing waste, and ensuring environmentally sound management, storage and disposal of waste;
- empowering the wider community to protect the environment; and
- achieving a high level of compliance with statutory requirements and further environmental gains through low-cost means.

The EPA is guided by the following key environmental principles:

- The environment has an intrinsic value.
- Everyone is part of the environment and shares responsibility for its health.
- A holistic approach is needed to achieve ongoing environmental outcomes.
- Prevention is preferred to control and remediation.
- The EPA should lead by example.
- The principles of ecologically sustainable development are used to guide decision making.

ROLE OF HWC

- 1.3 HWC is Responsible for cost effective provision of water, sewerage and drainage services as defined by the conditions of the Corporation's Operating Licence, together with other instruments such as EPA environment protection licences or a Water Management Licence with the Department of Land and Water Conservation.

HWC's Charter is "To be commercially successful while delivering value-for-money water, wastewater and associated services in an environmentally responsible manner".

HWC is committed to carrying out all of its activities in an environmentally responsible manner. It is recognised that water and sewer operations are inextricably linked to the natural water cycle, so it is an integral part of HWC's role to manage the community's use of water whilst ensuring that environmental impacts are minimised.

HWC is committed to seeking increased reuse of effluent and biosolids where environmentally and economically feasible in line with the stated targets in the Corporation's Environmental Management Plan.

In terms of environmental planning, HWC is guided by the following principles:

- all options for sewage management should be evaluated on a case by case basis
- criteria in assessing options should include minimising health risks, optimising benefits and costs and assisting ecologically sustainable development
- performance outcomes expected of the option should be identified rather than technological limits
- any option chosen should have sufficient flexibility to provide for environmental flow and greater reuse in the longer term
- monitoring requirements for both effluent quality and ambient monitoring for any discharge option should have a scientific basis and should be determined within the context of monitoring requirements for catchment planning

- 1.4 It is recognised that the above environmental principles do not in any way diminish rights and obligations of both organisations under their respective legislation.

2.0 PURPOSE/OBJECTIVES OF THE MOU

- 2.1 The purpose of this MOU between the EPA and HWC is to provide the framework and ongoing processes for interaction between the two organisations. The MOU also provides an opportunity to clarify the roles and environmental principles of EPA and HWC, and for HWC to outline its commitment to environmental planning and reporting, and liaison with the community on environmental issues.

3.0 FRAMEWORK FOR INTERACTION

Open Communication

- 3.1 Where major issues occur that could have an impact on either organisation, it is expected that clear and open communication will be maintained. In particular, each organisation will keep the other informed prior to any media releases on issues of common interest. As a minimum, liaison will occur between the EPA's Regional Manager Hunter and HWC's Manager Assets/ Planning.
- 3.2 EPA will keep HWC informed on policy development that will impact on HWC and consult with HWC where appropriate.
- 3.3 No later than three weeks before the issue of a new or amended licence, EPA shall endeavour to provide HWC with a draft of the licence conditions. The two organisations will then meet as necessary to discuss the proposed conditions and to reach agreement.

Liaison Meetings

- 3.4 Regular liaison meetings will be held at three monthly intervals, or more frequently if required, between the EPA's Regional Manager Hunter and HWC's Manager Assets/Planning. These meetings will be held in conjunction with relevant staff that may be managing specific projects. A record of these meetings will be prepared.
- 3.5 The primary purpose of these meetings will be to keep each other updated on:
 - Key issues relevant to this MOU;
 - EPA licensing and other regulatory activities;
 - Progress of any environmental improvements; and
 - Reporting on environmental progress

Dispute Resolution

- 3.5 Each organisation will endeavour to resolve disputes over technical issues, policy, licensing matters or any other matters of concern to either agency. Communication and dispute resolution at a local level is strongly encouraged.
- 3.6 In resolving disputes, both organisations will work for the overall benefit of the community in protecting the environment and providing services, which are affordable. Proposals will maximise environmental benefit and cost effectiveness of expenditure on environmental improvement.
- 3.7 Where an issue or matter of strategic significance cannot be resolved at the local level, then the matter shall be referred to the EPA Regional Manager Hunter and HWC Manager Assets/Planning for resolution. If such matters are unable to be resolved at this level then they should be referred to the EPA's Regional Director of Northern Regions and HWC's Manager Planning and Development. If resolution is not forthcoming at regional level then such matters are to be referred to CEO level for direct resolution.

In the event that the issue cannot be resolved through the above process, parties may choose to resolve the issue through an agreed mediation panel.

Data Sharing

- 3.8 Data gathered or collected by HWC, above the monitoring required by conditions of an environment protection licence or by notice, may also be available to the EPA depending on the circumstances. In reaching a decision as to whether data can be provided, the following matters will be considered:
- Whether the data has been gathered by Hunter Water Australia (HWC trading arm) for an external client;
 - Whether the data requested is commercially confident;
 - Whether the data requested is still in draft form or is "raw data", not having been quality controlled.
- 3.9 Where data is not related to HWC compliance and has a commercial value, HWC could expect payment for the data or may supply the data free of charge, subject to negotiations. Where negotiations are to be required, they are to be completed expeditiously.
- 3.10 This MOU does not affect the operation of any provisions of any relevant legislation relating to the disclosure of information or any provisions of the *Freedom of Information Act*.

Approach to Compliance

- 3.11 If EPA proposes enforcement action against HWC, then EPA would endeavour to ensure that HWC was notified of EPA's intent to impose a penalty or seek prosecution, and provide HWC with the opportunity to respond. EPA would consider information provided by HWC when determining whether a penalty should be applied or prosecution proceeds.
- 3.12 Both organisations agree that nothing in these conditions will limit EPA's regulatory rights or HWC's rights of appeal.

4.0 ENVIRONMENTAL PLANNING AND REPORTING

Environmental Management Plan

- 4.1 The EPA notes HWC's commitment to preparing a five year Environmental Management Plan (EMP) covering environmental targets and objectives, and acknowledges that:
- 4.1.1 The EMP will take into account the environmental principles outlined in Section 1.3 of the MOU during the process of setting and reviewing environmental targets; and
 - 4.1.2 HWC will seek input to the preparation and review of the environmental targets of the EMP from the Hunter community through its Consultative Forum (refer Section 5.0), Customer Survey, and any community comments received on its Environmental Annual Report.
- 4.2 The EPA notes HWC commitment to incorporate the EMP's structure within its Environmental Management System to ensure that:

- 4.2.1 Environmental programs and action plans are closely monitored and reviewed to ensure they remain relevant to the Corporation's needs in relation to its business objectives and changing environmental legislation;
- 4.2.2 HWC's environmental performance associated with its activities is regularly assessed and reported on; and
- 4.2.3 Compliance with environmental legislation and environmental objectives is achieved by undertaking environmental auditing within the Corporation.

Annual Environmental Report

- 4.3 The EPA notes HWC commitment to maintain corporate environmental reporting as an integral part of its management cycle, and to prepare and publish an annual environmental report detailing:

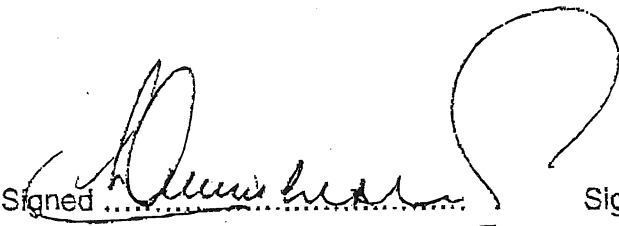
- 4.3.1 performance against key environmental indicators;
- 4.3.2 progress towards environmental objectives/targets covered by the Environmental Management Plan;
- 4.3.3 Progress towards Environmental Improvement Plans; and
- 4.3.4 Energy Management.

5.0 COMMUNITY LIAISON

- 5.1 The EPA and HWC are committed to open communication and consultation with the community on key strategic issues affecting the regulation of HWC. Opportunities for this will be provided through existing forums such as HWC's Consultative Forum, regular HWC Open Board sessions, and the EPA's Hunter Region Environment Protection Community Consultation Forum.

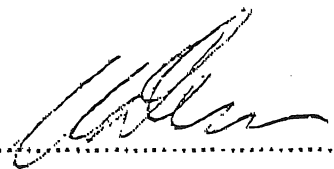
6.0 COMMON VIEW

Both organisations will endeavour to fulfil not only the letter but also the spirit of this Memorandum of Understanding.

Signed 

DR NEIL SHEPHERD
Director General
Environment Protection Authority

Date 20 July 2000

Signed 

MR DAVID EVANS
Managing Director
Hunter Water Corporation

Date 28.6.00

MEMORANDUM OF UNDERSTANDING

BETWEEN

NSW DEPARTMENT OF HEALTH

AND

HUNTER WATER CORPORATION

Dated: 19 April 2002

Introduction

This Memorandum of Understanding has been prepared by the NSW Health Department and the Hunter Water Corporation.

The Memorandum is designed to outline the roles and responsibilities and to facilitate effective interaction between the two (2) organisations.

Copies of the Memorandum of Understanding between NSW Health Department and Hunter Water Corporation can be obtained from:-

- ❑ the Hunter Area Health Service on www.health.hunter.nsw.gov.au; or
- ❑ the NSW Health Department's Environmental Health Branch on Website www.health.nsw.gov.au/public-health/ehb/water; or
- ❑ the Hunter Water Corporation on www.hunterwater.com.au.

MEMORANDUM OF UNDERSTANDING

THIS MEMORANDUM is entered into on the day of
..... **2002.**

BETWEEN THE HUNTER WATER CORPORATION (the Corporation)

OF THE ONE PART

AND THE NSW HEALTH DEPARTMENT (the Department)

OF THE OTHER PART

Context

- A. The Corporation is a statutory state owned corporation (*SOC*) under the State Owned Corporations Act 1989. The Corporation has a responsibility to supply safe drinking water to its customers in accordance with its Operating Licence granted under the Hunter Water Act, 1991.
- B. The Department has a role in providing advice to the Government on standards in relation to drinking water quality and to commit the Corporation to supplying water which is safe to drink having regard to public health.
- C. The Minister of Health and the Director-General of the Department have certain responsibilities in relation to the protection of public health under the Public Health Act 1991 and other relevant legislation. The Department's roles and responsibilities as outlined in this Memorandum are in addition to any functions conferred upon the Department, the Director-General of the Department or the Minister of Health under the Public Health Act, 1991.
- D. The objective of this Memorandum is to formally set out the terms of a co-operative relationship between the parties, establish their respective roles and facilitate fulfilment of each party's function in relation to the protection of public health.
- E. It is recognised that the Independent Pricing and Regulatory Tribunal has a role in both setting the Corporation's prices and standards for services which takes into account community preferences including their willingness to pay or accept risk.

1 Interpretation

- 1.1 Unless otherwise specified, terms in this Memorandum shall have the same meaning as provided by the Act or the Operating Licence.
- 1.2 **Act** means the Hunter Water Act 1991.
- 1.3 **Department** refers to the NSW Health Department, but for practical purposes functions of the Department as specified in this MOU will be delegated to the Hunter Public Health Unit.
- 1.4 **Water Supply System** includes all those systems, from the catchment to the consumer's tap, utilised by the Corporation to supply drinking water in the Licence Area.
- 1.5 **Aesthetic Guideline Values** means the concentration or measure of a physical or chemical characteristic of water that is associated with good water quality. Some examples include turbidity, pH and colour.
- 1.6 **Drinking Water Guidelines** means collectively the 1996 NHMRC and ARMCANZ Australian Drinking Water Guidelines and the Updated Guidelines.
- 1.7 **Updated Guidelines** means the 1996 Guidelines amended, updated or supplemented from time to time as specified by NSW Health.
- 1.8 **Health Guideline Values** means the concentration or measure of a physical, chemical, biological or radionuclide characteristic of water that, based on present knowledge, does not result in any significant risk to the health of a person over a lifetime of consumption.
- 1.9 **Physical characteristics of Drinking Water** means those physical characteristics of Drinking Water specified in the Drinking Water Guidelines including dissolved oxygen, hardness, pH, taste and odour, total dissolved solids, true colour and turbidity.
- 1.10 **Potable Water Backflow Prevention Devices** are plumbing devices to prevent the reverse flow of water from a potentially polluted source into a potable water supply system.
- 1.11 Headings and numbering are for convenience only and do not affect the interpretation of this Memorandum.

2 Term

- 2.1 The term of this Memorandum shall be for the period commencing on the date of execution hereof and remaining in force for the term of the Corporation's Operating Licence which commences on 1 July 2002.

3 Liaison Between the Corporation and the Department

- 3.1 A Joint Operational Group shall be established consisting of the Director Hunter Public Health Unit, Senior Environmental Health Officer, Hunter Public Health Unit, Manager Water Unit (*as necessary*) of the Department and the Manager Planning & Development, Manager Strategic Operations and Manager Corporate Planning & Government Regulation (*as necessary*) of the Corporation (*or any other officers as agreed to by both agencies*) to discuss the broad principals, directions and policies underlying the roles and responsibilities of the parties under this Memorandum and to:-

- annually review progress on the implementation of this Memorandum;
- consider long term strategic issues and policies and to define and implement processes for the interchange of strategic planning information;

and specifically to

- co-ordinate implementation of this Memorandum;
- establish data sharing programs;
- establish programs of investigations, feasibility studies and economic analyses to be undertaken by the Corporation to meet changing public health objectives in relation to drinking water;
- make recommendations to the Director-General of NSW Health and the Managing Director of Hunter Water Corporation regarding the updating of this Memorandum; and
- facilitate co-ordination of the collection of data on water quality for use by all relevant agencies.

The Joint Operational Group may establish adhoc joint working parties to investigate and formulate recommendations on specific and technical issues, as required.

The Joint Operational Group will report their activities to the Director-General of NSW Health and the Managing Director of Hunter Water Corporation.

4 Dispute Resolution

- 4.1 Where a dispute between the parties cannot be resolved by the Joint Operational Group, then it should be referred to the Chief Executive Officers for resolution. In the event that the dispute cannot be resolved by the Chief Executive Officers, the view of the Department shall prevail.

5 Amendment

- 5.1 This Memorandum can be amended at any time upon agreement between the parties. Where agreement is not reached, the view of the Department is to prevail.

6 The Corporation's Roles and Responsibilities

- 6.1 The Corporation shall ensure that all drinking water it supplies is safe to drink having regard to the health of the public, and that it is supplied in accordance with its Operating Licence.

6.2 *Drinking Water Quality - Standards*

- 6.2.1 Hunter Water must comply with the following relating to Drinking Water:-

- (a) the Drinking Water Guidelines relating to health guideline values;
- (b) the Drinking Water Guidelines relating to the aesthetic guideline values as specified in the Operating Licence Clause 6.2.1 (b);

- 6.2.2 In delivering the Services, Hunter Water must have regard to the concepts of risk minimisation practices and system management of public water supplies in the 1996 Drinking Water Guidelines.

6.3 *Drinking Water Quality - Monitoring*

- 6.3.1 Hunter Water must prepare, to the satisfaction of NSW Health, an Annual Water Quality Monitoring Plan for the Water Supply System. The plan is to be agreed with NSW Health **by 30 April each year**, for the duration of the Licence commencing 1 July 2002.

- 6.3.2 The Annual Water Quality Monitoring Plan for the Water Supply System must include system performance monitoring and regular sampling, laboratory testing and processes to ensure quality control, as required by NSW Health. The monitoring of water quality must include:-

- (a) the health parameters and the aesthetic parameters for which compliance is required under Clauses 6.2.1 (a) and (b);
- (b) monitoring of samples in accordance with testing requirements of the 20th Edition (1998) of Standard Methods for Examination of Water and Wastewater published by the American Public Health Association, or other established methods as considered appropriate by NSW Health.

- 6.3.3 The Drinking Water Quality Monitoring Plan must assess the quality of Drinking water in Hunter Water's Water Supply System, and the raw water in the water storages. The sampling frequency and the locations chosen for the monitoring should be such that the results are representative of the quality of water supplied to Customers and Consumers, to the satisfaction of NSW Health.
- 6.3.4 Hunter Water must undertake drinking water quality monitoring for each financial year.
- 6.3.5 Hunter Water must monitor the raw water and initiate action to identify the source and stop further contamination where values are above the Guideline values.
- 6.3.6 Where the Guidelines recommend monitoring at a Customer's or Consumer's tap, the Corporation will monitor at the property boundary from a water service pipeline directly off a watermain which is representative of the quality of water supplied to the Customer or Consumer.
- 6.3.7 The Corporation or its authorised agent shall fluoridate all drinking water supplies as required by the Fluoridation of Public Water Supplies Act 1957. Fluoride shall be sampled and reported in accordance with the requirements of the Fluoridation of Public Water Supplies Act 1957.

6.4 *Drinking Water Quality - Reporting*

- 6.4.1 The Corporation shall submit to the Department:-
 - (a) event-based monitoring;
 - (b) monthly, monitoring results as agreed in the Monitoring Plan together with an evaluation of the results on an exception basis;
- 6.4.2 Hunter Water must, each financial year, produce an Annual Water Quality Report that compares actual drinking water quality against the requirements of the Drinking Water Guidelines. The Annual Water Quality Report must provide detail on the health guideline values and aesthetic guideline values for which compliance is required under Clause 6.2.1.
- 6.4.3 The Annual Water Quality Report must also include a summary of monitoring information, including information relating to bulk water characteristics. The Annual Water Quality Report must indicate water quality trends and problems, a summary of system failures (*significant and major water quality incidents*) over the previous financial year and action taken to resolve them and how public health was protected.
- 6.4.4 The Annual Water Quality Report must be **prepared by 30 September each year** and must be placed on Hunter Water's website on the internet and made available at its offices for access or collection by any person.

6.5 *Drinking Water - Planning*

- 6.5.1 Hunter Water must prepare and maintain, to the satisfaction of NSW Health, a Five Year Water Quality Management Plan.
- 6.5.2 The Five Year Water Quality Management Plan must include strategies for the comprehensive management of all aspects of the supply cycle necessary to ensure quality of drinking water supplied to Customers and Consumers meets Operating Licence Requirements. The Plan should adopt the '*multiple barrier*' approach to protection of drinking water outlined in the Guidelines considering catchment management and bulk supply, treatment, disinfection and supply system management.
- 6.5.3 Hunter Water must prepare, to the satisfaction of NSW Health, an Annual Water Quality Improvement Plan for the Water Supply System **by 31 March in each year**, unless otherwise specified following the review under Clause 6.5.5.
- 6.5.4 The Annual Water Quality Improvement Plan must incorporate system and operational changes needed to address problems identified through drinking water quality monitoring data and through periodic system inspections and evaluations, the aim of which is to reduce risks to public health and meet any aesthetic guideline values applying to Hunter Water.
- 6.5.5 The Annual Water Quality Improvement Plan must be reviewed as part of any review of the Operating Licence to assess its continued effectiveness and whether there is a continued need for the plan each year.

6.6 *Water Supplied For Other Uses*

- 6.6.1 Other Grades of water supplied by Hunter Water must be supplied according to relevant guidelines and requirements prescribed by EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture and other relevant Government Agencies.
- 6.6.2 Where there is conflict between any of the guidelines, requirements or standards applying to Hunter Water under Clause 6.6.1, the Minister of Health's decision will prevail.
- 6.6.3 Hunter Water must use its best endeavours to reach agreement with persons to whom Other Grades of water is supplied, as to the water quality standards that are to apply to that water supplied to those persons for purposes other than Water Treatment or human consumption. The terms of the arrangements must at minimum include:-
 - (a) the standard of the quality of water supplied;
 - (b) the purpose of the supply.

6.7 *Other Responsibilities*

- 6.7.1 The Corporation shall provide the Department with all data and all information on the planning, design, maintenance, operation and administration of the Corporation's activities that the Department reasonably requires to make informed judgements regarding matters relating to the protection of public health.
- 6.7.2 The Corporation shall allow officers of the Department to enter any premises under its care and control, including facilities performing water supply, wastewater reuse, or wastewater treatment and disposal, for the purposes of carrying out any inspections or viewing any records which the Department reasonably requires to make informed judgements regarding matters relating to the protection of public health.
- 6.7.3 The Corporation, as a service provider, has a role in ensuring public health protection. This role must be recognised in any conflict or matters of mutual concern to both public health and environmental protection approaches, and will require consultation between the Corporation, the NSW Environment Protection Authority and the Department.

7 The Department's Role and Responsibilities

- 7.1 The Department shall provide general advice to the Corporation on matters regarding the supply of water which is safe to drink and on other public health issues in regard to water which relate to the Corporation's activities.
- 7.2 The Department shall maintain a Public Water Supply Regulatory Program for the purpose of making independent judgements on public health matters related to the Corporation's activities and exercising its powers and functions under the Public Health Act, 1991.
- 7.3 Where any drinking water supplied by the Corporation is failing to meet the Drinking Water Guidelines which the Corporation is required by its Operating Licence and Clause 6.2 to meet, or where the provision of drinking water, or the reuse, disposal, or treatment of wastewater takes place in such a manner that a hazard to public health may arise, the Corporation shall be responsible for assessing the problem and proposing rectification action. If the Department is of the opinion that it is appropriate to do so, it may provide advice on rectification action that may be taken by the Corporation. Where the Department gives any advice to the Corporation under this Clause, it shall be entirely the responsibility of the Corporation to take appropriate rectification action to ensure that: the drinking water it supplies is safe to drink and meets the requirements of the Corporation's Operating Licence and Clause 6.2; and that other activities conducted in a manner that do not pose a potential hazard to public health. For the purposes of this exercise, the Department will use the current NHMRC/ARMCANZ Australian Drinking Water Guidelines as in force for the time being for guidance in providing such advice in relation to drinking water.
- 7.4 The Department shall give such information to the Licence Regulator as the Licence Regulator requires, or the Department considers it appropriate to provide, for the purpose of the Licence Regulator exercising its functions.

8. Emerging Public Health Issues Related to Drinking Water

- 8.1 The parties shall co-operatively exchange information and the Corporation shall participate in appropriate research and development on emerging public health issues related to drinking water so as to enable them to make well informed judgements regarding action to be taken in relation to the Corporation's Water Supply System to maintain the protection of public health.
- 8.2 The parties shall independently provide input to public discussion and debate on future revisions of the NHMRC/ARMCANZ Australian Drinking Water Guidelines.

9. Events of Public Health Significance

- 9.1 The Corporation shall immediately report to the Department any information or event within its drinking water supply system, or within its wastewater reuse and wastewater treatment and disposal operations which may have significant implications for public health.
- 9.2 The report of information by the Corporation shall include maps depicting geographical locations and systems in addition to tables or text as required by the Department.
- 9.3 The parties shall maintain a comprehensive Incident Management Plan covering the Corporation's drinking water supply systems, wastewater reuse. The Incident Management Plan should include, where appropriate, reference to any Incident Management Plan developed between the Corporation and other agencies regarding wastewater treatment and disposal operations. The parties shall nominate a 24 hour Incident Management Control Point for the co-ordination of responses to any event of public health significance. The contact point will be an officer of each organisation who has been trained in the Plan and the Incident Management Procedures and Protocols thereunder. The Incident Management Plan shall contain procedures and protocols for the co-ordinated management of incidents including the notification of public health advice to customers, and media communication of public health information.
- 9.4 The parties shall ensure that all relevant personnel in their respective organisations are trained to respond to and execute the Incident Management Plan.

10 Data Exchange

- 10.1 The Department will provide the Corporation with reports and studies it undertakes which are relevant to those activities of the Corporation which impact on public health.
- 10.2 The Corporation will provide reports and studies undertaken by the Corporation as part of its business, which are relevant to public health.

**Memorandum of Understanding Between
NSW Health and Hunter Water Corporation**

IN WITNESS WHEREOF the parties have executed this document at the date first mentioned.

SIGNED for and on behalf of the
NSW DEPARTMENT OF HEALTH
in the presence of

.....

**Director-General
Department of Health**

.....

SIGNATURE OF WITNESS

(PRINT) NAME OF WITNESS

SIGNED for and on behalf of the
HUNTER WATER CORPORATION

.....

**Managing Director
Hunter Water Corporation**

.....

SIGNATURE OF WITNESS

(PRINT) NAME OF WITNESS



Energy & Water
Ombudsman NSW

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Haymarket NSW 1240

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Freecall **1800 246 545**
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ABN 21079 718 915

17 September 2004

Mr James Cox
Acting Chairman
Independent Pricing and Regulatory Tribunal
PO Box Q290
QVB Post Office NSW 1230

Dear Mr Cox,

Thank you for the opportunity to comment on the *2003/2004 Operational Audit of the Hunter Water Corporation*.

The Energy & Water Ombudsman NSW investigates and resolves complaints from customers of electricity and gas providers in NSW, and water customers of Sydney Water, Hunter Water and Australian Inland.

Please find attached a copy of our submission, where we have addressed aspects of Hunter Water's Operating Licence where they relate to our experience.

Please contact me or Amanda Hamilton-Foster, Senior Policy Officer, on 8218 5266 if you would like to discuss this matter further.

Yours sincerely

A handwritten signature in dark ink that reads 'Clare Petre'.

Clare Petre
Energy & Water Ombudsman NSW



Independent Pricing and Regulatory Tribunal

2003/2004 Operational Audit of Hunter Water Corporation

Comments on the Operating Licence

September 2004

Response by the
Energy & Water Ombudsman NSW

Introduction

We note that the purpose of this paper is to seek comments on Hunter Water Corporation's performance, as part of the annual audit of its Operating Licence. While we are not in a position to comment on all areas of Hunter Water's operations, in this submission we have raised issues arising under the Customer Contract (the contract), the Code of Practice and Procedure on Debt and Disconnection (the code), and the external dispute resolution scheme. We have addressed these issues from the perspective of EWON's experience as an independent dispute resolution mechanism for water customers of Hunter Water, Sydney Water and Australian Inland.

For ease of reference, wherever possible we have adopted the same numbering as the Hunter Water Operating Licence and the Customer Contract.

Customer Contract

EWON understands that the Customer Contract is not currently scheduled for review, however we have raised relevant issues for the sake of completeness. We also note that we have previously raised some of the following issues in our response to the 2002/03 Operational Audit. We suggest that IPART may wish to review the issues outlined below when the Customer Contract is next reviewed.

4. What you pay

Debt Recovery Costs

We note that section 4.4.5 of the contract states that customers may be charged costs and fees incurred by Hunter Water for recovering, or attempting to recover, overdue amounts. EWON is concerned that these charges are not specified in the "charges for ancillary and miscellaneous charges" in the Tribunal's determination on pricing for Hunter Water.¹ In addition, we are also concerned that there is no further information disclosed to customers regarding the possible amount of these fees, and the circumstances in which Hunter Water may exercise their discretion to charge them.

EWON suggests that the Tribunal review this section of the contract and provide some clarity for customers regarding the costs and fees it would allow Hunter Water to recover in these situations.

Undercharging and Overcharging

We note that section 4.5 or 4.6 does not prescribe a limitation on the period for which Hunter Water can recover amounts undercharged to customers. We note that electricity and gas providers are unable to recover amounts undercharged for more than 12 months.² Also, electricity and gas customers are entitled to time to repay any

¹ Determination No 3, 2003 – Table 17 sets out an exhaustive list of charges.

² *Electricity Supply (General) Regulation 2001*, clause 26 and *Gas Supply (Natural Gas Retail Competition) Regulation 2001*, clause 26

undercharged amounts equivalent to the period of undercharging.³ We further note that electricity and gas provider are required to pay interest to customers on any amounts overcharged to customers.⁴ EWON supports the convergence between the utility industries where this promotes the development of best practice.

EWON understands from discussions with Hunter Water that it is Hunter Water's internal policy that they do not seek to recover amounts undercharged to customers for a period greater than 12 months when the undercharging has been a result of Hunter Water's error. We also understand that Hunter Water's policy is to pay interest on amounts overcharged to customers. While EWON supports these customer focused policy approaches, we suggest that it is appropriate for consumer protection measures such as these to be codified in the customer contract so that customers can be readily aware of all their rights and obligations.

5. What can you do if you are unable to pay your account

Interest

We note that EWON has previously raised this issue with the Tribunal,⁵ and we understand that this issue has been the subject of discussions between the Tribunal and Hunter Water. While we appreciate that the issue is still under review, for the sake of completeness we have included our comments and concerns in this submission.

EWON notes that under section 5.2 Hunter Water may apply interest on any amount owing to them that is not paid by the due date. This statement is reiterated in the Code of Practice and Procedure for Debt and Disconnection. EWON's understanding is that interest will be charged even if Hunter Water has agreed to an instalment arrangement or extension.

From discussions with the Tribunal and with Hunter Water, we understand that Hunter Water's internal policies have altered since our last submission on this matter, and that Hunter Water is now proposing that interest will not be charged to customers who have been assessed by an independent community welfare agency as being in financial hardship and provided with a Payment Assistance Scheme (PAS) Voucher.

Although EWON appreciates that the receipt of a PAS voucher is an effective indicator of financial hardship, EWON is concerned that not all customers who are in financial hardship will seek PAS vouchers, and that this measure alone may not be sufficient to ensure that financially disadvantaged customers are not charged interest for the period of their instalment plan. In EWON's experience, there are a variety of reasons why not all customers in financial hardship will approach a community welfare agency for assistance. EWON submits that customers who attempt to resolve their financial difficulties by negotiating directly with Hunter Water should not be treated differently than those who have sought outside assistance.

³ Ibid

⁴ *Electricity Supply (General) Regulation 2001*, clause 27 and *Gas Supply (Natural Gas Retail Competition) Regulation 2001*, clause 27

⁵ EWON Submission – 2002/03 Operational Audit of Hunter Water Corporation, p.5

As we have previously noted, EWON is concerned that in cases of financial hardship, the imposition of interest for overdue accounts may appear punitive.

EWON suggests that Hunter Water further review their proposals to ensure that all customers in financial hardship are exempt from interest charges for the period of an agreed payment extension or instalment plan. We would be pleased to consult on this issue further with both Hunter Water and the Tribunal.

6. Disconnection or restriction of water and sewerage services

Written Notification

EWON has previously raised some issues relating to the process of notification given to customers prior to restriction of water supply taking place. In our submission to the 2002/03 Operation Audit, we stated:

The contract states that customers who do not pay their account on time will receive notification in the form of either a reminder notice or a proposed recovery notice, or both notices if they have a good payment history.⁶ We note that this aspect of Hunter Water's contract differs from Sydney Water's contract, which provides for equal treatment of all customers, regardless of payment history

In addition, we note that electricity and gas customers are also provided with the same number and type of notices before disconnection takes place, regardless of their payment history.⁷ EWON suggests that the notification process in Hunter Water's contract be reviewed to reflect best practice within the utilities industries.

We note that there are other issues besides best industry practice. In particular, the contract suggests that the information included in the notices differs. It would appear that those who have a poorer payment history may not be provided with any information in the proposed recovery notice about possible alternative payment arrangements, nor are they advised to contact Hunter Water to discuss their situation.

EWON's experience suggests that it is those customers who struggle to pay their accounts on time may require more time to discuss their payment situation with their provider, and require more information about ways they can address their situation. EWON recommends that all customers of Hunter Water be provided with the same amount and type of notification before disconnection or restriction action takes place.

EWON suggests that the Tribunal may wish to consider this matter when the Customer Contract is next scheduled for review.

Further Notification

⁶ *Hunter Water Customer Contract*, September 2003, section 6.2

⁷ *Electricity Supply (General) Regulation 2001*, Sched 2, cl 12 and Sched 3, cl 15 *Gas Supply (Natural Gas retail Competition) Regulation 2001*, Sched 1, cl 15

We note that section 6.2 of the contract specifies that restriction or disconnection of supply may occur if “we have attempted to make further contact with you about the non-payment by means of a telephone call, mail or visit.”

Through EWON’s investigation of customer disputes and discussions with Hunter Water, EWON is concerned that Hunter Water does not always attempt this further contact before the restriction takes place. We note that we have raised our concerns in writing to Hunter Water.

We understand that Hunter will often contact a customer by phone to advise of the impending restriction if Hunter Water has the contact telephone number of a customer on their customer records. We also understand that Hunter Water field staff will generally knock on the door of the premises at the time of restriction in an attempt to discuss the matter with the customer.

Given the potentially serious impacts for customers of restriction of their water supply, EWON suggests that this additional attempt at personal contact is an important safeguard for customers. We would appreciate the opportunity of discussing this matter further with the Tribunal and with Hunter Water when the customer contract is next reviewed.

Code of Practice and Procedure for Debt and Disconnection

We note that our comments regarding the charging of interest on overdue accounts is also relevant to the code.

We note that EWON has previously raised issues relating to the code in our submission to the 2002/03 Operational Audit. We are pleased to note that Hunter Water has considered a number of the issues we raised, and the code has been amended to accommodate some of our suggestions.

In particular, we note that the code now provides more detail on Hunter Water’s debt collection procedures, which enables customers to be more fully informed of their obligations and consequences of non-payment. We also note that the code now contains information about PAS, including a contact number for customers to obtain information about local community agencies that provide PAS.

Operating Licence - External Dispute Resolution Scheme

Hunter Water Corporation became a member of the EWON scheme on 1 July 2002. In the past year, EWON has enjoyed a positive working relationship with both management and contact staff at Hunter Water. EWON believes that Hunter Water is committed to improving their services to their customers, and we look forward to continuing to work together to assist Hunter Water’s customers.

EWON notes that we have been involved in discussions with the Tribunal regarding the operation of section 12.2.9 of the Licence, which requires Hunter Water to provide

a report to the Tribunal on the matters that customers have raised with EWON.⁸ In these discussions, EWON has suggested that this reporting framework may need to be reviewed in order to provide a more effective and robust report of the complaints made to EWON by Hunter Water customers, and any systemic issues that these customer contacts may raise. We appreciate this opportunity, and look forward to progressing this issue with both the Tribunal and Hunter Water.

Customer Service

In the financial year 2002 /2003, EWON received 237 contacts involving Hunter Water. As Hunter Water has noted in their report, 186 of these matters were enquiries and 16 were closed as refer to higher level matters.⁹ Of the 35 matters closed during the period that EWON investigated, we are able to provide the following analysis.

The single most common issue raised was customer service, which was raised in 19 of the investigated matters, which accounts for more than half of the investigated matters.¹⁰ EWON's definition of customer service includes both complaints about a failure to respond to a customer's query or complaint, and complaints regarding the quality of the response received by a customer. This is in keeping with the trends identified in EWON's submission to the 2002/03 Operational Audit.¹¹

Case Summaries

- A customer complained to EWON that they were seeking information from Hunter Water about the accuracy of the master meter at a strata property. The customer stated that they had tried a number of times to resolve this issue and was still waiting for a manager to call back as promised. EWON referred the matter to Hunter Water via the Refer to Higher Level process, but the customer recontacted EWON to say that Hunter Water had not contacted them. Hunter Water then agreed to send a letter to the customer explaining the situation, but the customer called EWON again a week later to say the letter had still not arrived.
- A customer complained that Hunter Water had failed to repair some damage to his property caused when they replaced his meter. Hunter Water advised both EWON and the customer that the work would be completed in 10 days. However, the customer called EWON to advise that the work was not done within the ten days, and the customer had called Hunter Water to complain. The customer also stated that although Hunter Water completed the works shortly after his call, there were still

⁸ We note that our discussions have been relevant to both Hunter Water and Sydney Water Corporation.

⁹ An enquiry is classified by EWON as request for information or assistance which can be settled relatively quickly, and which does not require us to contact the customer's provider. An RHL is classified as a customer complaint that has been referred to the nominated member contact to resolve at a higher level. Customers are invited to contact EWON again if they are not contacted within two business days of the referral or if they are not satisfied with the outcome.

¹⁰ EWON's customer database enables customers to raise more than 1 issue in relation to their complaint

¹¹ In that submission we noted that customer service was the second most commonly raised issue by customers, p. 8

leaks after the tap was replaced, and the customer had needed to call Hunter Water again to have the repairs completed satisfactorily.

These cases emphasise the importance of both early intervention and response to customers, and the follow up of issues already identified by customers. We note in Hunter Water's report to the Tribunal on complaints to EWON they have noted "An ongoing focus is to improve the communication and timeliness of investigations across the organisation so that customers' issues are resolved as quickly as possible".¹² EWON is encouraged by this commitment and hope to continue to work with Hunter Water to identify ways to improve customer service in the delivery of their services and handling of complaints.

EWON notes that we would be pleased to discuss further with the Tribunal any of the other matters raised in Hunter Water's report.

¹² *External Complaint Performance 2003/04*, Hunter Water Corporation, August 2004, p.13

PUBLIC SUBMISSION TO THE INDEPENDENT PRICING AND REGULATORY TRIBUNAL OF NSW FOR THE 2003/04 OPERATIONAL AUDIT OF HUNTER WATER CORPORATION

IPART advertised for input from the community regarding Hunter Water's performance. One submission from a private resident was made to IPART and was presented to the auditors. The submission is reproduced in summarised form to respect the confidentiality request by the complainant.

Date of submission to IPART:

20 September 2004

Summary of submission:

Customer writes that his family has experienced major problems with the taste and odour in Hunter Water Corporation's water supply every year for the last six years on an average of six (6) weeks or more every year. He has complained to Hunter Water both by phone and in writing. Despite the means to overcome these problems, each event results in many weeks before Hunter Water takes any action, which is generally inadequate. This is his second submission to IPART on this problem.

IPART Changes Imposed for 2003/04 – Despite IPART requirements from the 2002/03 audit, there have been no changes in the taste and odour problems despite daily monitoring.

Performance 2003/04 - Geosmin plus Methyl Iso Borneol (MIB) levels have again indicated taste and odour problems despite complaints to Hunter Water and daily monitoring. Powdered Activated Carbon (PAC) dosing improved the water. Customer recommended that the testing be done on treated water rather than raw water but says that Hunter Water said they would not do this unless "someone forced us to do it".

Complainant then recommends that

- a compliance target (MIB and geosmin levels below 10 ng/L) which is a quantitative measure, be set and that treatment with PAC be required.
- Graphical reporting for MIB and geosmin levels in raw and treated water on Hunter Water's website be required.

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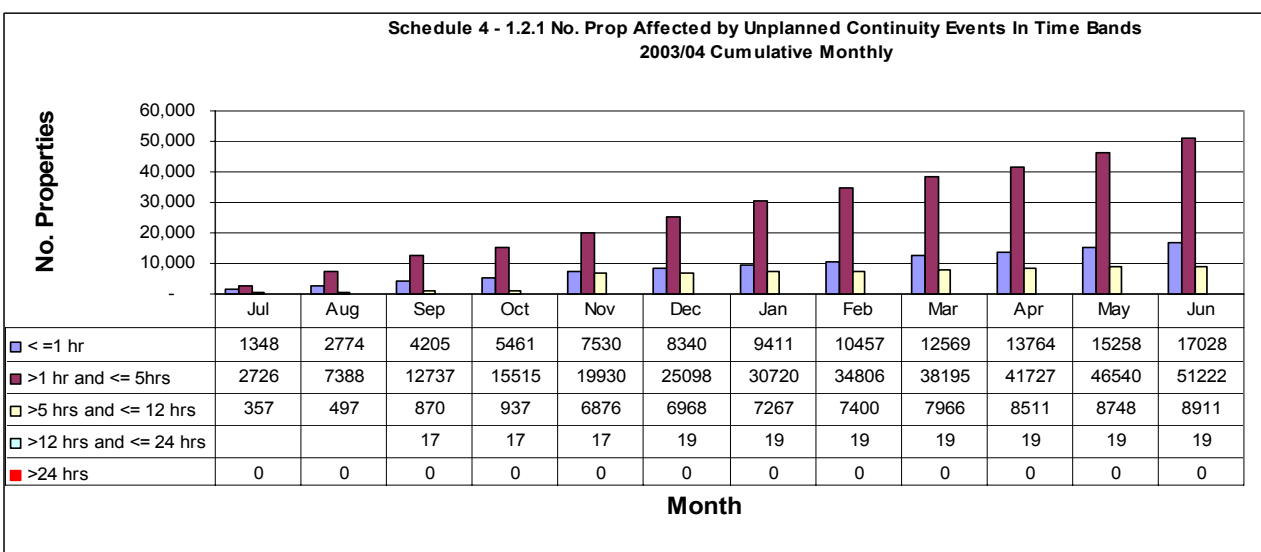
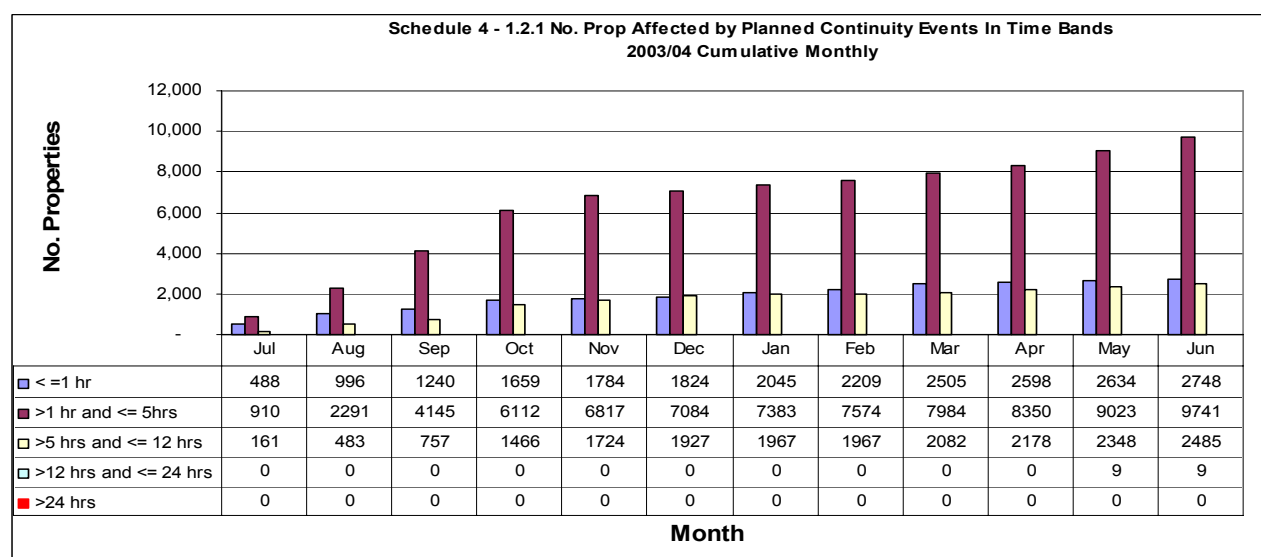
Appendix G
Summary of System Performance
Indicators for 2003/04

SUMMARY OF SCHEDULE 4 - SYSTEM PERFORMANCE INDICATORS FOR THE 2003/04 OPERATIONAL AUDIT OF HUNTER WATER CORPORATION

1.2 Reporting on Water interruptions:

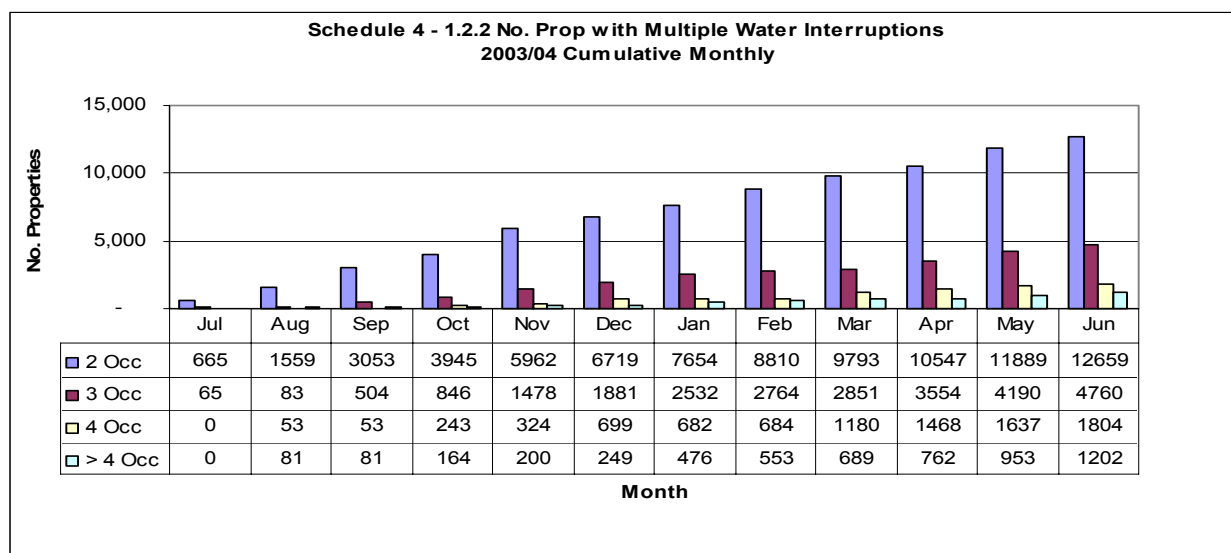
1.2.1 Hunter Water must report on the number of Properties affected by Planned water interruptions and Unplanned water interruptions where the duration of the Water interruption is:

- (a) less than 1 hour;
- (b) between 1 hour and 5 hours;
- (c) between 5 hours and 12 hours;
- (d) between 12 hours and 24 hours; and
- (e) more than 24 hours.

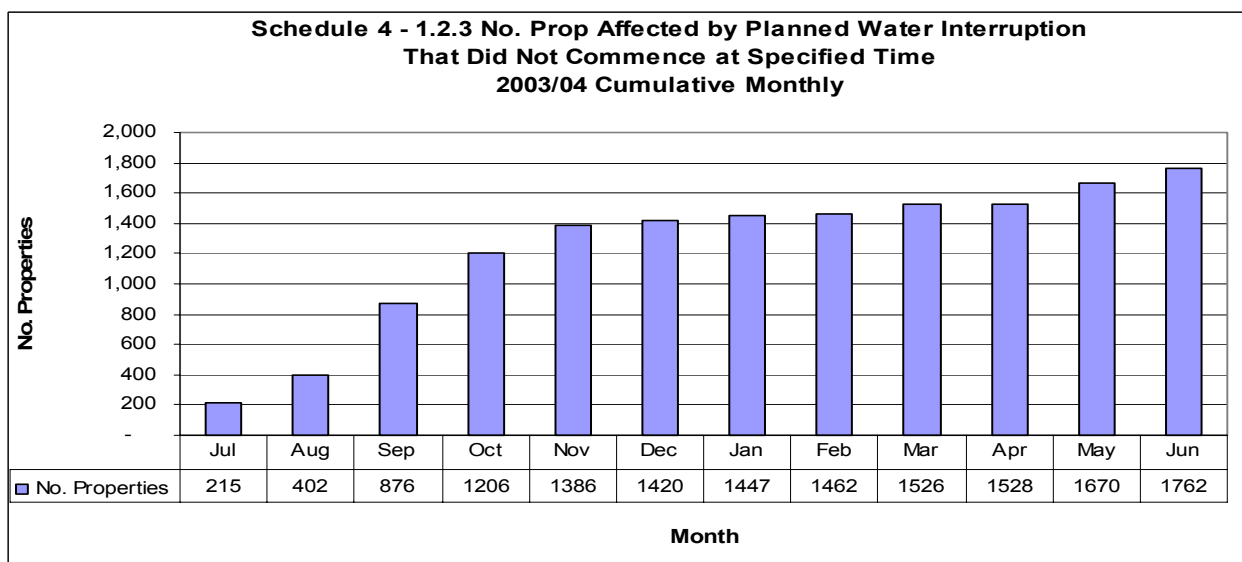


1.2.2 Hunter Water must report on the number of Properties affected by Water interruptions:

- (a) on two occasions;
- (b) on three occasions;
- (c) on four occasions; or more in a Reporting period.

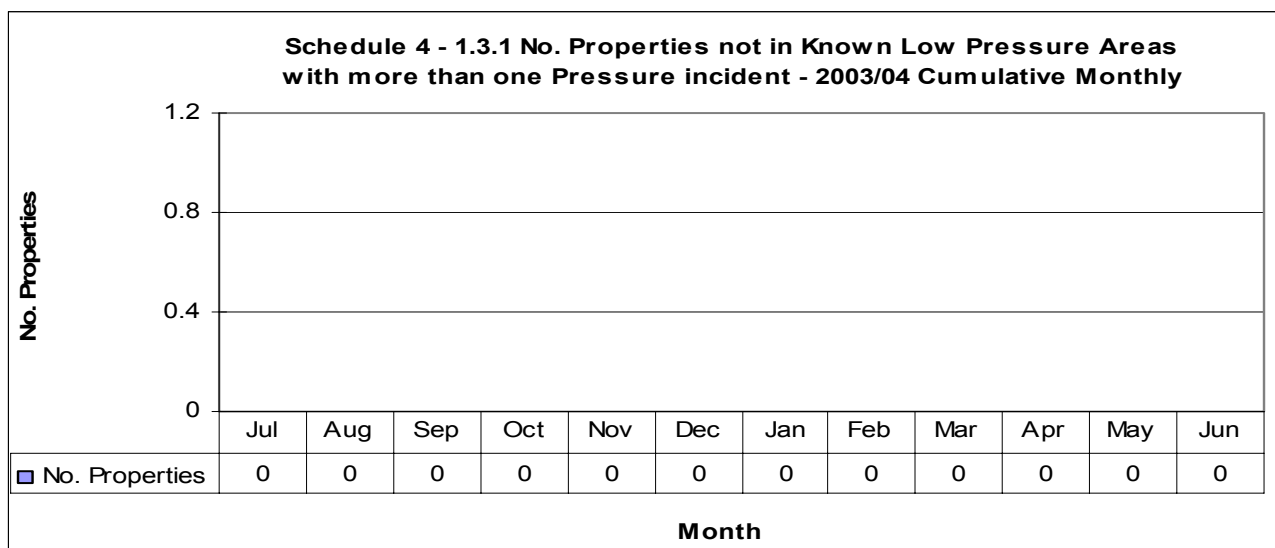


1.2.3 Hunter Water must report on the number of properties affected by a planned water interruption that did not commence at the time specified in the notice.



- | Job No | Date of Interruption | Location | Number of Properties | Duration (hr) |
|--|----------------------|----------------------------------|----------------------|-------------------|
| 122777 | 10-Jul-03 | Anderson Av, Paxton | 353 | 6.1 |
| <i>Planned shutdown of a 200mm main at Anderson Ave, Paxton for a new contract connection. This main is the major supply for the Paxton and Ellalong areas. The alternate 100mm supply was not adequate to maintain full supply to these areas.</i> | | | | |
| 129987 | 24-Sep-03 | Brighton St, Arcadia Vale | 401 | 5.4 |
| <i>Planned maintenance job to replace stop valve and re-washer hydrant at Brighton St, Arcadia Vale. The main isolated is the only supply to these areas which are at the end of the supply zone.</i> | | | | |
| 133633 | 10-Nov-03 | Grevillea Dr, Medowie | 263 | 5.1 |
| <i>Planned shutdown of a 200mm main at Grevillea Dr, Medowie for a new contract connection. The shutdown affected a large number of properties as these were at the end of the supply zone and there is no alternate supply.</i> | | | | |
| 135897 | 28-Nov-03 | Fennell Bay | 5886 | 5.5 to 7.0 |
| <i>Unplanned 500mm main failure at Fennell Bay. Various areas were affected for periods ranging from 5.5 hrs to 7.0 hrs depending on supply zones. A survey carried out indicated that vast majority of properties experienced no inconvenience as the supply interruption occurred between 11pm and 5 am.</i> | | | | |
| 145220 | 07-Mar-04 | Sixth St, Cardiff | 530 | 5.3 |
| <i>Unplanned 200mm main failure at John St, Cardiff. This main is the major feed into the Cardiff South area at the end of the South Wallsend Reservoir system. Alternate mains could not maintain supply.</i> | | | | |
| 147153 | 13-Apr-04 | Excelsior Rd, Toronto | 331 | 5.6 |
| <i>Unplanned 250mm main failure at Excelsior Pd, Toronto. This main is the major feed into the area and a large number of properties were affected prior to and during the shutdown.</i> | | | | |

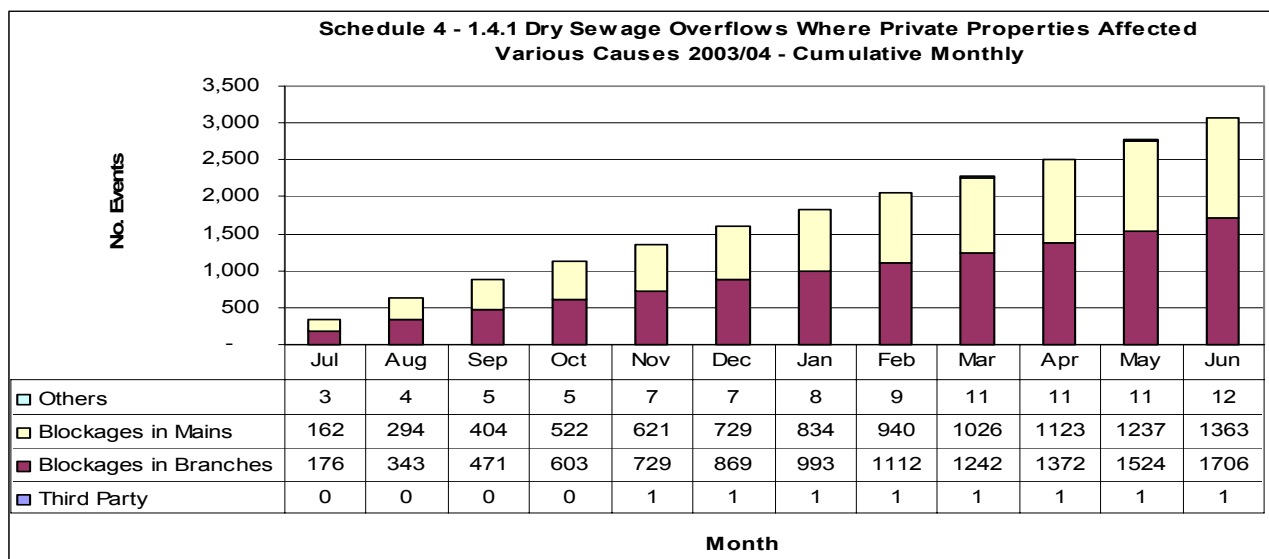
1.3.1 Hunter Water must report on the number of Properties, not in a low pressure area, that experienced more than one Pressure incident in a financial year.



1.4 Reporting on Sewage Overflows

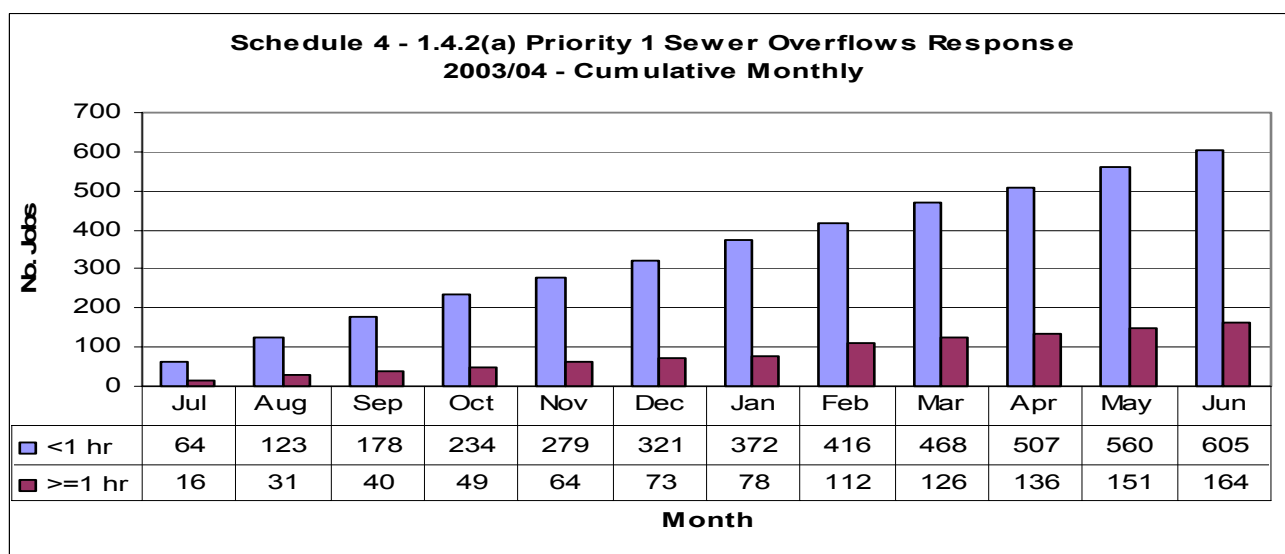
1.4.1 Hunter Water must report on the number of Uncontrolled sewage overflows (other than on Public land) in dry weather caused or resulting from:

- (a) a blockage in the main pipe in the Sewerage system;
- (b) a blockage in a branch pipe in the Sewerage system;
- (c) third party damage; or
- (d) an event other than one described in (a), (b) or (c).

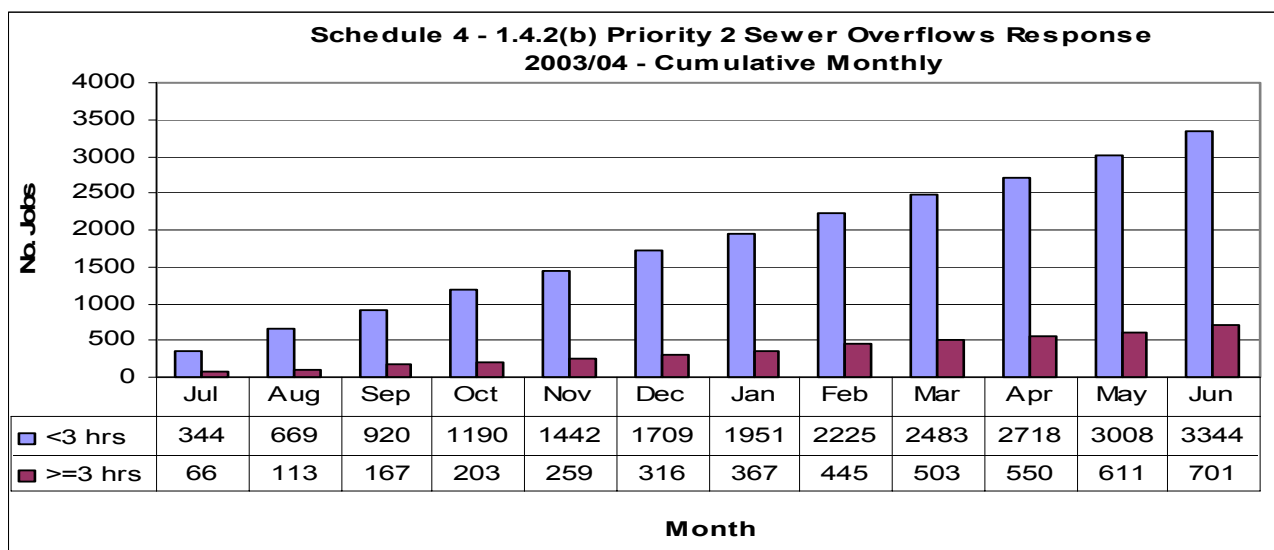


1.4.2 Hunter Water must report on:

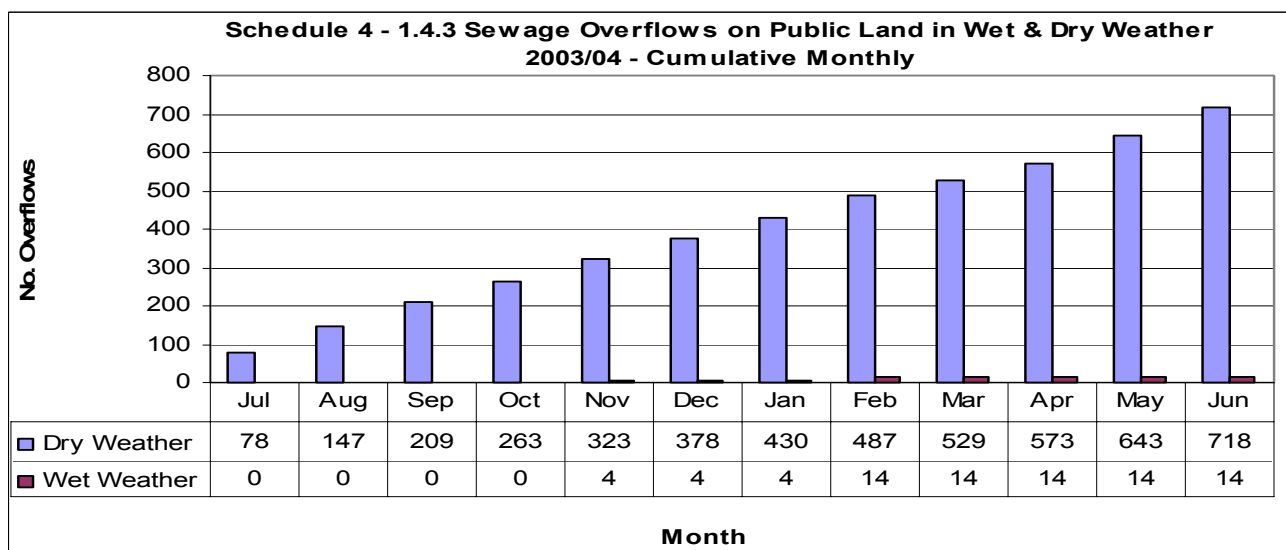
- (a) the number of Priority 1 sewage overflows to which it responded in less than one hour and those to which it responded in more than one hour.



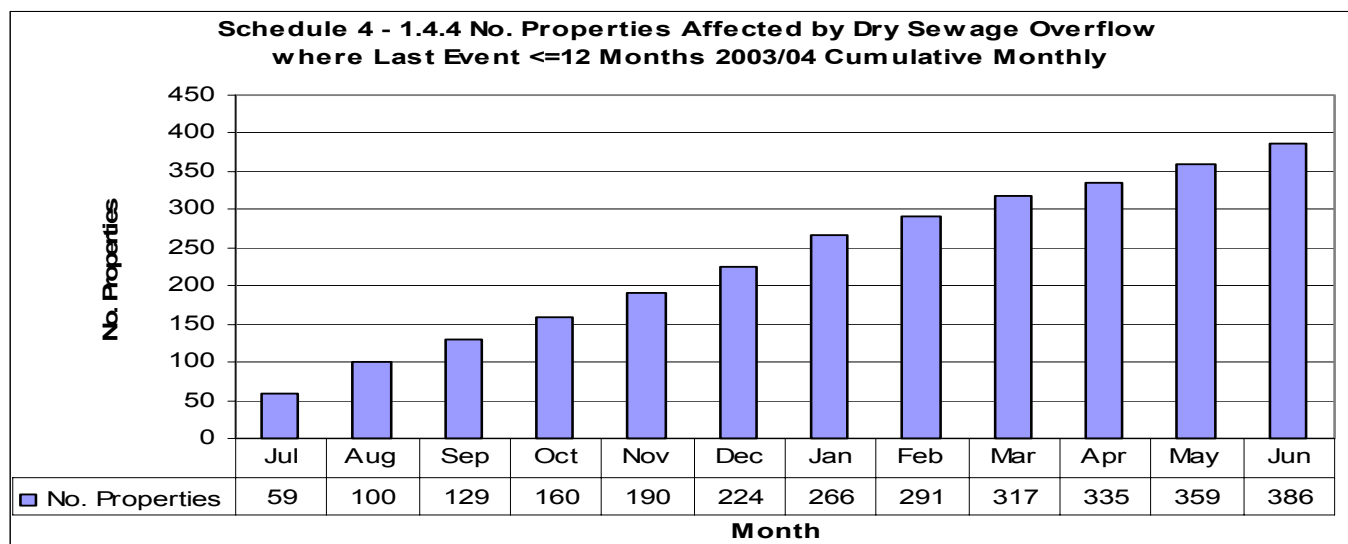
(b) the number of Priority 2 sewage overflows to which it responded in less than 3 hours and those to which it responded in more than three hours.



1.4.3 Hunter Water must report on the number of Uncontrolled sewage overflows on Public land that occurred in dry weather and in wet weather.



- 1.4.4 Hunter Water must report on the number of Properties affected by an Uncontrolled sewage overflow in dry weather where the period since the last Uncontrolled sewage overflow in dry weather on that Property is less than 12 months.



- 1.4.5 Hunter Water must report on the number of Public land locations affected by more than one Sewage overflow (whether occurring in wet or dry weather) where the period since the last Sewage overflow at that location (or in the vicinity of that location) is less than 12 months.

