



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

HUNTER WATER CORPORATION OPERATIONAL AUDIT 2005/2006



March 2007



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Abbreviations

Acronym	Description
ADWG (1996)	Australian Drinking Water Guidelines (1996), National Health and Medical Research Council and Agriculture and Resource Management Council
ADWG (2004)	Australian Drinking Water Guidelines (2004), National Health and Medical Research Council and Agriculture and Resource Management Council
Act	<i>Hunter Water Act, 1991.</i>
AOMS	Assets and Operations Maintenance System
AS	Australian Standard
CCTV	Closed Circuit Television
CIS	Customer Information System
CMS	Complaints Management System
DA	Development Application
DBT	Di Butyl Tin
DEC	Department of Environment and Conservation
DEUS	Department of Energy, Utilities and Sustainability
DLWC	Former Department of Land and Water Conservation (NSW) – now DNR
DIPNR	Former Department of Infrastructure, Planning and Natural Resources (NSW)
DNR	Department of Natural Resources
<i>E.Coli</i>	<i>Escherichia coli</i>
EMP	Environmental Management Plan
EPA	Environment Protection Authority (NSW) – Now part of the DEC
ESD	Ecologically Sustainable Development
EWON	Energy and Water Ombudsman NSW
GEMP	Government Energy Management Plan
GHD	GHD Pty Ltd
GIS	Geographical Information Systems
Hunter Water	Hunter Water Corporation
HWC	Hunter Water Corporation
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISO	International Standards Organisation
IT	Information Technology
IWRP	Integrated Water Resources Plan
kL	Kilolitre



Acronym	Description
km	Kilometre
ML	Megalitre (1 million litres)
MOU	Memorandum of Understanding
MNF	Minimum Night Flows
M&R	Monitoring and Reporting
NATA	National Analytical Testing Authority
NSW Health	NSW Department of Health
PAC	Powdered Activated Carbon
pH	A measure of the acidity of a solution in terms of activity of hydrogen
QA	Quality Assurance
RAAF	Royal Australian Air Force
SCADA	Supervisory Control and Data Acquisition
SEDA	Sustainable Energy Development Authority
SLC	Strategic Liaison Committee
TBT	Tri Butyl Tin
WML	Water Management Licence
WRAPP	Waste Reduction and Purchasing Policy
WSAA	Water Services Association of Australia
WTP	Water Treatment Plant



Glossary/Definitions

GENERAL TERMS AND DEFINITIONS

Term	Meaning
Act	<i>Hunter Water Act, 1991.</i>
Area of Operations	As specified in section 16 of the Act and described in Schedule 1 of the Operating Licence.
Audit period	1 July 2005 to 30 June 2006.
Auditor	GHD Pty Ltd
Commencement Date of Operating Licence	1 July 2002
End of Term Review	A review of the Operating Licence to be commenced on or about 1 January 2006.
Function	Means a power, authority or duty.
Minister	The Minister responsible for administering the provisions of the <i>Hunter Water Act, 1991</i> .
Operating Licence	The Licence between 1 July 2002 and 31 June 2007.
Water Management Licence	A Water Management Licence granted under the <i>Water Act, 1912</i> and issued by DLWC in 1998 for 20 years and amended on 25 June 2004.

COMPLIANCE TABLE ASSESSMENT

Term	Meaning
Grading of compliance	The following ratings are used to grade achievement of compliance with a Licence condition.
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.
Moderate compliance	The major requirements of the condition have been met. (<i>Formerly referred to as "Partial" compliance</i>)
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	The requirement to comply with this condition does not occur within the audit period or there is no requirement for Hunter Water to meet, such as a definition or a requirement placed upon another agency.



Preface

GHD Pty Ltd, was commissioned by the Independent Pricing and Regulatory Tribunal (IPART) to undertake the 2005/06 Operational Audit of the Hunter Water Corporation (Hunter Water). The 2005/06 Operational Audit (and the extent of this report) covers the period 1 July 2005 to 30 June 2006.

Hunter Water is a State Owned Corporation, which is wholly owned by the NSW Government. The roles and responsibilities of Hunter Water derive from the *Hunter Water Act, 1991* (the Act) and the Operating Licence issued pursuant to Section 12. The Operating Licence enables Hunter Water to provide water and wastewater services to almost half-a-million people residing in the Newcastle, Lake Macquarie, Maitland, Cessnock and Port Stephens areas.

The scope of the audit is defined in Part 11 of the Operating Licence. The scope includes assessment of compliance against the Ministerial requirements as presented by the Minister responsible for administering the provisions of the *Hunter Water Act, 1991*, following the 2004/05 Operational Audit.

The findings of the report are presented in a format consistent with the Operating Licence structure and not in a '*prioritised order*' or '*order of significance*'. The report also identifies factors that have affected compliance and presents recommendations to improve compliance in subsequent years.

The audit methodology involved the preparation of an audit plan, inception meetings, application of audit tests, review and reporting. The audit tests directly relate to the respective clauses of the Operating Licence conditions, assembling evidence through document review, interviews and analysis to determine compliance.



Executive Summary

The Hunter Water Corporation (Hunter Water) has managed its resources to predominantly achieved Full compliance with the Operating Licence on 2005/06. A number of “*develop plans*” type requirements had been met in earlier years and were ‘No requirements’ over 2005/06.

Some lower levels of compliance were assessed although these related to the availability of some System Performance Indicator reports.

Figure 0-1 provides an overview of Hunter Water’s level of compliance.

Figure 0-1 Overview of Compliance for 2005/06 Audit period



NOTE: Figure is indicative only.



Compliance with each Part of the Operating Licence for the 2005/06 Audit period is summarised below.

Licence Part 3 – Hunter Water’s Responsibilities

Hunter Water is required to maintain a MOU with NSW Health for the purpose of forming a “*cooperative relationship*”. Whilst there was evidence of a good working relationship with NSW Health, the MOU was not actively maintained and a **Moderate implementation** of the requirements was assessed. Two other MOUs with the EPA (now within DEC) and the former DIPNR (now DNR) have expired.

Licence Part 5 - Customer and Consumer Rights

Full compliance was assessed with the requirements, including a Ministerial requirement, related to debt and disconnection for non-payment, availability of the Customer Contract, complaint handling and resolution, dissemination of the Code of Practice and the operation of the Consultative Forum.

A number of requirements relating to Customer and Consumer Rights had **No requirement** during 2005/6, having been completed prior to the audit period.

Licence Part 6 - Water Quality

Hunter Water continued to supply excellent quality drinking water to its customers, which is reflected in the **Full compliance** with meeting all water quality standards. Hunter Water also achieved **Full compliance** with all requirements for monitoring and reporting drinking water quality.

High compliance was achieved for the requirements relating to the Incident Management Plan.

Full compliance with the requirements for supplying other grades of water and for quality requirements of other discharges was achieved.

Licence Part 7 - System Performance

Full compliance was assessed for Hunter Water meeting its System Performance Standards in relation to Water Continuity, Water Pressure and Sewage Overflows.

Although Hunter Water received **Full compliance** for maintaining records and preparing reports on its performance against these Standards, it received a **Low compliance** rating for making the reports freely available to the public as well as a **Low compliance** for reporting against the System Performance Indicators.

Licence Part 8 - Water Demand and Supply

Hunter Water achieved **Full compliance** with the requirements relating to the maintenance of an Integrated Water Resources Plan and for reporting performance against the Plan.

Full compliance was achieved with requirements for meeting and reporting on the Water Conservation Target.

Full compliance was also achieved with requirements in relation to Losses from the Water System, Recycled Water and Demand Management, except that a **High compliance** was achieved for requirements relating to reporting on quantity of water supplied from storages and to customers.



Hunter Water achieved **Full compliance** with requirements for annual reporting against the water demand and supply indicators.

Many of the “develop a plan” type requirements in this Part had been met in earlier audit periods and thus were a ‘**No requirement**’ over 2005/06.

Licence Part 9 - Environment – Indicators and Plans

Hunter Water achieved **Full compliance** for making the Environmental Management Plan available to the public. All other requirements had been met in previous audit periods.

Full compliance was achieved for monitoring and compiling data on the Environmental and ESD Indicators and for reporting its performance against the Indicators.

Hunter Water was awarded **Full compliance** with the requirements for Energy Management.

Licence Part 10 - Catchment Management

Hunter Water achieved **Full compliance** for reporting against all its Catchment Management requirements over 2005/06 including bulk water quality parameters, the Water Management Licence, Dams Safety Act, water quality trends in the Williams River and other plans.

Licence Part 12 - Complaint and Dispute Handling

The Operating Licence sets out, “**What the audit is to report on**” (Section 11.2) which includes the ‘effectiveness’ of Hunter Water’s internal complaint handling process, external dispute resolution scheme and complaints to other bodies. **High compliance** was assigned for the requirements in relation to the Customer Contract, procedure for debt and disconnection and reporting on internal complaints handling.

Ministerial Requirements

Following the findings and recommendations of the 2004/05 Operational Audit, three Ministerial Requirements were issued to Hunter Water.

- MR5.1 Customer and Consumer Rights

“Hunter Water is to continue to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment”.

Hunter Water achieved **Full compliance** for this requirement.

- MR7.5 Future Trunk Line Failures –

“Further progress the installation of additional pressure/flow monitoring devices linked to its new telemetry/SCADA system to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service (MR7.5);

Hunter Water achieved **Full compliance** for this requirement.

- MR 7.6 Work Crew Awareness -

“Increase the awareness of its work crews to the importance of endeavouring to reconnect customers within five hours of a discontinuity event”.



Hunter Water achieved **Full compliance** for this requirement.

A tabular comparison of the compliance levels attained by Hunter Water in the 2005/06 Audit period and over the three previous audit periods is presented in Appendix A.



‘The Big Picture’

The 2005/06 Operational Audit of Hunter Water Corporation has identified performance against the following key issues as ‘The Big Picture’ items for noting or action.

In brief

- » A primary function of Hunter Water is the provision of water to almost half-a million residents of the Hunter Region. In 2005/06, the supply of drinking water was of excellent quality. An occurrence of Geosmin in Chichester Dam in May and June 2006 impacted taste and odour. Hunter Water responded with temporary additional treatment (using Powdered Activated Carbon) and consumer complaints dropped to a very low level. Permanent additional treatment is now under construction.
- » In adopting a “*continuous improvement*” approach, further opportunities are available for Hunter Water in reporting of Annual Water Quality and incident management planning.
- » Hunter Water continued to, generally, meet the System Performance Standard requirements including, for example, water continuity and water pressure. However, it is facing the challenge of population growth, with 8,000 new properties connected to its water supply system over the last five years. The linear nature of urban development in the Hunter Region has translated to long lengths of single line trunk mains. These factors have combined to push Hunter Water towards the upper limit of its drinking water continuity standards (no more than 14,000 properties experiencing water interruptions exceeding 5 hours), particularly increases in unplanned interruptions exceeding 5 hours duration. Hunter Water has responded by decreasing its “planned water interruptions” of over 5 hours. This ‘balancing’ is not a long-term solution and thus the recommendations to improve and secure water continuity, in the mid and long terms, have been made.
- » Opportunities are also available to Hunter Water to improve public accessibility to its System Performance information and reporting
- » Many of the requirements on Hunter Water for an Integrated Water Resources Plan were completed in earlier audit periods. Hunter Water has met its water conservation target and satisfied the requirements for reporting on water supply, losses, recycling and demand management.
- » Over the years, Hunter Water has initiated a number of positive water conservation programs, although some appear to have reached a plateau in terms of effectiveness. For example, water reuse (at 7% in 2005/06) is low compared to the target (13% in 2007), verification of savings from water main replacement is needed and there is a low translation of the water audit’s ‘potential’ savings to real water saving. The Hunter Region being in a preferred water supply situation, relative to Sydney and the Central Coast Regions may, in part, explain this trend. Water restrictions were not required in the Hunter Region over the audit period, whereas mandatory water restrictions were in place in Sydney and the Central Coast. A series of recommendations have been made to give the water conservation programs a boost to achieve improved water saving and use.
- » Being in the fourth year of the current Operational Licence, many of Hunter Water’s obligations under Customer and Consumer Rights were completed in earlier years. For those obligations falling due this year, Hunter Water was found to have fulfilled these to a high level of performance.
- » Similarly, requirements for developing Environmental Management and Strategic Business Plans were met in earlier years and Hunter Water’s obligation in 2005/06 were to ‘report’ on its



Environmental and ESD indicators and Energy Management which it did.

- » Hunter Water has requirements to prepare a report on its activities to catchment management and to make this report freely available. A major focus of the NSW Government has been the coordinated management of NSW's catchments through Catchment Management Authorities (CMA). The CMAs, including the Hunter CMA, have developed integrated natural resource strategies and action plans to pursue improved catchments management. The opportunity is available to Hunter Water to target and reflect these broader integrated strategies and action plans, and also report on how its own actions are contributing to the broader 'outcomes' contained in the Hunter CMA's strategies and action plans.
- » Hunter Water has invested in effective complaint handling systems and training.
- » The use of Memoranda of Understanding to drive a *cooperative relationship* with regulatory agencies is not proving to be effective. The MOU with Health has provided a good basis for an effective working relationship although opportunities to identify and work collectively on emerging strategic issues remain available. MOUs with DEC and DNR have expired and the parties believe that these are not necessary. The value or otherwise of retaining such a provision in the new Operating Licence should be considered.

Summary of Key Recommendations

The *key recommendations* of the 2005/06 Operational Audit are presented below and grouped by the audited parts of the Operating Licence.

Additionally, *secondary recommendations* are presented in the body of this report. Hunter Water is encouraged to give due consideration to those recommendations and facilitate improved performance and compliance for subsequent audit periods.

Licence Part 3 – Hunter Water's Responsibilities

It is recommended that Hunter Water:

- R3.1 Maintain and implement the MOU with the Department of Health so that it reflects the current working relationship between the two parties and provides improved strategic direction.

Licence Part 5 - Customer and Consumer Rights

It is recommended that Hunter Water:

- R5.1 Update the Code of Practice for Debt and Disconnection to reflect the new CIS system, new procedures and new management structures as it relates to customers.

Licence Part 6 - Water Quality

It is recommended that Hunter Water:



- R6.1 Develop a Quality Assurance (QA) section for the Water Quality Monitoring Plan, which should also include provisions for the reporting of QA performance; and
- R6.2 Adopt a more formal process for the submittal of Water Quality Plans and Reports to NSW Health, as required by the Operating Licence, for its approval and/or agreement.

Licence Part 7- System Performance

It is recommended that Hunter Water:

- R7.1 Report to IPART on, and implement options to, reduce unplanned outage durations including the setting of separate planned and unplanned outages (within combined total of 14,000) targets and report annually against those targets to improve clarity of performance and asset management;
- R7.2 Report to IPART on Hunter Water's asset management options and strategies (including risk and cost benefit analysis) for improving security of supply to its customers in the medium to long term. This report should provide meaningful detail on the 'trunk main' issue;
- R7.3 Ensure that there is improved accessibility to required system performance information on its website; and
- R7.4 Train customer service staff to improve awareness of the availability of system performance information;

Licence Part 8 - Water Demand and Supply

It is recommended that Hunter Water:

- R 8.1 Develop a summary table for each of its water saving initiatives identifying annual budget, actual expenditure to the end of each year, target water savings for the year, actual savings achieved for the year and key reasons for its performance;
- R 8.2 Review the methodology for defining actual water savings from its Water Service Replacement program;
- R 8.3 Review the process of estimating water losses due to leaks, to determine if greater accuracy can be achieved or, alternatively, ensure more leaks are actually measured on site before repairs are completed.

Licence Part 9 - Environment – Indicators and Plans

There are no recommendations in relation to Part 9 of the Operating Licence.

Licence Part 10 - Catchment Management

There are no recommendations in relation to Part 10 of the Operating Licence.



Licence Part 12 - Complaint and Dispute Handling

There are no recommendations in relation to Part 12 of the Operating Licence.

Ministerial Requirements

There are no recommendations in relation to the Ministerial Requirements of the Operating Licence.



1. Introduction and Objectives

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 Finance. A Board of Directors governs the Corporation.

Hunter Water is regulated by several State Government Agencies 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 establishes Hunter Water's prices for providing services;
- » The Department of Planning and Natural Resources (DNR), which administers Hunter Water's Water Management Licence granted under the *Water Act 1912*;
- » The Department of Environment and Conservation (DEC), which licences Hunter Water's wastewater systems under the *Protection of the Environment Operations Act 1997*; and
- » NSW Health, with which Hunter Water has entered into a Memorandum of Understanding to facilitate effective interaction.

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. Bulk Water is also supplied to Dungog, small parts of the Singleton and the Great Lakes areas as well as to the Central Coast. An outline of Hunter Water's water supply network, including the area of operations for which Hunter Water is responsible, is shown in Figure 1-1.

Figure 1-1 Hunter Water's Area of Operation





The services provided by Hunter Water are delivered under the Operating Licence. 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 performance against its Environmental Management Plan (EMP) and the Integrated Water Resources Plan (IWRP). Wastewater treatment performance is specified under Environmental Protection Licences issued and managed by DEC.

1.2 Independent Pricing and Regulatory Tribunal

The Independent Pricing and Regulatory Tribunal (IPART) was established in 1992 to regulate the pricing of monopoly services. On 1 November 2000 the NSW Government initiated the *Independent Pricing and Regulatory Tribunal and Other Legislation Amendment Act*, which, under Schedule 1, transferred Licence auditing and other regulatory responsibilities for the three metropolitan water authorities (Sydney Water, Hunter Water and the Sydney Catchment Authority) to IPART. Hunter Water was established by the *Hunter Water Act 1991*, which provides that the corporation is regulated by IPART.

1.3 The Auditor

IPART commissioned GHD Pty Ltd to conduct the Operational Audit of Hunter Water for the 2005/2006-audit period. This commission was in accordance with Part 11.1 of the Operating Licence.

1.4 Scope of Operational Audit

This is the fourth audit of Hunter Water against the requirements of the current Operating Licence. The audit covers the period from 1 July 2005 to 30 June 2006.

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 requirements of the Operating Licence;
- » Assessment and reporting on progress by Hunter Water in implementing the Ministerial Requirements issued subsequent to the previous Operational Audit;
- » Identification of any factors that affected Hunter Water's performance for the period from 1 July 2005 to 30 June 2006; and
- » Recommendations resulting from this audit regarding ways in which Hunter Water can improve its performance.



The detailed scope for the Operational Audit is described in Part 11 of the Operating Licence, which is provided in Appendix B and summarised in Table 1-1.

Table 1-1 Scope of the 2005/06 Audit

Part	Report on:	Report Section
11.2.1 (a)	Compliance with obligations under Part 5 – Customer and Consumer Rights	Section 5
(b)	Compliance with obligations under Part 6 – Water Quality	Section 6
(c)	Compliance with obligations under Part 7 – System Performance	Section 7
(d)	Compliance with obligations under Part 8 – Water Supply and Demand	Section 8
(e)	Performance under Part 9 – Environment – Indicators and Plans	Section 9
(f)	Compliance with obligations under Part 10 – Catchment Management	Section 10
(g)	Compliance with obligations under Part 12 – Complaint and Dispute Handling	Section 11
(h)	<i>On-going compliance by Hunter Water with its Customer Contract and specific areas of non-compliance;</i>	Section 5
(i)	<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;</i>	Section 5
(j)	<i>The effectiveness of Hunter Water's internal complaint handling process under clause 12.1 and external dispute resolution under clause 12.2;</i>	Section 12
(k)	<i>Complaints made against Hunter Water to a court or tribunal under clause 12.3; and</i>	Section 12
(l)	<i>Any other matter required by this licence or the Act to be assessed or considered as part of the Annual Audit.</i>	Section 5 Section 7
11.2.2 (a)	Implementation of any Memorandum of Understanding	Section 4

The full audit brief is contained in Appendix B. The Operating Licence and the Ministerial Requirements are provided in Appendix C and E, respectively.

This audit covers the period 1 July 2005 to 30 June 2006.



1.5 Structure of the Audit Report

This 2005/06 Operational Audit report has been presented in plain English and in a format that provides information directed at different levels of readership and to allow an understanding of Hunter Water's operations and its compliance with specific statutory requirements.

The audit report has been specifically prepared to meet the audit brief and Part 11 of the Operating Licence. The findings of the report are not presented in a '*prioritised order*' or '*order of significance*'. Rather, the report is designed to follow the structure of the Operating Licence. The report is structured into compliance sections that correspond to the key areas (Parts) of the Operating Licence (see Table 1-1). Each compliance section of the report provides the following:

- » A *compliance summary* addressing the principal compliances and any non-compliances;
- » A *requirements summary* placing in context and summarising the requirements of the Operating Licence against which the performance of Hunter Water is assessed;
- » *Substantive evidence and findings* that support the assessments of compliance and are presented in compliance tables breaking each auditable requirement into sub-clauses, including:
 - A statement describing the *level of compliance* with the Licence condition; and
 - A detailed appraisal of the *findings* of the audit based on the evidence provided.

This is followed by:

- » A discussion or expansion of compliance comments for each key area where required;
- » Factors affecting compliance for each key area where applicable; and
- » Recommendations for each key area.



2. Audit Methodology

2.1 Standards

To meet the specific requirements of IPART, the Operational Audit was undertaken adopting a methodology consistent with ISO14011 "*Guidelines for Environmental Auditing*". This guideline provides a *systematic approach* to defining the requirements of the audit, planning, interpreting 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 used in the preparation of this audit is described below.

Draft Audit Plan

To ensure that the audit requirements outlined in the Operating Licence and the brief were addressed, the scope of the audit was confirmed with IPART and a draft audit plan prepared.

Inception Meetings

Following the preparation of the draft audit plan, an inception meeting was held with Hunter Water's Managing Director and other representatives on 9 October 2006. IPART representatives also attended the meetings.

The primary objective of this meeting was to develop working relationships, mutual understandings and expectations relating to the requirements and process of the audit, to discuss and agree upon the changes to the audit methodology and to provide an opportunity for Hunter Water to present an overview of compliance and progress since the previous audit period.

Audit Questionnaires

Specific audit questionnaires were developed for all requirements within the scope of the audit. These questionnaires were designed to establish *substantive compliance* with the Licence requirements as well as to *identify factors that have, or may have, an impact on performance*.

The audit questionnaires also assessed the underlying procedures that Hunter Water has in place relevant to the requirements and the application of these procedures by Hunter Water. This was designed to verify that the underlying management processes within the organisation are sound and that there is confidence that work is carried out systematically and in accordance with internal procedures.

Audit questionnaires were, in most cases, provided to Hunter Water one week prior to the audit interviews to allow Hunter Water the opportunity to prepare for the interview and collate the necessary documentary evidence.



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 protocols were designed to ensure efficient and transparent information transfer and foster an open and professional working relationship between all parties.

Both Hunter Water and the Auditor generally adhered to the agreed protocols.

2.4 Audit Interviews

The specialist auditors conducted interviews during October and November 2006. The interviews were generally guided, but not limited, by the pre-prepared questionnaires and Hunter Water was provided the opportunity to present evidence towards demonstrating compliance with the Licence requirements.

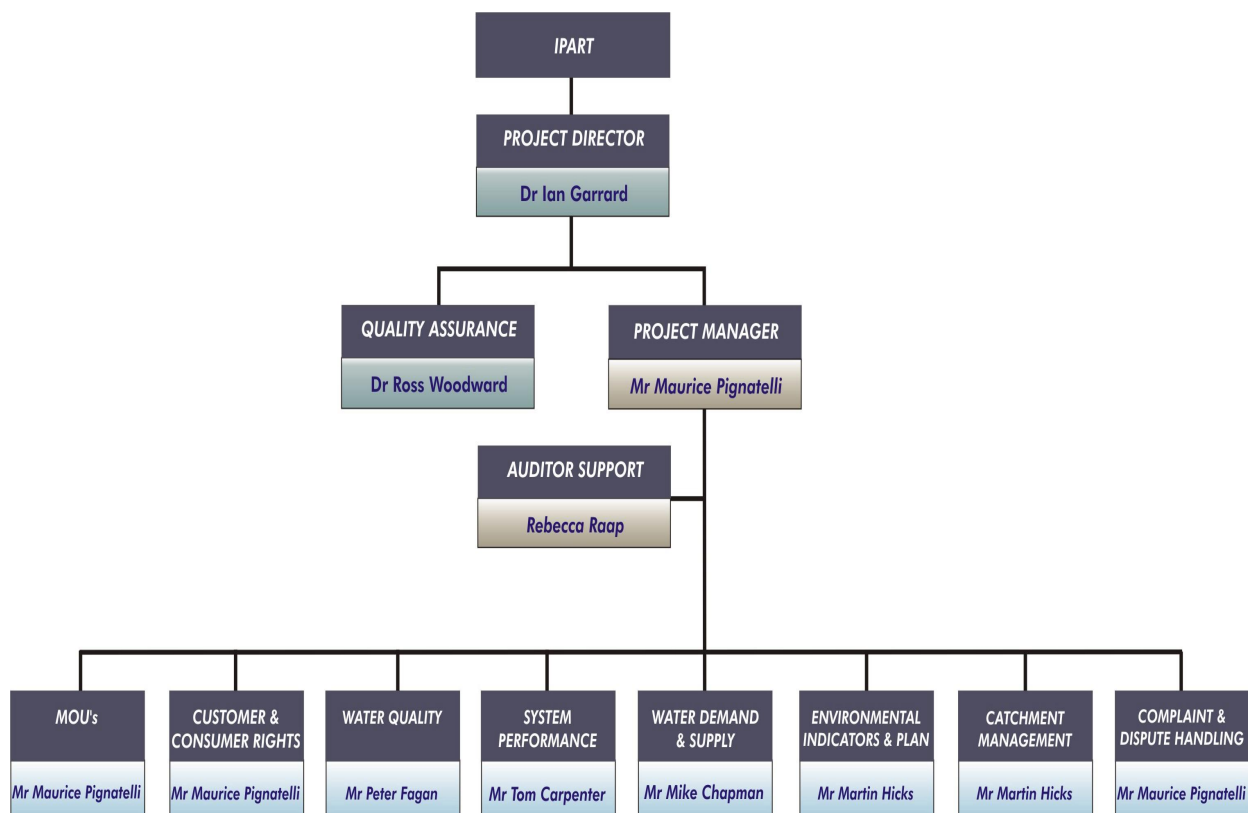
Follow-up interviews relating to the Customer Contract and Code of Practice were conducted on Friday 2nd March 2007.

2.5 Audit Team

The audit team consisted of specialist auditors from GHD. The audit was coordinated by the Project Manager calling on the expertise of the team members for the auditing of key areas as shown below in Figure 2-1.



Figure 2-1 Structure and Responsibility of the Audit Team





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 provisions of the *Hunter Water Act 1991* establish the roles and responsibilities of Hunter Water. The Act establishes a set of sub-ordinate instruments – the Operating Licence and Memoranda of Understanding (MOUs). Such instruments impose requirements upon Hunter Water, which are measurable and can therefore be audited. The current Operating Licence came into effect on 1 July 2002 and will remain current until 30 June 2007.

This is the fourth audit conducted under the current Operating Licence.

3.2 Hunter Water Act, 1991

Under Section 13 of the *Hunter Water 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 set out in the Operating Licence.

3.3 Operating Licence

Hunter Water is required to conduct its activities in accordance with the provisions of 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 Hunter Water to provide the services within its area of operation, including:

- » 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; 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 customer and the minimum standards of customer service that Hunter Water is to provide, payment arrangements, procedures for restrictions and disconnections, redress and responsibilities for maintenance. The Customer Contract came into effect on 1 September 2003 replacing a previous contract.



3.5 Memoranda of Understanding

The Hunter Water Operating Licence requires Hunter Water to maintain a MOU with NSW Health for the term of the Licence. The Licence recognises the need to maintain the MOU with NSW Health.

At the commencement of the Licence, Hunter Water had also entered into MOUs with both the Environment Protection Authority (EPA), and the Department of Land and Water Conservation (DLWC). Both of these MOUs lapsed prior to the commencement of this audit period.

The Licence states that the purpose of the Memoranda is to form the basis for 'cooperative relationships' between the parties and, in the case of NSW Health, recognise its role in providing advice in relation to drinking water quality standards and the supply of water, which is safe to drink.

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 now administered by DNR. 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 Ecological Sustainable Development (ESD) and the prevention of contamination or degradation of the resources. Hunter Water is also required to provide data, reports and information to DIPNR including an *Annual Demand Management Strategy* that analyses consumption trends and unaccounted for water.

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. Hunter Water was issued with an amended Licence that took force from 25 June 2004.

3.7 Other Acts

Hunter Water is obliged to comply with the provisions of all other NSW Acts. The Acts that are most relevant to this audit include:

- » *Hunter water Act 1991;*
- » *Protection of the Environment Operations Act, 1997;*
- » *Public Health Act, 1991;*
- » *Water Act, 1912;*
- » *Water Management Act 2000;*
- » *Independent Pricing and Regulatory Tribunal Act, 1992;*
- » *State Owned Corporations Act;*
- » *Water Legislation Amendment (Drinking Water and Corporate Structure) Act 1998;*
- » *Environmental Planning and Assessment Act, 1979; and*



» *Dams Safety Act 1978.*

3.8 Ministerial Requirements

Hunter Water's compliance with the Ministerial Requirements, resulting from the recommendations of the 2004/05 audit, has been addressed in the corresponding section of the report related to that particular issue, namely Sections 5 & 7.

4. Hunter Water's Responsibilities

4.1 Summary of Findings

On aggregate the implementation of Hunter Water's requirements, which primarily relates to the MOU with Health, referred to in Clause 3.3 is considered to be **Moderate**. Whilst Clause 3.3 also refers to MOUs with the EPA and DLWC, the Licence does not require Hunter Water to maintain these MOUs.

» MOU – Department of Health

Hunter Water has a current MOU with Department of Health and has established a '*cooperative relationship*' at an operational level. However, the MOU's role to "...*discuss broad principals, directions and policies...*" and to do so "...*considering long term strategic issues...*" and to "...*annually review progress*" is, generally, not being actively implemented through the MOU. There was evidence of the exchange of water quality management, monitoring and improvement plans between the NSW Health and Hunter Water.

» MOU – Environmental Protection Authority (EPA)

Hunter Water's MOU with the Environmental Protection Authority (now part of the Department of Environment and Conservation (DEC)) has expired. Hunter Water has sought to renew the MOU, however it was agreed between the agencies that an MOU was not necessary. There is evidence of '*operational*' correspondence but limited evidence of a strategic relationship between the DEC and Hunter Water.

» MOU – Department of Land and Water Conservation (DLWC)

Hunter Water's MOU with the Department of Land and Water Conservation (now the Department of Natural Resources, DNR) has expired. Hunter Water has sought to renew the MOU, however it was agreed between the agencies that an MOU was not necessary. There is evidence of '*operational*' correspondence but limited evidence of a strategic relationship between the DNR and Hunter Water.

4.2 Summary of Requirements

The Hunter Water Operating Licence requires Hunter Water to maintain a MOU with NSW Health for the term of the Licence. The Licence (Clause 3.3.1) recognises the need to *maintain* the MOU with NSW Health. At the commencement of the Licence, Hunter Water had also entered into MOUs with both the Environment Protection Authority and the Department of Land and Water Conservation.

Clause 3.3.2 states that the purpose of the Memoranda is to form the basis for '*cooperative relationships*' between the parties and, in the case of NSW Health, recognise its role in providing advice on drinking water quality standards and the supply of water that is safe to drink.

Whilst the Operating Licence (Clause 11.2.1) requires the annual audit to report on Hunter Water's compliance with its obligations under the various Parts of the Licence, in the case of the MOUs, Clause 11.2.2 (a) indicates that the auditor may report on Hunter Water's '*implementation*' of any MOU noted in the Licence.

4.3 Details of Compliance

Table 4-1 Licence Part 3 – Hunter Water’s Responsibilities

Clause	Requirement	Implementation	Findings
11.2	What the Audit is the Report on		
11.2.2 (a)	IPART or any person preparing the Annual Audit must investigate and prepare a report on Hunter Water’s implementation of any Memorandum of Understanding referred to in Clause 3.3.	Moderate implementation	<p>Clause 3.3 of the Operating Licence refers to Memorandum of Understanding with three agencies.</p> <p>Hunter Water has a current MOU with NSW Health. The MOU is not actively maintained and its requirements are not specifically implemented, however there is evidence of a good working relationship between and the two parties.</p> <p>Hunter Water is not required to have MOU’s with EPA or DLWC, though it is equally not limited to the persons with whom it may have an MOU. The Operating Licence notes that at the commencement of the Operating Licence, Hunter Water had entered into MOUs with both EPA and DLWC.</p> <p>Hunter Water’s MOUs with the EPA and DLWC have subsequently expired. Hunter Water has sought the renewal of the MOUs, however it was agreed with both agencies that an MOU was not necessary. There was evidence of ongoing ‘<i>operational</i>’ correspondence between Hunter Water and both agencies. There was limited evidence of a strategic relationship between the agencies and Hunter Water.</p> <p>On aggregate the implementation of Hunter Water’s requirements, which primarily relates to the MOU with Health, referred to in Clause 3.3 is considered to be moderate.</p>



Clause	Requirement	Implementation	Findings
	» The former NSW Health (now the Department of Health);	Moderate implementation	<p>Under the Operating Licence, Hunter Water is required to maintain a MOU with NSW Health. The purpose of the MOU is to form the basis for <i>co-operative relationships</i> between the parties to the MOU. In particular, the MOU 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.</p> <p>Hunter Water has a Health MOU in place, which is dated 19 April 2002. The MOU has not been updated since it was entered into in 2002. The term of the MOU expires with the term of the current Operating Licence in 2007.</p> <p>Hunter Water was not able to demonstrate that it had specifically implemented all the requirements of the MOU, however it did demonstrate, and NSW Health confirmed, that a cooperative working relationship was established and maintained between the parties.</p> <p>Detail on the level of implementation of the MOU and the cooperative working relationship between the two parties is outlined in Section 4.4.</p>
	» The former EPA (now the Department of Environment and Conservation); and	Not implemented	<p>The Operating Licence acknowledged that at the commencement date of the Licence, Hunter Water had entered into MOUs with both EPA and DLWC. However, the Operating Licence simply <i>'acknowledges'</i> the MOUs and does not contain a requirement to maintain the MOUs. Hunter Water confirmed that the MOU has not been maintained and it expired on 30 June 2005. The MOU had not been implemented during 2005/06.</p> <p>Detail on the level cooperative working relationship between the two parties is outlined in Section 4.3.</p>
	» The former Department of Land and Water Conservation. (now the Department of Natural Resources)	Not implemented	<p>The Operating Licence acknowledged the presence of a MOU with DLWC (formerly DIPNR and now DNR) at the commencement date of the Licence, however, there was no requirement to maintain that MOU. Hunter Water confirmed that the MOU has not been maintained and it expired. The MOU had not been implemented during 2005/06.</p> <p>A letter from DIPNR (now DNR) dated 14 March 2005 confirmed that DIPNR no longer required a MOU with Hunter Water. The letter stated:</p> <p><i>'This mutual decision arose from the 5-year review of the Water Management Licence that found the MOU duplicated the water legislation and the Licence itself. Furthermore, both organisations acknowledged the regulatory relationship between the two organisations had matured since the MOU was developed, with SLC [Strategic Liaison Committee] proving to be an effective forum for managing strategic issues'.</i></p> <p>Detail on the level of and 'operational' relationship between the two parties is outlined in Section 4.3.</p>

4.4 Discussion

4.4.1 Department of Health

Hunter Water demonstrated a moderate level of implementation of the requirements of the MOU. However, Hunter Water did demonstrate that a cooperative working relationship was established and maintained between the parties.

In correspondence to the auditor (refer to Department of Health letters in Appendix G), the Department of Health confirmed that a cooperative working relationship was established between the parties. The Department of Health also indicated that there was a need to review a number of important aspects of the current MOU *“to ensure its applicability and practicality in the future”*.

The MOU specifies requirements related to liaison between the two parties, dispute resolution, amendment of the MOU and the roles and responsibilities of the two parties.

Hunter Water was not able to demonstrate that it had:

- » Maintained the MOU to ensure it was relevant to the current operating environment;
- » Reviewed progress, annually, on the implementation of the MOU; or
- » Defined or implemented processes for the interchange of strategic planning information.

Hunter Water was able to demonstrate that it:

- » Undertook Liaison Committee Meetings on a three monthly basis and informal meetings on a more regular basis. (Minutes for the Liaison Committee Meetings were available for 29 June 2005, 19 September 2005, 13 February 2006 and 15 May 2006);
- » Tabled the 5-year Water Quality Management Plan 2006-2010;
- » Tabled the Drinking Water Quality Monitoring Plan 2006/07;
- » Tabled the Drinking Water Quality Improvement Plan 2006/07; and
- » Has a protocol in place for water quality exceptions reporting.

A review of the minutes and the water quality plans indicated that key issues were raised related to algae blooms, monitoring against new water quality guidelines, PAC dosing trials, adoption of new microbiological testing indicators, exception reporting to the Department of Health and drought strategies.

Hunter Water advised that the relationship with Hunter New England Health is more at an *‘operational level’* than one where long-term strategic directions are set. The most strategic project, at the moment, between the agencies is for Hunter Water to implement the Drinking Water Framework.

Hunter Water also indicated that it has offered to provide advice to other water agencies on matters such as algal blooms and the management of water tanks. Correspondence supporting these initiatives was sighted.

4.4.2 Environmental Protection Authority (now part of the DEC)

Hunter Water advised that it maintains six-monthly liaison meetings with the DEC at the strategic policy level. Minutes were provided for the meeting dated 22 November 2005. The minutes confirmed that Hunter Water invited the DEC to enter into a new MOU or extend the life of the old MOU. Minutes of the subsequent meeting conducted on 18 September 2006 indicated that DEC declined the invitation to re-enter into a new MOU. The minutes also confirmed that other actions proposed in the 22 November 2005 minutes had been closed out.

Hunter Water also advised that it maintains ongoing contact with DEC at the operational level. This is particularly important due to the large growth in the capital works program proposed by Hunter Water.

Correspondence between Hunter Water and DEC was sighted to confirm liaison at the operational level.

4.4.3 Department of Land and Water Conservation (now DNR)

Correspondence between Hunter Water and DNR was sighted to confirm liaison at the operational level. Hunter Water produced:

- » The Annual Water Licence Report (December 2005), which outlined compliance with the Water Management Licence (WML) for the period 2004-05; and
- » Four non-compliance notifications (with the requirements of the WML) during the audit period.

Upon deciding not to proceed with a new MOU, Hunter Water and the DNR agreed that the Strategic Liaison Committee (SLC) would be the forum to discuss strategic issues. The SLC met twice during the audit period (1 December 2005 and 7 June 2006) and minutes indicated that the plans and studies discussed and tracked included:

- » Macro Water Plan;
- » Integrated Water Resource Plan and Recycling Strategy;
- » Surface Water Access Rules Study;
- » 'Chichester Dam Flow Release Impact Mitigation Study; and
- » 'Sustainable Groundwater Extractions Strategy' Study.

In correspondence to the auditor (refer to Department of Health letters in Appendix G), the DNR advised that it is of the opinion that the WML and SLC provide an adequate forum for maintaining discussion on strategic issues.

4.5 Factors Affecting Implementation

For an MOU to be effectively implemented, it is necessary for both parties to maintain and adhere to the principles and requirements within the MOU. In the case of the MOUs with both the DEC and DNR there was evidence that Hunter Water actively invited the agencies to enter into new MOUs, however there was agreement between the parties that an MOU was not necessary.

4.6 Recommendations

4.6.1 Key Recommendations

It is recommended that Hunter Water:

- R3.1 Maintain and implement the MOU with the Department of Health so that it reflects the current working relationship between the two parties and provides improved strategic direction.

4.6.2 Secondary Recommendations

It is recommended that Hunter Water:

- SR3.1 Evaluate the strategic benefits to Hunter Water of entering into MOUs with DEC and DNR and if deemed warranted, make representations to these agencies at the Executive level.

5. Customer and Consumer Rights

5.1 Summary of Findings

» Customer Contract

Consistent with previous audit periods, the majority of Customer Contract requirements under this Licence have been addressed. Hunter Water achieved **Full compliance** with the customer contract requirements over the audit period.

» Consumers

Hunter Water achieved **Full compliance** with its obligation under the Licence relating to Consumers. When complaints are entered into the computerised system, Hunter Water does not identify whether the complainant is a customer or consumer and thus fulfils its obligations under the Customer Contract (relating to complaint handling and complaint resolution debt and disconnection procedures), as if those obligations also extended to Consumers.

» Code of Practice on Debt and Disconnection

Consistent with previous audit periods, the majority of Debt and Disconnection requirements under this Licence have been addressed. Hunter Water achieved **Full compliance** with these requirements, which includes for example, the dissemination of information.

» Consultative Forum

A number of clauses relating to the establishment of the Consultative Forum were satisfied in previous years. Hunter Water achieved **Full compliance** with those requirements that relate to this audit period including: the provision of quality advice relevant to customers and consumers on the Customer Contract and planning and operational issues; dissemination information relating to the Consultative Forum Charter; and maintaining the nominated representative groups in the membership of the Forum.

» Ministerial Requirement

Hunter Water has continued to look at options to reduce the number of customers affected by disconnection and flow restrictions measures for non-payment. It introduced a new disconnection Policy in May 2006 and commenced to trial a further step in its credit management process, in September 2006. Hunter Water achieved **Full compliance** with this Ministerial requirement.

5.2 Summary of Requirements

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

- » **Clause 5.1 – Customer Contract:** This clause defines 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; and
- » **Clause 5.4 – Consultative Forum:** This clause covers the establishment of a Consultative Forum, its membership, charter, provision of information to the Forum, reports on the Forum, and evaluation of the Forum's effectiveness.

Clause 11.2.1(a) requires IPART, or the auditor, to investigate and report on Hunter Water's compliance under Part 5 of the Operating Licence. This Clause does not set requirements for Hunter Water but for IPART and/or the auditor. Section 5 of the audit report relates to Part 5 of the Licence, namely Customer and Consumer Rights, as outlined Table 5-1.

Further, Clause 11.2.1(h) requires IPART, or the auditor, to investigate and report on-going Hunter Water's compliance with its Customer Contract and specific areas of non-compliance. Clause 11.2.1(i) requires IPART, or the auditor, to investigate and report on-going Hunter Water's Compliance with its code of practice and procedures on debt and disconnection under Clause 5.3 and any similar initiatives developed by Hunter Water. This section of the audit report also addresses these clauses of the Operating Licence as outlined in Table 5-2.

5.3 Ministerial Requirements

In addition the Minister required:

Hunter Water is to continue to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment.

Compliance with the Minister's Requirement is outlined in Table 5-3.



5.4 Details of Compliance

Table 5-1 Licence Part 5 – Customer and Consumer Rights

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	Clause is descriptive only.
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	Clause is descriptive only.
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	A review of Hunter Water's website confirmed that the Customer Contract was posted for downloading, free of charge. The Customer Contract was available at the Hunter Water's Head office, free of charge.
5.1.4	The Customer Contract may only be varied in accordance with the Act.	No requirement	There has been no amendment to the Customer Contract during this audit period.
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	This requirement was prior to this audit period.
5.1.6	The review must have regard to the system performance standards in Part 7 of this Licence.	No requirement	This requirement was prior to this audit period.



Clause	Requirement	Compliance	Findings
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	This requirement was prior to this audit period.
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.	No requirement	This requirement was prior to this audit period.
5.1.9	<p>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:</p> <ul style="list-style-type: none"> (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. 	No requirement	This requirement was prior to this audit period. This requirement was complied with during the 2002/03 audit period.
5.1.10	<p>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:</p> <ul style="list-style-type: none"> (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 	Full compliance	<p>A review of Hunter Water's website confirmed that the pamphlet was posted for downloading, free of charge.</p> <p>The pamphlet was available at the Hunter Water Head office, free of charge.</p> <p>Hunter Water provided evidence that 220,000 pamphlets were printed and in quantities sufficient to meet the mail out and other requirements of this Clause. Mail out occurred in the March-June 06 billing cycle.</p> <p>Hunter Water advised that the Rental Bond Board forms part of the Office of Fair Trading in the Hunter. Pamphlets were provided to that office, for collection by interested persons.</p>



Clause	Requirement	Compliance	Findings
	(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.	No requirement	This is an enabling clause. It does not require Hunter Water to meet specific requirements if other contracts or arrangements are entered into.
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	<p>The Complaints Management System captures Hunter Water's complaints handling and complaints resolution procedures. The system's procedures do not discriminate between customers and consumers for non-bill related issues.</p> <p>When complaints are entered into the computerised system, Hunter Water does not identify whether the complainant is a customer or consumer. There is no provision in the computerised system to log whether the complainant is a customer or consumer.</p> <p>It is noted however that the requirements of this Clause are not explicitly stated in Hunter Water's Policies on Complaints handling and resolution.</p>
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	<p>Hunter Water advised that it does not enter into legal or billing relationships with consumers, although there are some exceptions with long-term leases such as Bowling Clubs.</p> <p>Hunter Water advised that '<i>consumers</i>' have had access to and been treated as '<i>customers</i>' through the debt and disconnection procedures (S5&6 of the Contract).</p> <p>Notwithstanding the above, consumers can be affected by water restrictions should the landowner miss payment of an account. In such an instance the procedures outlined in the Code of Practice for Debt and Disconnection Pamphlet are followed by Hunter Water.</p>
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").	No requirement	This requirement was addressed in a previous audit.



Clause	Requirement	Compliance	Findings
5.3.2	The Code must: <ul style="list-style-type: none"> (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. 	No requirement	This requirement was addressed in a previous audit.
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.	No requirement	This requirement was addressed in a previous audit.
5.3.4	Hunter Water must disseminate free of charge information on its Code: <ul style="list-style-type: none"> (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. 	Full compliance	<p>A review of Hunter Water's website confirmed that the pamphlet was posted for downloading, free of charge.</p> <p>The pamphlet was available at the Hunter Water's Head office, free of charge.</p> <p>Hunter Water provided evidence to demonstrate that 220,000 pamphlets were printed and in quantities sufficient to meet the mail out and other requirements of this clause. Mail out occurred in the March-June 06 billing cycle.</p> <p>Hunter Water advised that the Rental Bond Board forms part of the Office of Fair Trading in the Hunter. Pamphlets were provided to that office, for collection by interested persons.</p>
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	<p>The Consultative Forum was established during previous audit periods. Hunter Water provided minutes of meetings to confirm that it meets quarterly with the Forum.</p> <p>The meetings have structured agendas and the minutes are published in the <i>Open Board</i>. Hunter Water also proposed to include a summary of the minutes in <i>Customer News</i>, which will be distributed to all customers with their bill commencing in July-October 2006 mail-out.</p>
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	Full compliance	<p>Hunter has provided the opportunity for the Forum to contribute high quality advice on the interests of Customers and Consumers. Hunter Water has provided briefings, papers and updates on the following matters to the Forum:</p> <ul style="list-style-type: none"> » recycled water strategies (March 06);



Clause	Requirement	Compliance	Findings
	as Hunter Water may determine, consistent with the Consultative Forum Charter developed under clause 5.4.7.		<ul style="list-style-type: none"> » credit Management Framework (March 06); » Thornton North recycled water scheme (September 05); » Central Coast water link (September 05); » environmental education (June and September 05); and » remaking of Hunter Water's General Regulation (September 05).
5.4.3	A Consultative Forum under this Licence must be established within 6 months of the Commencement date.	No requirement	This clause has been satisfied in previous years.
5.4.4	<p>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.</p> <p>The term of the members of that forum will expire no later than six months after the Commencement date.</p> <p>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.</p>	No requirement	This clause has been satisfied in previous years.
5.4.5	Hunter Water must at all times appoint the members of the Consultative Forum.	Full compliance	During this audit period, Hunter Water appointed a representative from the University of Newcastle, as a member of the Forum.
5.4.6	<p>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:</p> <p>(a) business and Consumer groups;</p>	Full compliance	<p>The Forum includes representatives from all groups specified in this Clause.</p> <p>Generally, there has been good representation from Consultative Forum members, excepting three members. Hunter Water has written to the three organisations that have not had representatives at the recent meetings to encourage attendance.</p>



Clause	Requirement	Compliance	Findings
	(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;	No requirement	This clause has been satisfied in previous years.



Clause	Requirement	Compliance	Findings
	(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.	Full compliance	Examples of information provided by Hunter Water to the Forum are listed in the comments at Clause 5.4.2. Hunter Water surveyed the members of the Forum to assess its effectiveness, and 75% of respondents rated its overall effectiveness between 8 and 10 (where 1 represents <i>extremely poor</i> and 10 represents <i>excellent</i>).
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	A review of Hunter Water's website confirmed that the Consultative Forum Charter was posted for downloading, free of charge. The Consultative Forum Charter was available at the Hunter Water Head Office 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	The report on the establishment of the Consultative Forum and the development of the Consultative Forum Charter has been satisfied in previous years. The report on the operations of the Forum was presented to IPART by 1 September 2006.
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.	No requirement	This clause does not impose a requirement on Hunter Water.

Table 5-2 Licence Part 5 – Compliance with the Customer Contract and Code of Practice on Debt and Disconnection

Clause	Requirement	Compliance	Findings
11.2.1(h)	Clause 11.2.1(h) requires IPART or the auditor to investigate and report on-going compliance with its Customer Contract and specific areas of non-compliance.	High compliance	<p>Overall Hunter Water achieved predominantly high compliance with the Customer Contract. It demonstrated that it closely monitors key indicators (as outlined in Part 7 Operating Licence) of the services it provides, has established procedures to consistently apply many of the requirements of the Customer Contract, and in particular related to:</p> <ul style="list-style-type: none"> » Billing and Programs in place for addressing payment difficulties; » Disconnection or restriction of supply; » Access to Hunter water's Systems on private property; » Water meter installation, testing and maintenance; and » Customer complaints. <p>A further breakdown of compliance with each section of the Customer Contract is presented in Appendix G.</p>
11.2.1(i)	Clause 11.2.1(i) requires IPART or the auditor to investigate and report on-going Hunter Water's Compliance with its code of practice and procedures on debt and disconnection under Clause 5.3 and any similar initiatives developed by Hunter Water.	High compliance	<p>Overall, Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice.</p> <p>Since developing the Code, changes have been made to the:</p> <ul style="list-style-type: none"> » The CSS system (now the CIS system); » Management structure (Customer Service Centres replaced by a centralised Contact Centre); and » Updated procedures (discussed in Table 5.3 below). <p>Overall Hunter Water has made these changes to increase efficiency and consistency in the manner that it applies the Customer Contract and the Code of Practice on Debt and Disconnection. Hunter Water advises that changes due to the new CIS system have not been fully bedded down.</p> <p>A further breakdown of compliance with each section of the Code is presented in Appendix H.</p>

**Table 5-3 Licence Part 5 – Ministerial Requirement**

Clause	Requirement	Compliance	Findings
MR5.1	Hunter Water is to continue to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment.	Full compliance	<p>Hunter Water has continued to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment. It introduced a new disconnection Policy in May 2006 and commenced to trial a further step in its credit management process, in September 2006.</p> <p>A number of changes have been made to the debt and disconnection policy in May 2006, including:</p> <ul style="list-style-type: none">» trigger for recovery action was lifted from \$250 to \$350. This reduces the number of customers with outstanding amounts whom reach the restriction stage of the process;» a cap of 200 was placed on the maximum number of restrictions Hunter Water could apply in any month; and» no properties are to be disconnected for non-payment of outstanding amounts without prior approval at General Manager level. <p>Hunter Water reduced the number of disconnections to 10 in the 05/06 period (compared to 30 in the 04/05 period). The disconnections occurred on unoccupied properties. The number of restrictions, however, increased from 1582 in the 04/05-audit period to 2043 in the 05/06-audit period, although the majority of the restrictions (82%) occurred prior to the implementation of the policy changes.</p> <p>Hunter Water further advised that in September 2006, it commenced a trial of a further step in the credit management process whereby a notice is hand delivered advising of the intent to restrict supply within 7 days. This provides a further opportunity for customers to address any outstanding accounts prior to restrictions occurring. Hunter Water advises that responses to-date have been encouraging and likely to be effective in reducing the total number of restrictions for 2006/07.</p>



5.5 Discussion

Nil

5.6 Factors Affecting Compliance

No extraordinary factors affected Hunter Water's compliance with Part 5 and Part 11.2.1(h) of the Operating Licence or the Ministers Requirement during the audit period. No events or factors identified during the audit were predicted to affect Hunter Water's future compliance with Part 5 and Part 11.2.1 of the Operating Licence or the Ministers Requirement.

Compliance with the Code of Practice for Debt and Disconnection was affected by the implementation of the new CIS system, new procedures relating to restrictions and disconnection (in accordance with MR 5.1); and change in the management structure. Hunter Water advises that it proposes to update the Code of Practice to reflect these developments.

5.7 Recommendations

It is recommended that Hunter Water:

- R5.1 Update the Code of Practice for Debt and Disconnection to reflect the new CIS system, new procedures and new management structures as it relates to customers.

5.8 Secondary recommendations

NIL

6. Water Quality

6.1 Summary of Findings

Hunter Water supplies drinking water of an excellent quality to its customers. However, there are some areas of compliance, within the provisions of the Operating Licence, which can be improved. As a consequence of these areas, Hunter Water has achieved an overall **High compliance** rating for 2005/2006 regarding water quality.

» Drinking Water Quality – Standards

Overall, **Full compliance** was achieved on drinking water quality standards of the Licence requirements. The auditor notes that the current practices in regard to monitoring for *Cryptosporidium* and *Giardia* have been agreed with NSW Health, however it is the auditor's view that it is desirable to collect evidence to support its current sampling regime of testing raw and treated water for these organisms..

» Drinking Water Quality – Monitoring

Full compliance was achieved with this requirement of the Licence.

» Drinking Water Quality – Reporting

Overall a **High compliance** level was achieved with this requirement of the Licence. The omission of trend information in Water Quality reports was the factor that mitigated against a full compliance. Hunter Water has indicated that trend information will be included in future reports.

» Drinking Water Quality – Planning

Overall **High compliance**, with this requirement of the Licence, was achieved. The factor that mitigated against receiving full compliance was lack of evidence that the Department of Health had reviewed and agreed with the Water Quality Improvement Plan and the Incident Management Handbook.

» Other Grades of Water

Full compliance was achieved with this requirement of the Licence.

» Environmental Water Quality

Full compliance was achieved in this requirement of the Licence.

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 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 that Hunter Water is required to meet;
- » **Clause 6.4 - Drinking Water Quality - Reporting:** This Clause specifies the drinking water quality reporting that Hunter Water is required to meet;
- » **Clause 6.5 - Drinking Water Quality - Planning:** This Clause specifies the planning measures that Hunter Water is to meet and thereby ensure 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*'; and
- » **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 compliance 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 – Licence Part 6 – Water Quality

Clause	Requirement	Compliance	Findings
6.2	Drinking Water Quality – Standards		
6.2.1 (a)	<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>	Full compliance	<p>Hunter Water published its annual water quality report for 2005/06 in September 2006. The report shows that Hunter Water has consistently delivered water of a very good quality, throughout the period.</p> <p>Of particular note, Hunter Water achieved 99.6% (Licence Target = >98%) for <i>E.coli</i> for Microbiological water quality parameters. This represents Full compliance. <i>Escherichia coli</i> is a type of Thermotolerant Coliform bacteria and is nearly always present in the gut of humans and warm-blooded animals. <i>E.coli</i> is now generally regarded as the most specific indicator of faecal contamination and therefore the more important indicator for public health.</p> <p>For Physical/Chemical water quality, the report shows that the results for all parameters were within the Guideline values. This represents Full compliance.</p>
6.2.1 (b)	the Drinking water guidelines relating to Aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc.	Full compliance	The Water Quality report for the year shows all values for aesthetic parameters met the aesthetic guideline values.
6.2.2	<p>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.</p> <p>[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</p>	No requirement	Definitional clause only.



Clause	Requirement	Compliance	Findings
	practices required to minimise the risk of contamination by <i>Cryptosporidium</i> and <i>Giardia</i> .]		
6.2.3	<p>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>).</p> <p>[Note: In releasing draft guidelines on <i>Cryptosporidium</i> and <i>Giardia</i>, NHMRC has stated that it is not possible to set guideline levels for <i>Cryptosporidium</i> and <i>Giardia</i> in Drinking water because there is a lack of a suitable method to identify organisms in Drinking water that cause human infection.]</p>	Full compliance	<p>In respect of adopting the concepts of good practice for water quality management, Hunter Water advised that it references the guidance outlined in the 2004 Australian Drinking Water Guidelines (DWG) and, with agreement by NSW Health, has adopted these Guidelines as the model for best practice. The auditor considers this to be appropriate, as the ADWG 2004 are based on a new framework for assuring water quality that improves upon the 1996 Guidelines.</p> <p>Additionally, Hunter Water has adopted the principle of multi barrier protection to water quality. However, the Auditor notes that a regime of sampling both treated and raw water for <i>Cryptosporidium</i> and <i>Giardia</i> is undertaken by Sydney Water and the Sydney Catchment Authority. The opportunity is therefore available to HWC to collect evidence, through applying and testing such a regime, and demonstrate the validity of its existing sampling practices.</p>
6.2.4	<p>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.</p> <p>[Note: Fact Sheet 25 of the Drinking water guidelines sets out the pH levels applicable to cement mortar lined pipes.]</p>	Full compliance	Approximately 85% of the Hunter Water reticulation system is either Ductile Iron Cement Lined or Cast Iron Cement Lined pipe. As a result, Hunter Water applies the same pH standard of a range of 6.5 – 9.2 to all of its system and the results from the water quality monitoring indicate full compliance.
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	It is noted in the minutes of a meeting held 11 April 2006, between NSW Health and Hunter Water, that '....Health indicated their General agreement with the proposed Monitoring Plan'. For the future Hunter Water should consider requesting a more formal notice of approval for the plan, and other requirements of NSW Health, over and above a notation in minutes of meetings held.
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	Full compliance	The <i>Five-Year Water Quality Monitoring Plan</i> prepared by Hunter Water outlines the required performance monitoring and regular sampling, laboratory testing and processes. It also includes schedules that detail the parameters to be measured, historical results and the results achieved for health and aesthetic parameters for the drinking water system, as well



Clause	Requirement	Compliance	Findings
	must include:		as those relating to the Bulk Water Supply. Hunter Water's reliance on NATA accreditation as the only form of quality assurance on the laboratory and sampling procedures should be reviewed. The current specification for the work carried out by the laboratories and sampling providers does not specify any QA process or reporting requirements in relation to QA. It is recommended that QA procedures should be a feature of future service contracts and reporting.
6.3.2 (a)	the health parameters and the aesthetic parameters for which compliance is required under clauses 6.2.1 (a) and (b); and	Full compliance	See notes at 6.3.2 There was one instance, over the year, where the annual sampling for Bi Butyl Tin (DBT) and Tri Butyl Tin (TBT) was carried out but the laboratory did not analyse the samples. The results from the previous year were used for reporting purposes and the samples were redone in August 2006 (outside the reporting year). Results from the re-sampling were in compliance with the requirements.
6.3.2 (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.]	Full compliance	See notes at 6.3.2
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	The sampling locations and planned frequency of sampling are detailed in Hunter Water's Drinking Water Quality Monitoring Plan and are in accordance with the Australian Drinking Water Guidelines (2004). The Plan was discussed with NSW Health, as evidenced in the minutes of a meeting held on 11 April 2006 between the two organisations. NSW Health indicated agreement with the Plan. A more formal signoff and documentation of the approval by NSW Health should be considered for the future.
6.3.4	Hunter Water must undertake Drinking water quality monitoring during this Licence as required by NSW Health.	Full compliance	The Drinking Water Quality Monitoring Plan for the 2005/06 year was implemented. There was one instance where samples collected for analysis for Bi Butyl Tin (DBT) and Tri Butyl Tin (TBT) were not analysed by the third party laboratory as described at 6.3.2. Consideration should be given for the inclusion of a more formal QA component for the monitoring and a requirement for QA reporting. The QA process for the transfer of data, from third party laboratories to Hunter Water Australia and then onto the data warehouse,



Clause	Requirement	Compliance	Findings
			should also be documented and reported.
6.3.5	<p>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.</p> <p>[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.]</p>	Full compliance	Monitoring of Water Quality at the customer's tap nearest the watermain is included within the Water Quality Monitoring Plan and was conducted 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	The results of the Drinking Water Quality Monitoring are published on the Hunter Water website each month and are available upon request from Hunter Water's offices, free of 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	<p>A copy of the Annual Water Quality Report, published in September 2006, was made available to the auditor. The report compares the results of the monitoring against the Australian Drinking Water Guideline (2004) requirements. It also outlines the requirements and performance against both Health and Aesthetic guideline values for which compliance is required.</p> <p>The report outlines a protracted incidence of Geosmin occurrence in Chichester Dam from May to June 2006. The result of this incidence was an increase in the number of customer complaints in relation to taste and odour. Hunter Water implemented a temporary Powdered Activated Carbon dosing system on the trunk main from Chichester Dam to Dungog WTP resulting in a dramatic reduction in the number of complaints being received.</p>
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	High compliance	Drinking Water supplied by Hunter Water is of a consistent high quality and complied with the Australian Drinking Water Guidelines during the year. However, the Annual Drinking Water Quality Report does not contain trend information, except for the Geosmin Incident in Chichester Dam where the trend over the year is provided. The report does not outline or discuss the monitoring procedure and rationale for <i>Cryptosporidium</i> or <i>Giardia</i> . The level of



Clause	Requirement	Compliance	Findings
	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.		compliance for this provision is a reflection of the reporting and not necessarily of the water quality that was delivered. The Annual Water Quality Report provides details on the Health and Aesthetic Guideline values for which compliance is required. It also compares actual Drinking Water Quality against the requirements of the guidelines.
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	The Annual Water Quality Report for 2005/06 was published and provided to IPART in September 2006. It is also available on the Hunter Water Website and through its offices, 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]	Full compliance	A new <i>Five-year Water Quality Management Plan</i> for the period 2006 to 2010 was prepared during the course of the year. The plan was submitted to and agreed with NSW Health as is evidenced by the minutes of a meeting between the parties held on the 29 th of June 2006. Consideration of a more formal and documented sign off process from NSW Health should be given for future plans of this nature.



Clause	Requirement	Compliance	Findings
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	<p>The <i>Five-Year Water Quality Management Plan</i> has been prepared and published. The basis of the plan is sound and includes comprehensive strategies for water quality management. It also adopts the multi-barrier approach, as required.</p> <p>An area for consideration in improving the Plan is a higher focus on the issue of water quality management for the inputs into the raw water storages. Hunter Water has incorporated measures to deal with the consequences of poor raw water quality but as it is not in direct control of the activities on land within the catchments there would appear to be an area of risk that needs to be more fully considered.</p>
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.	No requirement	An <i>Annual Water Quality Improvement Plan</i> was prepared and tabled at a meeting with NSW Health held on May 15 th 2006. The Minutes of that meeting indicate discussion took place regarding an approach to look at exceptions as part of the plan and to include information on trend results in the next year's plan. The minutes, however, do not indicate final acceptance of the Plan by NSW Health.
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	The <i>Annual Water Quality Improvement Plan</i> outlines strategies to address issues raised in the Water Quality Monitoring program.
6.5.5	<p>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.</p> <p>[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.]</p>	No requirement	There was no review of the Licence conducted during the period covered by this audit.



Clause	Requirement	Compliance	Findings
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	A copy of the 2002 and 2004 Drinking Water Risk Assessments were provided to the Auditor. It was noted in the audit interview that Hunter Water were intending to further review the 2004 Assessment before the end of 2006.
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.	High compliance	A copy of Hunter Water's <i>Emergency Management Handbook</i> dated September 2004 was provided to the auditor. It is also noted that a copy of the manual was provided to NSW Health in 2004. There was not however, any evidence of acceptance by NSW Health of the approach outlined in the Handbook. The handbook is currently under review.
6.5.8	<p>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.</p> <p>[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.]</p>	High compliance	The <i>Emergency Management Handbook</i> prepared by Hunter Water contains detailed plans (see section 6.5.7) for the management of incidents and their escalation. Included in the Handbook are outlines of the responsibilities and requirements for all roles in the management of an incident. The Handbook gives generalised examples of water quality incidents and a brief indication of the causes for escalation. However, the handbook does not include specific references to the role of NSW Health and requirements for establishing communications with Health in the event of a water quality incident. Trails/Scenarios run on likely incidents do not include the involvement of other agencies, such as NSW Health. It is noted that the Incident Management Manual was provided to NSW Health in 2004, however, no evidence of specific acceptance was available at the time of the audit.
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 both reclaimed water and chlorinated raw water to a range of customers. The arrangements for the supply of these waters are detailed within separate agreements with each of the customers supplied. These supply arrangements are consistent with the requirements of the relevant NSW 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	Full compliance	Hunter Water has in place individual supply agreements with each customer that covers all the required terms.



Clause	Requirement	Compliance	Findings
	<p>is supplied, as to the water quality standards that are to apply to that water for use other than as Drinking water.</p> <p>The terms of the arrangements must at minimum include:</p> <ul style="list-style-type: none">(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.	Full compliance	Hunter Water includes the required terms within the individual supply agreements with each customer.
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.	Full compliance	Hunter Water has reported its performance in regard to effluent discharges, sewage overflows and environmental flows from Chichester Dam to the DEC and DNR.

6.4 Discussion

6.4.1 Drinking Water Quality – Standards

The quality of drinking water supplied to customers during the period of this audit was of a very high to excellent standard and complies with the requirements of the *Australian Drinking Water Guidelines* (2004) and the Aesthetic related requirements of NSW Health.

There was one incident during the period which caused an increase in customer complaints in relation to taste and odour. Elevated levels of the earthy and odour compound geosmin (which is an aesthetic, not health, concern) occurred in Chichester source during the period December 2005 to June 2006. Hunter Water installed a temporary Powdered Activated Carbon dosing system on the trunkmain downstream of the storage and upstream of the Dungog Water Treatment Plant. This system was successful in removing the taste and odour compounds to a level where customer complaints reduced to negligible levels. A permanent dosing facility is currently under construction.

6.4.2 Drinking Water Quality – Monitoring

Although Hunter Water achieved full compliance for this section of its Operating Licence, there were some aspects of the monitoring process that could be improved. Quality Assurance (QA) is a major requirement of monitoring programs. At the present time, the monitoring plans that are in place rely on NATA Accreditation as the means by which the sampling and analytical methods are quality assured. While accreditation is necessary, and is indeed a mandatory requirement, it is not sufficient in regards to monitoring programs of this nature. Future plans should include a specific QA component and requirements for reporting that cover all aspects of the sampling, analyses, and data management and reporting activities.

It is noted that subsequent to the audit, a QA process for the selection of samples and storage of data has been implemented. It is recommended that this QA process should be extended to cover the suit of analyses carried out

6.4.3 Drinking Water Quality – Reporting

Hunter Water met the requirements for this component of its Operating Licence in terms of preparation, publication and availability of the required reports. There were, however, some deficiencies in terms of the content of the *Annual Drinking Water Quality Report*. Trend information for water quality, with the exception of a specific incident of geosmin in Chichester Storage, is not reported. In addition, the report does not detail or discuss the monitoring procedures or rationale for the monitoring of *Cryptosporidium* or *Giardia*. There was discussion at the audit interview about sampling both treated and raw water for these organisms but, unless there was a positive result in the raw water sample, the treated water was sample was not analysed. This would seem cost effective but it is the auditor's view that it does not adequately address the risks.

The approval of the *Water Quality Improvement Plan and the Incident Management Plan* by NSW Health was not documented. The auditor was provided with documents for both these items but there was no

evidence of approval or agreement by NSW Health. The auditor considers that reliance on minutes of meetings as the process for agreement or approval by NSW Health is not adequate and that a formal process would be more appropriate.

6.4.4 Drinking Water Quality - Planning.

The *Five-Year Water Quality Management Plan* and *Annual Water Quality Improvement Plan* were prepared as required by the Operating Licence. While the *Five-Year Management Plan* was agreed to by NSW Health at a meeting on June 29th, 2006, there is no documented agreement in regard to the Improvement Plan. A more formal submittal and approval process between the parties is recommended.

The *Five-Year Water Quality Management Plan* has a sound basis and adopts a multi-barrier approach to the management and delivery of good water quality to its customers, as required by the Operating Licence. An area for consideration in future plans, and indeed if this current plan is reviewed and updated, could be an increased focus on the issue of water quality management for the inputs to raw water storages. It is noted that Hunter Water has rangers who regularly patrol the catchments and liaise with landholders and recreational users of the catchment. However, as Hunter Water is not in direct control of the activities on land within the catchments, there would appear to be an area of risk that needs to be more fully considered. Monitoring of the stream inflows in a way similar to that done by the Sydney Catchment Authority might be one way of addressing that risk.

Another area that requires attention within the planning provisions of the Operating Licence is the preparation of an *Incident Management Plan* that is approved by NSW Health. While the auditor was provided with the organisation's *Emergency Management Handbook*, there was no evidence of approval from NSW Health provided. Further, the Incident Plan is required to cover specific areas including stakeholder management and notification of public health advice received from NSW Health to customers. The Handbook provided to the auditor gives generalised examples of water quality incidents and a brief indication of escalation processes and but lacks the specific references required by the Operating Licence. It is noted that the Hunter Water Intranet provides information on reporting protocols for a range of Health related events.

6.4.5 Other Grades of Water

Hunter Water fully complied with the Operating Licence requirements in regard to the supply of other grades of Water.

6.4.6 Environmental Water Quality

Hunter Water fully complied with the Operating Licence requirements for Environmental Water Quality.

6.5 Factors Affecting Compliance

There were no external factors that directly impacted the level of compliance by Hunter Water with the Water Quality Sections of its Operating Licence.

6.6 Recommendations

6.6.1 Key Recommendations

It is recommended that Hunter Water:

- R6.1 Develop a Quality Assurance (QA) section for the Water Quality Monitoring Plan, which should also include provisions for the reporting of QA performance; and
- R6.2 Adopt a more formal process for the submittal of Water Quality Plans and Reports to NSW Health, as required by the Operating Licence, for its approval and/or agreement.

6.6.2 Secondary Recommendations

It is further recommended that Hunter Water:

- R6.3 Consider enhancing its risk management by establishing a monitoring regime of water quality in streams flowing into its raw water storages, recognising it is not in control of land uses within these catchments;
- R6.4 Consider the desirability of monitoring for *Cryptosporidium* and *Giardia*, in both treated and raw water, in association with Department of Health, so as to generate evidence to support its existing regime of only sampling treated water only if organisms are detected in the treated water; and
- R6.5 Undertake emergency risk exercises that involve the other relevant agencies in relation to public health and water quality on a regular basis.

7. System Performance

7.1 Summary of Findings

» System Performance Standards

Hunter Water achieved **Full compliance** in meeting the Operating Licence water interruptions requirement, though is nearing the upper limit. Hunter Water reported 13,133 properties that experienced one or more water interruptions, compared to the requirement that no more than 14,000 properties experiencing one or more water interruptions (whether a planned water interruption or an unplanned water interruption and which taken together have a cumulative duration exceeding 5 hours). This figure is a minor decrease from 2004/05, when the figure was 13,723 properties. The improved 2005/06 figure was achieved by a significant reduction in planned interruptions, offset by a combination of an increase in unplanned outage durations and a doubling of unplanned large main outages. It is recommended that Hunter Water report to IPART on, and implement options for, reducing unplanned outage durations and also report on its asset management options and strategies (including risk and cost benefit analysis) for improving security of supply to its customers in the medium to long term.

Hunter Water achieved **Full compliance** for no more than 4,800 properties that experience one or more water pressure incidents. Hunter Water reported 1,663 properties experiencing one or more water pressure incidents, which is similar to the result reported for 2004/05.

Hunter Water achieved **Full compliance** for the number of uncontrolled sewage overflows (other than on public land) not exceeding 6,500. In 2005/06 there were 3,359 uncontrolled sewage overflows onto private property. This is a reduction from the 3,771 properties in 2004/05.

» Reporting on System Performance Standards

Hunter Water achieved **Full compliance** for reporting on its system performance.

Hunter Water obtained **Low compliance** for making system performance reports publicly available. It is recommended that Hunter Water upgrade the availability of its system performance reporting on its website and at its customer service centres.

» System Performance Indicators

Hunter Water achieved **Full compliance** (with Clause 7.5) for reporting on system performance indicators.

» Keep records on Water interruptions, low pressure and Sewage overflows.

Hunter Water achieved **Full compliance** with (Clause 7.6) for maintaining records of its system performance standard and indicator performance.

» Report on low pressure areas

There was **No requirement** for reporting on low pressure areas for 2005/06.

» Note: Hunter Water has applied the nominated System Performance definitions and interpretations, as contained in Section 7 of the Operating Licence.

» Ministerial Requirements

Hunter Water achieved **Full compliance** for meeting its System Performance Ministerial Requirements, which included: installation of pressure/flow monitoring devices; improved work crew awareness of the importance of timing in reconnections; practices to reduce water interruptions required to connect new developments; and practices to meet, and improve, water supply continuity.

7.2 Summary of Requirements

Part 7 of the Licence specifies requirements relating to System Performance. The key requirements are:

Clause 7.1 – Definition: This Clause specifies the interpretation applying to specific terms used in Part 7 System Performance.

Clause 7.2 – Interpretation: This Clause specifies the commencement and cessation times for system performance failure events.

Clause 7.3 - System Performance Standards: This Clause defines the minimum standards of service for interruptions to customer water supply, water pressure, sewage overflows and/or other requirements determined by the Minister.

Clause 7.4 - Reporting on System Performance: This Clause specifies the reporting requirements for system performance standards and requires Hunter Water to make the reports available to the public.

Clause 7.5 - System Performance Indicators: This Clause specifies the reporting requirements for system performance indicators and requires Hunter Water to make the reports available to the public.

Clause 7.6 - Keep Records on Water Interruptions, Low pressure and Sewage Overflows: Hunter Water is required to maintain adequate data management systems for system performance data.

Clause 7.7 - Report on Low Pressure Areas: This Clause required Hunter Water to provide a status report on low-pressure areas within six months of the creation of the Licence.

Clause 11.2.1(c) requires IPART, or the auditor, to investigate and report on Hunter Water's compliance 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 Ministerial Requirements

Hunter Water is required to:

- » *Further progress the installation of additional pressure/flow monitoring devices linked to its new telemetry/SCADA system to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service (MR7.1);*
- » *Increase the awareness of its work crews to the importance of endeavouring to reconnect*

customers within five hours of a discontinuity event (2004/05 MR7.2);

- » *Continue to review its maintenance/operational practices to identify additional procedural and/or technological practices to enable it to better meet its water supply continuity Licence requirements;*
- » *Continue to utilise and trial its maintenance/operational practices identified during the 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; and*
- » *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 the failure by 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.*



7.4 Details of Compliance

Table 7-1 Licence Part 7 – System Performance

Clause	Requirement	Compliance	Findings
7.2	Interpretation		
Commencement and Cessation of a Water Interruption			
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> <ul style="list-style-type: none"> » 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; » the time that, having regard to all the circumstances, Hunter Water ought reasonably to have become aware of a Water interruption; » 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 » the time that Hunter Water is informed of a Water interruption by a person. <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</p>	No Requirement	The auditor reviewed Hunter Water's operational interpretation/application of this definition and the data collected and reported is consistent with the definition.



Clause	Requirement	Compliance	Findings
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.	No Requirement	The auditor reviewed Hunter Water's operational interpretation/application of this definition and the data collected and reported is consistent with the definition.
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.	No Requirement	The auditor reviewed Hunter Water's operational interpretation/application of this definition and the data collected and reported is consistent with the definition.
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.	Full compliance	Hunter Water reported 13,133 properties experienced one or more water interruptions resulting in a cumulative duration of 5 hours or more during 2005/06. This figure is a decrease from the 2004/05 audit where the figure was 13,723. There were four instances where 250 or more properties were affected in a single event, by a planned or unplanned water interruption, which was longer than 5 hours. The most significant of these was an unplanned incident in Maitland, which affected 1,122 properties for more than seven 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: <ul style="list-style-type: none"> (a) a Water interruption; (b) water usage by authorised fire authorities in the case of a fire; or 	Full compliance	<p>Hunter Water reported 1,663 properties that experienced one or more water pressure incidents (that is, a pressure below 20 metres head at the point of connection of the Property to Hunter Water's main). This figure is similar to the number affected in 2004/05.</p> <p>Processes are in place to ensure accuracy of recording and there are regular quality assurance checks.</p> <p>Low pressure is verified by modelling, pressure monitors and hydraulic models. After low pressure areas are investigated, systems can be amplified, a new booster pump station may be installed or a system can be reconfigured.</p>



Clause	Requirement	Compliance	Findings
	(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.	Full compliance	<p>In 2005/06 there were 3,359 uncontrolled sewage overflows onto private property (other than on public land). This is less than the number for the 2004/05 reporting period, when 3,771 properties were recorded.</p> <p>In 2005/06, repeat events occurred on 400 properties.</p> <p>Note: Hunter Water has a critical sewer program and targeted inspection of critical areas with CCTV.</p>
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.	Full compliance	Hunter Water reported to the Minister in its letter of 27 July 2006.
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.	Full compliance	Hunter Water reported to the Minister in its letter of 27 July 2006.
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.	Full compliance	Hunter Water reported to the Minister in its letter of 27 July 2006.
Publication of Reports			
7.4.4	A copy of the reports provided under clause 7.4 must be	Low compliance	The report is available on the website as a dynamically updated report showing monthly



Clause	Requirement	Compliance	Findings
	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.		and year-to-date performance. The annual result is only available in July, after which it is replaced by the new year's results. Hunter Water note that the website is currently under review and a new website is planned for 2006/07. The report is not made available at Hunter Water's premises for access or collection by members of the public. Customer service staff are unaware of the report and the availability of such publications.
7.5 System Performance Indicators			
7.5.1	Schedule 4 applies.	No requirement	Definitional Clause: Hunter Water reported as per the Schedule
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.	Low compliance	The report is available on the website, although it is not easy to find. Hunter Water note that the website is currently under review and a new website is planned in 2006/07. The Indicator Report was successfully downloaded from the website by the auditor. The report is not made available at Hunter Water's premises for access or collection by members of the public. Customer service staff are unaware of the report and the availability of such publications.
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	Records are maintained and updated regularly and appropriate backup and contingency plans are incorporated into processes and practices, for example, via the Hunter Water IT Business Continuity Plan.
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	The auditor sampled 14-15 records of incidents for each indicator category, comparing assigned incident category to incident/complaint description. Only one record out of 90 was felt to be questionable.
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	No requirement	Completed in a previous audit period.



Clause	Requirement	Compliance	Findings
	<p>on a consistent and systemic basis;</p> <p>(b) the number of Properties affected in each Suburb or part thereof;</p> <p>(c) the range of pressure and average pressure received by the Properties affected in each Suburb or part thereof; and</p> <p>(d) an analysis of the reasons for low pressure in each Suburb or part thereof, and options for rectification of the low pressure.</p>		
Ministerial Requirements 2003/04			
MR7.1	Continue to review its maintenance/operational practices to identify additional procedural and/or technological practices to enable it to better meet its water supply continuity Licence requirements	Full compliance	Hunter Water has continued to review its maintenance/operational practices throughout 2005/06 including the use of telemetry for improved event identification and response and also introducing improved condition monitoring and modelling of assets.
MR7.2	Continue to utilise and trial its maintenance/operational practices identified during the 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.	Full compliance	<p>Hunter Water has continued to utilise and trial its maintenance/operational practices, identified during the reviews undertaken over the 2003/04 period, through the creation of contingency plans, upgrade of systems, such as SCADA, and installation of flow meters.</p> <p>Over the last two to three years Hunter Water has increased its replacement budget for water mains. Hunter Water has a program for condition assessments and has developed an accurate model to predict main failures.</p> <p>Contingency plans have been drawn up to accelerate response times.</p> <p>Strategies are being implemented to increase distribution water storage.</p> <p>Hunter Water has a model for capital investment based on main break histories and uses a reactive process to manage the water mains. Essentially, if a water discontinuity is affecting the community on a regular basis then the main is replaced.</p> <p>Hunter Water has risk-based criteria for establishing condition assessment, replacement and renewal priorities.</p>
MR7.3	<p>Review its systems/ procedures/ practices/ contingency plans to allow Hunter Water to respond more quickly to:</p> <ul style="list-style-type: none"> » Locate failures/bursts, particularly for its trunk mains » Minimise the number of customers affected by the 	Full compliance	Hunter Water has continued to review its systems/procedures/practices/contingency plans in 2005/06. While there is evidence of this review, it is noted that there has been an increase in the outage times for unplanned interruptions.



Clause	Requirement	Compliance	Findings
	<p>failure by shutting down the trunk main and/or supplying customers from other sources</p> <ul style="list-style-type: none"> » Repair the failure/burst » Return the trunk main to service, resupplying customers affected 		
MR7.4	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 trunk main failures to be more accurately pinpointed.	No requirement	Hunter Water has now introduced a new telemetry system, see MR7.5, below.
Ministerial Requirements 2004/05			
MR7.5	Hunter Water should further progress the installation of additional pressure/flow monitoring devices linked to its new telemetry/SCADA system to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service.	Full compliance	Hunter Water showed evidence of their upgraded SCADA system. The new system provides Hunter Water with the opportunity to implement advanced control and reporting schemes.
MR7.6	Increase the awareness of its work crews as to the importance of endeavouring to reconnect customers within five hours of a discontinuity event.	Full compliance	Hunter Water has monthly informal training through the use of toolbox talks and regular training for crews (including contract crews). The toolbox talks have an emphasis on water continuity with regular incident reporting. In these meetings there are debriefs of major incidents of discontinuity and pre planning of planned shutdowns to ensure minimal shutdown durations. Procedures for reservoir cleaning are regularly reviewed.

7.5 Discussion

7.5.1 General Processes for Measurement, Reporting and Ensuring Compliance

This section is a general discussion of Hunter Water's processes for measurement, reporting and ensuring compliance, as they are common to all the System Performance Standards. For System Performance Standards, the audit generally covered the aspects listed in Table 7-2. Items 1 to 4 are discussed below as they apply to all System Performance Standards, while Items 4 (where the issue is specific to an individual Standard), 5 and 6 are discussed separately for each Standard or indicator.

Table 7-2 Aspects Covered by the Audit for the System Performance Standards

- | |
|--|
| <ol style="list-style-type: none">1. Interpretation and application of the standards.2. Existence of appropriate procedures, documentation and data collection, and reporting systems for the amended standards.3. Compliance of Hunter Water with procedures and requirements.4. An evaluation by the Auditor of the processes and procedures in place for identifying, assessing and recording events.5. Analysis of performance compared to the standard and to historical performance where possible and relevant.6. Strategies, plans and programs in place to ensure compliance with each standard is maintained in the future. |
|--|

Interpretation and Application of the Standards

Hunter Water's definition and interpretation of the standards are generally consistent with the Minister's requirements as expressed in the Minister's Notice of Amended Performance Standards.

Procedures, Documentation and Data Collection, and Reporting Systems

Hunter Water has maintained extensive documentation for collecting, collating and reporting of data for service standards under its Operating Licence Monitoring and Reporting System (M&R).

In 2005/06, changes have been made to the data collection and reporting systems used by Hunter Water for performance standards. Evidence was produced of a significant development effort in data collection and reporting systems.

Compliance of Hunter Water with Procedures and Requirements

Overall, Hunter Water provided a wide range of evidence with effective and succinct data reporting in response to the auditor's questions. Hunter Water provided the auditor with additional evidence and clarifications in a timely manner.

Documentation provided was presented in an organised manner, defined processes and procedures and provided evidence of compliance specifications for the various indicators.

Staff training documentation was considered and evidence provided that training is regularly updated.



Information systems and records were regularly updated and quality assured/audited by Hunter Water.

Accuracy and Confidence Limits of Reported Numbers

Hunter Water's data collection processes for field activities enable a high degree of accuracy in reporting. As soon as a field crew finish a job they call the customer service officers who enter the data, and any issues or queries are immediately clarified. This communication enhances accuracy by eliminating transcription errors from manually recorded field notes to computerised systems.

IPART and Hunter Water reached an agreement that Hunter Water does not have to undertake auditing for accuracy and confidence of the System Performance Standards for the 2005/06 reporting year.

7.5.2 Drinking Water Pressure

Reported Compliance and Historical Trend Comparison

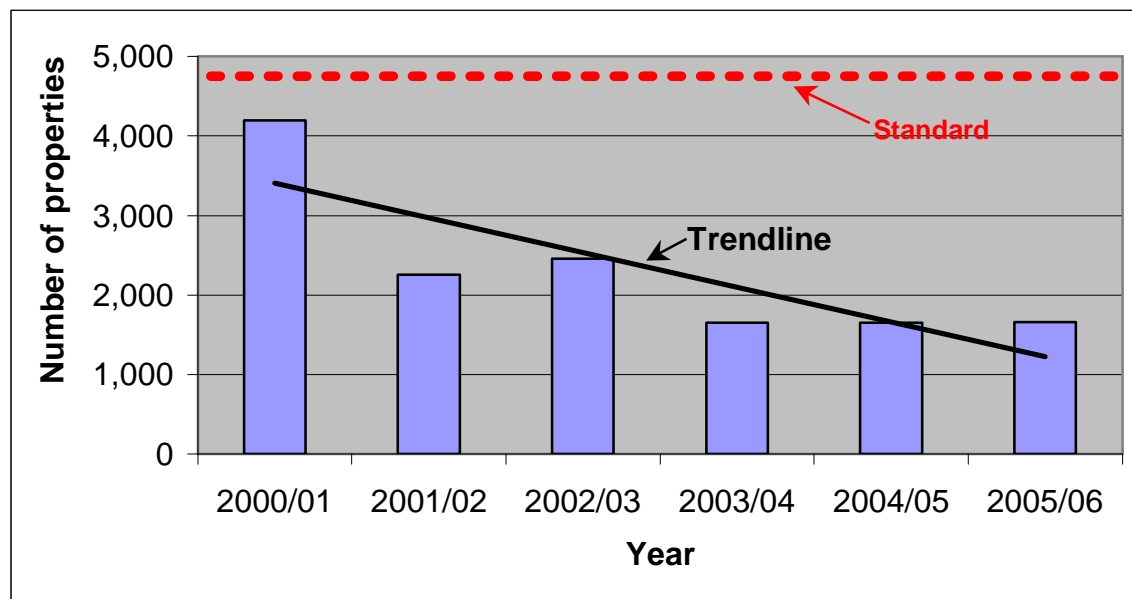
Comparison with data from previous years (see Table 7-3) indicates that properties affected by low pressure have decreased significantly since 2000/01, when an estimated 4,200 properties were affected. Figure 7-1 shows a decreasing trend but for the period of 2003/04 to 2005/06 there has been a stabilisation of properties affected by low pressure.

Table 7-3 Water Pressure (Historical Comparison)

Indicator	Licence Standard	00/01	01/02	02/03	03/04	04/05	05/06
No more than 4,800 Properties in a financial year experience one or more pressure incidents.	4,800	4,200	2,256	2461	1655	1656	1663

Note: Data for 2000/01-2001/02 is estimated and drawn from previous audit reports. The original data was based on an earlier (different) performance standard

Figure 7–1 Water Pressure (Historical Comparison)



Note: Data for 2000/01-2001/02 is estimated and drawn from previous audit reports. The original data was based on an earlier (different) performance standard

Accuracy and Confidence Assessment

Hunter Water provided evidence demonstrating the accuracy and confidence of their reporting, including:

- » Job Cards;
- » Internal audit evidence;
- » Training Manuals;
- » Historical Records of Low Pressure;
- » Cumulative Properties Affected by Low Pressure;
- » Letters to the Minister;
- » Training Records;
- » Methods of Calculation and Reporting;
- » IT Business Continuity Plan; and

Processes are in place to ensure accuracy and there are regular quality assurance checks. Hunter Water has regular reporting with monthly, quarterly, and annual reports.

Considering the procedures, documentation and systems in place, and the information provided by Hunter Water, the auditor is satisfied that Hunter Water's reported results are sufficiently robust.

Strategies, Plans and Programs to Ensure Compliance

Hunter Water provided adequate evidence of regular training for staff, with regular quality assurance audits to should ensure compliance with the Operating Licence.

Summary

Hunter Water fully complies with the standard requirement for not more than 4,800 properties affected by a water pressure incident where the water pressure to a property falls below 20 metres, at the point of connection of the property to Hunter Water's main. Since 2003/04 this figure has been relatively stable and significantly below the 4,800 operating standard.

7.5.3 Drinking Water Continuity (Unplanned and “Planned and Warned”)

Reported Compliance and Historical Trend Comparison

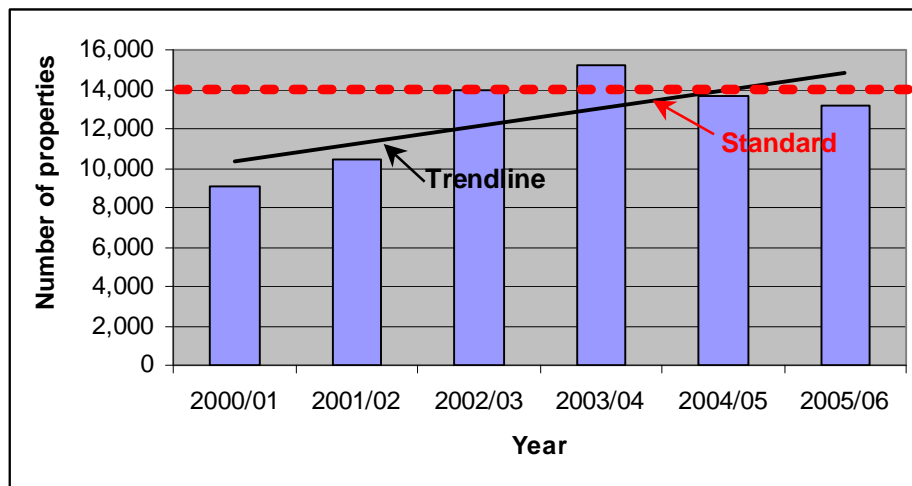
Historical comparison of Hunter Water performance indicates 13,133 properties affected in 2005/06 (Table 7-3) with comparable data for 2004/05 and 2004/03 showing 13,723 and 15,248 properties respectively. Despite this reduction, the overall trend is upwards (Figure 7-1).

Growth in connections of 4% since 2002 has made the 14,000 standard challenging, but with a range of operating initiatives implemented over the last four years, Hunter Water has been able to achieve a slight decrease in properties affected in 2005/06 by a significant reduction in the number of planned outages (see discussion on Water Continuity system performance indicators in Section 7.6).

Table 7-3 Drinking Water Continuity (Historical Comparison)

Indicators	Licence Standard	00/01	01/02	02/03	03/04	04/05	05/06
No more than 14,000 properties in a financial year experience one or more water interruptions with a cumulative duration exceeding 5 hours.	14,000	9,094	10,410	13,966	15,248	13,723	13,133

Figure 7-1 Drinking Water Continuity (Historical Comparison)



Source: Hunter Water licence compliance reports, trendline added by auditor.

Accuracy and Confidence Assessment

Hunter Water provided evidence demonstrating the accuracy and confidence of their reporting, including:

- » Job Cards;
- » Letters to the Minister;
- » Internal audit evidence;
- » Training Manuals;
- » Benchmarking of water losses;
- » Jobs with changed priority;
- » Internal audit evidence;
- » Historical Records of Water Discontinuity;



- » IT Business Continuity Plan; » Methods of Calculation and Reporting; and
- » Training Records; » SCADA System Upgrade Documents.

Hunter Water has processes in place to ensure accuracy and consistency through regular training and auditing.

Hunter Water provided data on jobs with changed priority, however Hunter Water has no procedure for managing the reporting of priority when it is upgraded. This may result in reporting inaccuracy.

Considering the procedures, documentation and systems in place, and the information provided by Hunter Water, the auditor is satisfied that Hunter Water's reported results are sufficiently robust.

Strategies, Plans and Programs to Ensure Compliance

In order to stay below the 14,000 properties, accumulating more than 5 hours of interruption to water supply, Hunter Water has implemented a range of initiatives to improve water supply continuity. Such measures are discussed in Section 7.5.5.

Summary

Hunter Water fully complies with the standard, which requires no more than 14,000 properties affected by a water supply continuity interruption to their water supply (whether planned or unplanned) have a cumulative duration of more than 5 hours. The measurement and reporting of the standard is reasonably reliable and adequate systems appear to be in place to ensure that the amended standard is maintained in the short term. Nonetheless, this result was achieved only by the reduction in planned outages and evidence of a more robust asset management strategy, outlining and justifying options for minimising customer interruptions in the medium to longer term, is required.

7.5.4 Sewage Overflows

Reported Compliance and Historical Trend Comparison

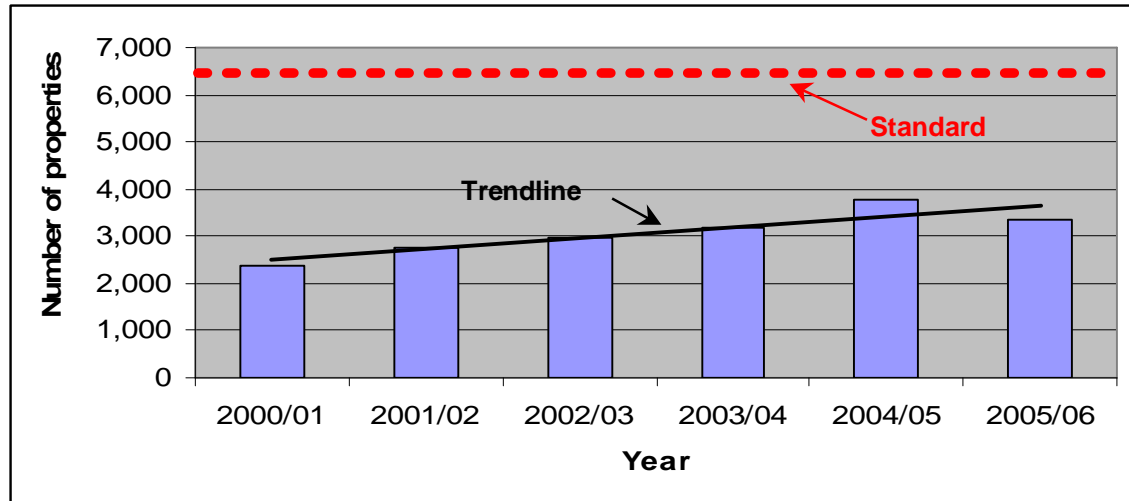
Results with previous years performance (Table 7-4) indicates a drop in sewerage overflows in 2005/06 compared to 2004/05. As shown in Figure 7-2, historically there has been an increasing trend for sewer overflows, with 2005/06 being the first year since 2000/01 to record a decrease.

Table 7-4 Sewage Overflows (Historical Comparison)

Indicators	Licence Standard	0/01	01/02	02/03	03/04	04/05	05/06
Number of uncontrolled sewage overflows in a financial year (other than public land) does not exceed 6,500	6,500	2,381	2,775	2,966	3,190	3,763	3,359

Figure 7-2 Sewer Overflows (Historical Comparison)

Source: Hunter Water licence compliance reports, trendline added by auditor.



Accuracy and Confidence Assessment

Hunter Water provided evidence demonstrating the accuracy and confidence of their reporting, including:

- » Jobs with changed priority;
- » Internal audit evidence;
- » Training Manuals;
- » Details of Water Treatment plants;
- » Letters to the Minister;
- » Methods of Calculation and Reporting.
- » Historical Records of Sewage;
- » Job Cards;
- » Internal audit evidence;
- » Training Records;
- » IT Business Continuity Plan; and

Considering the procedures, documentation and systems in place, and the information provided by Hunter Water, the auditor is satisfied that Hunter Water's reported results are sufficiently robust.

Strategies, Plans and Programs to Ensure Compliance

Hunter Water has a critical sewer program for built up areas, and also targets multiple occurrences with CCTV inspection. Such inspections reveal if rehabilitation/ renewal/ replacement is needed.

Hunter Water maintains that all assets are available on the GIS system. Each asset has a unique identification number and routine reports can be created for those assets that require periodic CCTV inspections.

Summary

Hunter Water fully complies with the standard of sewage overflows, of no more than 6,500 properties affected by an uncontrolled sewage overflow in a financial year (other than on public land). The measurement and reporting against the standard is generally reliable and systems appear to be in place to ensure that compliance to the amended standard is maintained in the short term.

7.5.5 Discussion on Ministerial Requirement 2003/04

Hunter Water provided information on the 2003/04 requirements to *'Continue to review its maintenance/operational practices to identify additional procedural and/or technological practices to enable it to better meet its water supply continuity Licence requirements'*.

Hunter Water reports that meeting the requirements of this requirement is a *'challenge'*. Since the Licence came into effect on 1 July 2002, the number of properties connected to the water supply system has increased by almost 8,000 (4%). Hunter Water initiatives are continuing, in order to comply with the Licence requirement, and this has resulted in a decrease in the number of properties affected each year since the non-compliance in 2003/04.

This work includes:

- » introducing regular toolbox meetings of office and field staff to monitor performance against the water continuity standard. These meetings aim to ensure field staff are aware of regulatory requirements and pre-planning of required shutdowns occur in order to minimise shutdown duration and impact;
- » installing remotely-monitored (telemetered) pressure and flow measuring devices;
- » installing new flow metres at water pump stations;
- » improving efficiencies in the water main replacement program;
- » continuing a program to assess the condition of major trunk mains;
- » expediting the installation of flow meters for trunk main failure detection; and
- » continuing to reinforce the process in place to minimise the discontinuity time for planned works, including maintaining the awareness of field crews of Licence requirements.

Hunter Water believes that, even with such initiatives, there could be non-compliance in the future, due to the systems vulnerability to trunk main failures and that the nature of urban development in the Hunter Region means that long lengths of single trunk mains supply many customers in outlying communities.

In normal conditions, Hunter Water expect to comply with this standard, however Hunter Water *'is unable to give an absolute guarantee of continual compliance against the standard due to climatic extremes, major trunk main incidents and growing customer base against an absolute licence limit'*.

The Hunter Water's Water Continuity Management Action Plan (October 2005) states that a working group was formed to detail plans to reduce discontinuity for water main failure, through actions such as:

- » the installation of *'aquastops'* near the point of connection;
- » temporary service to supply nearby customers or bypass shutdown area for single feeds;
- » maintaining supply to the old and new mains whilst services are being transferred in long duration water main renewals;
- » use of *'Hot-Taps'* (inserting a new connection without shutting the main down) in certain places; and
- » actions such as quarterly reviews of maintenance/operational practices in relation to water supply continuity and progress reviews.

A further Ministerial Requirement was to: *'Continue to utilise and trial its maintenance/operational practices identified during the 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'.

Hunter Water is continuing to see improvement by ensuring that the last component of the water supply system for each stage of the development has a shut-off valve installed. Also a revised Hot-Tap Policy¹, which now covers between 66% and 75% of new connections, has also resulted in reductions in discontinuity events.

This Policy is being reviewed in light of the introduction of a Water Services Association Australia Code and industry research that indicates that other authorities are also allowing larger size connections by hot tapping. This would allow nearly all large services and a majority of new connections to be performed without discontinuity.

As indicated in previous reports, freezing of water in mains was proving successful as a temporary blocking measure for installing new connections. However Hunter Water had stopping work on freezing until a safe work procedure is developed with the suppliers of this method.

Ministerial Requirement: *'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 the failure by 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'.*

Condition assessments for large trunk mains began at Hunter Water in 2003/04 and are continuing, with the total length of trunk mains prioritised for condition assessment for the period of 2003/04 to 2008/09 to be approximately 200 kilometres with \$1.43 million allocated. Currently 83 kilometres have been completed.

Hunter Water analysis has revealed that there are a number of mains and sections of mains where the condition assessment indicates that failures can be expected in the short to medium term. Over the next five years \$4.5 million has been included in the capital program for the sections of trunk mains that need to be replaced. Business cases are prepared as each analysis is complete, and a list of trunk main replacement priorities will be built up over time. In the long term, annual reviews will be undertaken as part of the capital works process.

In 2002, a critical trunk main assessment was undertaken. Currently there is a formal additional review of contingency plans to improve response times. This includes:

- » installation of new flow metres in critical trunk mains;
- » calibration of pressure transmitters for trunk main modelling; and
- » modelling to establish alarm limits for pressure transmitters at pumping stations.

Ministerial Requirement: *'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 trunk main failures to be more accurately pinpointed'.*

¹ Tapping of new connections under pressure



See Section 7.5.6 below for response.

7.5.6 Discussion of Ministerial Requirements for 2004/05

Ministerial Requirement MR7.1 (2004/05): *'Hunter Water should further progress the installation of additional pressure/flow monitoring devices linked to its new telemetry/SCADA system to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service'.*

Hunter Water has shown evidence of its upgraded SCADA system. This system means that Hunter Water now has the opportunity to implement advanced control and reporting schemes. Over the last two to three years, Hunter Water has increased its replacement schedule budget. Hunter Water has a program for condition assessments in order to proactively maintain linear polarisation resistance. There is now an accurate model to predict main break failures. Contingency plans have been drawn up to speed up response times to these events. Strategies are being implemented to increase distribution storage. Hunter Water has a model for investment based on the location of previous breaks and it manages its water mains by a reactive process. If water discontinuity is affecting the community on a regular basis then the main is replaced. Hunter Water has a risk-based criteria for defining priorities in condition assessment and replacement.

Ministerial Requirement 7.2 (2004/05): *'Increase the awareness of its work crews as to the importance of endeavouring to reconnect customers within five hours of a discontinuity event'.*

Throughout 2006, Hunter Water has been monitoring performance against the water continuity Licence requirement and has arranged regular toolbox talks with field crews. The toolbox meetings have an emphasis on water continuity, with regular incident reporting and debriefs of major incidents of discontinuity, and preplanning of planned shutdowns to ensure minimal shutdown durations. Procedures for reservoir cleaning are regularly reviewed.

In addition to this, a system was set up on the Corporation's GIS that highlights, for operational controllers and dispatch staff, areas where the level of continuity is an issue. This is then used to determine whether non-shutdown work practices could be applied, even if this incurred additional cost.

There is regular training for customer service staff and crews (including contract crews).

7.6 System Performance Indicators

Water

Table 7-5 shows the trends in the water continuity system performance indicators for five years. Where comparable data is unavailable for previous years, the cells have been greyed out.

Table 7-5 Trend Comparison of Water Continuity System Performance Indicators

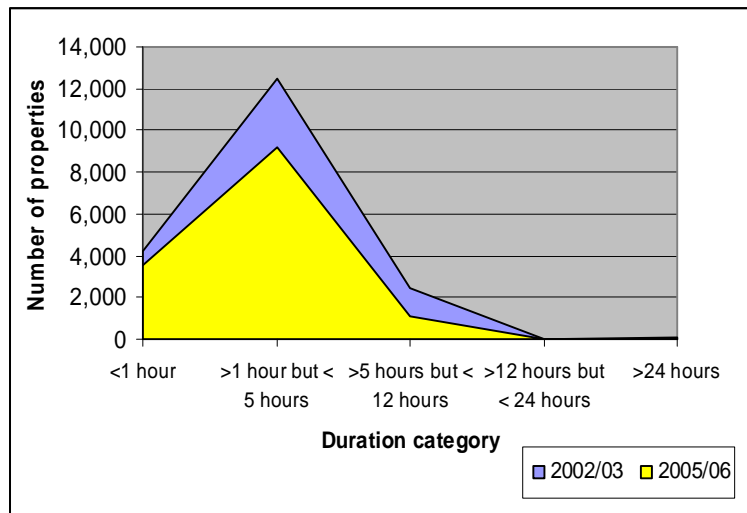
Indicators	Indicator Parameters	2001/02	2002/03	2003/04	2004/05	2005/06
Clause 1.2.1 Number of Properties affected by Planned water interruptions where the duration of the interruption is:	<1 hour		4,189	2,748	3,473	3,501
	>1 hour but ≤ 5 hours		12,502	9,741	8,738	9,224
	>5 hours but ≤ 12 hours		2,452	2,485	2,902	1,137

	>12 hours but ≤ 24 hours		0	9	0	0
	>24 hours		52	0	0	0
	Total interruptions		19,195	14,983	15,113	13,862
Clause 1.2.1 Number of Properties affected by Unplanned water interruptions where the duration of the interruption is:	<1 hour		23,003	17,028	21,174	19,684
	>1 hour but ≤ 5 hours		52,514	51,222	55,943	55,078
	>5 hours but ≤ 12 hours		4,500	8,911	4,353	5,713
	>12 hours but ≤ 24 hours		80	19	70	22
	>24 hours		31	0	3	6
	Total interruptions		80,128	77,180	81,543	80,503
Clause 1.2.2 Number of Properties affected by Water interruptions (whether a Planned or an Unplanned water interruption):	2 interruptions		13,429	12,659	13,870	14,495
	3 interruptions		5,056	4,760	4,566	4,999
	4 interruptions		1,985	1,804	1,532	2,178
	5 or more interruptions		1,661	1,202	584	939
	Total properties affected by multiple interruptions of any number		221,444.33	205,251.75	214,264.8	211,675.17
Clause 1.2.3 Number of Properties affected by a Planned water interruption that did not commence at the time specified in the notice.			1,681	1,762	1,852	1131
Clause 1.2.4—Detail of events where 250 or more Properties were affected in a single event by either a Planned or an Unplanned water interruption either of which is longer than 5 hrs. (Presented by auditor as summary statistics)	Number of planned events		0	3	1	0
	Total number of properties affected by planned events		0	1,017	252	0
	Weighted average outage time for properties affected by planned events (hrs/property)		0	5.57	6.80	0
	Number of unplanned events		3	3	2	4
	Total number of properties affected by unplanned events		1,964	6,747	2,064	2,703
	Weighted average outage time for properties affected by unplanned events (hrs/property)		7.48	6.14	5.57	6.82

Discussion

Over the four years under consideration, there has been a significant reduction in the total number of planned interruptions and this reduction is general across the duration profile (Figure 7-3).

Figure 7-3 Duration Profile of Planned Outages for 2002/03 and 2005/06.



With this improvement in planned outage, performance should have been reflected in improved water continuity. However the improvement in water planned outages has been, essentially, counterbalanced by deterioration in the unplanned outage duration profile (unplanned outages are generally longer than they used to be), and no change in the number of unplanned outages.

There has been a slight increase in the number of customers with multiple interruptions to service, but a reduction in the number suffering five or more.

There has been a significant improvement (in excess of 50%) in the number of planned interruptions where work has not started on time.

In 2005/06 Hunter Water had no planned events affecting more than 250 properties, where the interruption was longer than 5 hours, but did have four unplanned events. There were four instances when 250 or more properties were affected in a single event by a planned or unplanned water interruption that was longer than 5 hours, vis:

- » Maitland (7 hours, 1122 properties affected);
- » Arcadia Vale (6.5 hours, 810 properties affected);
- » New Lambton (7.8 hours, 487 properties affected); and
- » Kitchener (5.3 hours, 284 properties affected).

This 2005/06 result was double the number of unplanned events that occurred in the previous year. Additionally, if the reported results are considered as total customer hours interrupted across each of the last four years, the results indicate a downward trend (Figure 7-4).

However, if the 'outlier' event in 2003/04, where nearly 6,000 properties were affected by a single event, is excluded, the trend is reversed, as shown in Figure 7-5, indicating a trend of deterioration in service.

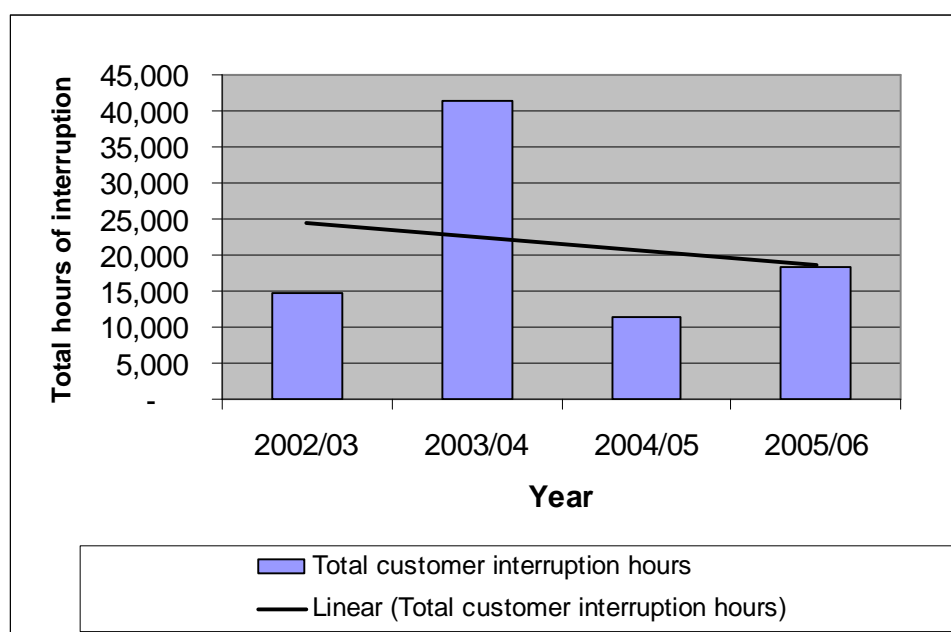
Conclusions

Hunter Water has made improvements in operational processes and practices that have resulted in significant improvement in planned outage performance. However, when the 'large' event performance deterioration is considered in combination with the changes in the unplanned outage duration profile (and allowing for the overlap of the results), there is a need

for Hunter Water to investigate and improve its unplanned outage repair times in the short term, but also to demonstrate to IPART, and hence its customers, that its asset management strategies are going to, at the very least, maintain compliance.

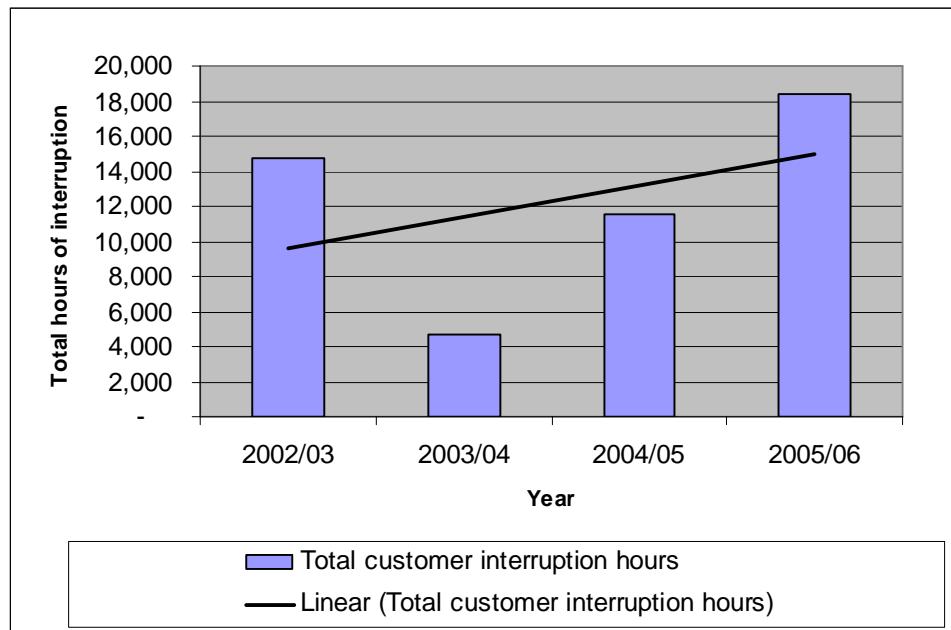
A report should be provided to IPART on Hunter Water's asset management options and strategies (including risk and cost benefit analysis) for improving security of supply to its customers in the medium to long term. This report should provide meaningful detail on the 'trunk main failure' issue, as this has been raised by Hunter Water as the principal area of concern for many years (see also discussion in 7.5.5).

Figure 7-4 Total Customer Interruption Hours for 'Large' Unplanned Interruptions



Source: Calculated by auditor based on data from Hunter Water Licence compliance reports, trendline added by auditor.

Figure 7-5 Total Customer Interruption Hours for 'Large' Unplanned Interruptions (Excluding Outlier).



Source: Calculated by auditor based on data from Hunter Water Licence compliance reports, trendline added by auditor.

Water Pressure

Table 7-6 shows the trend in water pressure system performance indicator data for five years. Where comparable data is unavailable for previous years, the cells have been greyed out.

Table 7-6 Trend Comparison of Water Pressure System Performance Indicator

Indicators	Indicator Parameter	2001/02	2002/03	2003/04	2004/05	2005/06
Clause 1.3.1 Number of Properties not in a low pressure area that experienced more than one Pressure incident in a financial year.			24	0	0	1

Discussion

There has been no significant change in performance for 2005/06.

Sewage Overflows

Table 7-7 shows the trends in sewage overflow system performance indicator data for five years. Where comparable data is unavailable for previous years, the cells have been greyed out.

Table 7-7 Trend Comparison of Sewage Overflow System Performance Indicators

Indicators	Indicator Parameters	2001/02	2002/03	2003/04	2004/05	2005/06
Clause 1.4.1 Number of Uncontrolled sewage overflows (other than on Public land) in dry weather	(a) A blockage in the main pipe		1,401	1,363	1,535	1,281
	(b) A blockage in a branch pipe		1,506	1,706	1,993	1,977

Indicators	Indicator Parameters	2001/02	2002/03	2003/04	2004/05	2005/06
caused or resulting from:	(c) Third party damage;		2	1	0	1
	(d) An event other than one described in (a), (b) or (c)		13	12	16	23
Clause 1.4.2 (a) Number of Priority 1 sewage overflows to which the Corporation responded in	< 1 hour		558	605	639	712
	> 1 hour		133	164	302	321
Clause 1.4.2 (b) Number of Priority 2 sewage overflows to which the Corporation responded in	<3 hours		3,121	3,344	3,628	3,491
	> 3 hours		659	701	990	810
Clause 1.4.3 Number of Uncontrolled sewage overflows on Public land that occurred in	dry weather		589	718	747	645
	wet weather.		9	14	55	17
Clause 1.4.4 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.			356	386	458	400
Clause 1.4.5 Sewage overflow (whether an Uncontrolled sewage overflow or otherwise and whether occurring in dry weather or wet weather) where the period since the last sewage overflow on that Public land is less than twelve months.			28	76	109	63

Discussion

Hunter Water achieved mixed results for 2005/06; a continuing reduction in blockages in the main sewer pipes is contrasted with no improvement in the number of blockages in branch sewers. Hunter Water improved its performance in responding to both Priority 1 and 2 sewerage overflows and there was also a reduction in repeat overflows.

7.7 Factors Affecting Compliance

There were no external factors considered to have affected compliance during the year. However Hunter Water has noted, in Ministerial Reports, that:

'since the licence came into effect in 1 July 2002, the number of properties connected to the water supply system has increased by almost 8,000 (or 4%). With the growth in connections, the absolute licence limit of 14,000 properties becomes harder to achieve without a major investment in operating and efficiency improvements²'.

In addition, Hunter Water note that:

'Hunter Water's system is more vulnerable to these trunk main events due to the fact that the linear nature of urban development in the Hunter means that long lengths of single trunk mains supply many customers in outlying communities. Hunter Water highlighted to IPART that, while

² Ron Robson's Letter to Minister Campbell Part B (27 July 2006)



the 14,000-property limit could be achieved in most years, it potentially could be exceeded in some years³.

7.8 Recommendations

7.8.1 Key Recommendations

It is recommended that Hunter Water:

- R7.1 Report to IPART on, and implement options to, reduce unplanned outage durations including the setting of separate planned and unplanned outages (within combined total of 14,000) targets and report annually against those targets to improve clarity of performance and asset management;
- R7.2 Report to IPART on Hunter Water's asset management options and strategies (including risk and cost benefit analysis) for improving security of supply to its customers in the medium to long term. This report should provide meaningful detail on the 'trunk main' issue;
- R7.3 Hunter Water ensure that there is improved accessibility to required system performance information in its new website; and
- R7.4 Train customer service staff to improve awareness of the availability of system performance information;

7.8.2 Secondary Recommendations

It is recommended that Hunter Water:

- R7.5 Implement appropriate processes and practices for managing and recording changes in priority of system failure events.

³ Hunter Water Corporation Water Continuity Management Action Plan Progress Report October 2005

8. Water Supply and Demand

8.1 Summary of Findings

» Integrated Water Resources Plan

Hunter Water's Integrated Water Resources Plan (IWRP) was completed in a previous audit period and thus **No requirement** applies to many of the clauses in 2005/06. HWC was assigned **Full compliance** for making the IWRP available. Future IWRPs will consider issues such as climate change and drought security, supply augmentation and opportunities for further recycling and demand management.

» Water Conservation Target

Full compliance was assessed for achieving water conservation targets.

The actual annual demand of 208kL/year/residential property is less than the *Water Conservation Target* of 215 kL/year/residential property. However, there is an upward trend in water consumption. Also, based on the accuracy of water measurement, at about $\pm 2.7\%$, the actual demand could be in the range 202 to 214 kL/year/residential property.

It is suggested that Hunter Water and IPART develop a more precise definition of the *Water Conservation Target* in the next Licence that explains how water restriction periods, the uncertainty in reading water meters and the change in demand, due to wet and dry climate years, is considered.

» Water Demand & Supply Indicators

As no water restrictions applied over 2005/06, a number of clauses were **No requirement**, while **High to Full compliance** was assigned for the balance of these clauses.

Hunter Water provided information on the relevant indicators of water demand and supply indicators. Performance was generally good except in the areas of progressing the uptake of recycled water by industry and in translating water audits of industry into actual water savings. It is recommended that HWC also review its method to measure water savings from replacement of old service pipes. Currently, water savings for this activity are a fixed figure applied to each replacement rather than an actual measurement.

Annual Reporting on Water Demand & Supply Indicators

The annually produced *Integrated Water Resource Plan 2005-06* and *Environmental and ESD Indicators Report* provided a good summary of Hunter Water's performance on Water and Demand indicators. Each report was delivered to IPART on time. However, there were a few instances of different figures being reported for the same indicator.

8.2 Summary of Requirements

Part 8 of the Licence specifies the requirements relating to 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 it has in place to meet future water demand. The key requirements in this Part 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; and
- » **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.

Clause 11.2.1(d) requires IPART, or the Auditor, to investigate and report on Hunter Water's compliance 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 Licence Part 8 – Water Supply and Demand

Clause	Requirement	Compliance	Findings
8.2 - Interpretation			
8.2.1	Where there is a reference to options developed under the Integrated Water resource plan, this includes an option or any combination of options	No requirement	Definition clause only.
8.3 - Integrated Water Resource 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").	No requirement	Compliance achieved in 2003 with the release of the <i>Integrated Water Resources Plan</i> (IWRP) on 1 March 2003. Full compliance was previously assessed and determined as part of 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.	No requirement	Full compliance was previously assessed and determined as part of 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.	No requirement	Full compliance was previously assessed and determined as part of the 2002/03 Audit. The IWRP was released on 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	Full compliance	The IWRP is easy to access via Hunter Water's website or on request a paper version can be provided. No changes, as a result of the review of the IWRP that commenced in June 2006, have yet been incorporated.



Clause	Requirement	Compliance	Findings
	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.	Full compliance	<p>Hunter Water has commenced its review of the IWRP. It will be completed around December 2008 to June 2009. The issues driving the review are summarised in Hunter Water's annual report to IPART on the "IWRP."</p> <p>Hunter Water has identified the key issues that need to be addressed in the current review and a program for release of the final IWRP.</p>
8.3.6	Hunter Water must report on any material amendments made in accordance with clause 8.3.5.	Full compliance	Hunter Water advised that there have been no material changes to the IWRP, over the audit year.
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	<p>Hunter Water is reviewing other Water Authorities approaches to issues such as demand management and extreme drought contingency plans, including desalination.</p> <p>The revised plan may consider a fifty-year planning horizon instead of the current 10-year horizon.</p>
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 for IPART. Hunter Water Corporation has made a submission to IPART.
Content and Methodology of the Plan			
8.3.9	<p>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.</p> <p>[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.]</p>	No requirement	This Plan was assessed in an earlier audit period. HWC is currently revising the Plan. It will contain consideration of Climate Change and the apparent step reduction in the annual water runoff patterns that is evident since the early 1990s at a number of sites on the east coast of Australia.



Clause	Requirement	Compliance	Findings
8.3.10 (a)	The Plan must indicate: 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;	No requirement	Assessed in an earlier audit period.
8.3.10 (b)	The planning assumptions, including drought management assumptions employed;	No requirement	Assessed in an earlier audit period.
8.3.10 (c)	The operational strategy in relation to water resource management; and	No requirement	Assessed in an earlier audit period.
8.3.10 (d)	All other relevant matters employed.	No requirement	Assessed in an earlier audit period.
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.	No requirement	Assessed in an earlier audit period.
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	No requirement	This requirement was met in the content of the IWRP in March 2003 and audit completed in 2002/03.



Clause	Requirement	Compliance	Findings
	<p>industrial sectors;</p> <p>(e) Rates and trends in leakage and real losses, in terms of the components of the Water balance table in the IWA publication;</p> <p>(f) Rates and trends in the demand for Recycled water; and</p> <p>(g) Actual and potential reductions in demand resulting from Hunter Water's initiatives.</p>		
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.	No requirement	This requirement has been met in the content of the IWRP in March 2003 and audit completed in 2002/03.
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.	No requirement	This requirement has been assessed during the 2002/03 Audit of the IWRP.
8.3.15	<p>In evaluating the options identified under clause 8.3.14 Hunter Water must take all necessary steps to ensure that the Plan;</p> <p>(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;</p> <p>(b) Compares the financial, social and environmental costs of each option, in order to determine the least cost option.</p>	No requirement	This requirement has been assessed during the 2002/03 Audit of the IWRP.
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	No requirement	This requirement has been assessed during the 2002/03 Audit of the IWRP.



Clause	Requirement	Compliance	Findings
	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.	No requirement	This requirement has been assessed during the 2002/03 Audit of the IWRP
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.	No requirement	This requirement has been assessed during the 2002/03 Audit of the IWRP. Under clause 2.3.1 IPART will initiate a review. HWC has commenced a review of its Integrated Water Plan and this will assist IPART in its review.
Annual Reporting on the Plan			
8.3.19	Hunter Water must report its performance against the Plan.	Full compliance	Hunter Water reported its performance against the IWRP in the <i>Integrated Water Resources Plan Annual Performance Report</i> , in the Regulatory Monitor Listing 2006 by Action Source (Demand Management Initiatives) as well as in its Annual Report. The Reports were sent to IPART on 1 September 2006. A procedure whereby a formal letter is received from IPART to confirm it received the report is recommended. Hunter Water has a well-defined Regulatory Report Checklist that documents the sequence of events leading up to delivery of the Reports. A Committee of senior management reviews all the Regulatory reports before publication.
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 for 2005/06 was 208 kL per year per residential property and during 2005/06 water restrictions were not imposed. The accuracy of this figure is approximated from the estimated accuracy of residential meters, which was assessed in 2004 at about $\pm 2.7\%$. Consequently, the actual figure could be somewhere in the range 202-214 kL per year per residential property compared to a target of <215 kL per year per residential property. Similarly, no advice is provided in the Licence on whether adjustment of actual annual consumption should occur in years when mandatory water restrictions are in place or for the impact of a drier or wetter climate compared to the "average year" climate condition.
			It is suggested that IPART and Hunter Water should review the current approach to see



Clause	Requirement	Compliance	Findings
			if a more precise definition of the 'Water conservation target' can be defined for the next Operating Licence.
8.4.2	Hunter Water must report its compliance with the Water conservation target.	Full compliance	Compliance against the water conservation target of 215 kL was reported in <i>Hunter Water's Annual performance Report</i> against the IWRP. The general trend for the past six years has been an increase in unit demand from a low figure in 1999/00 of about 196 kL/yr/property to a peak of 209.1 kL/yr/property in 2004/05. Hunter Water believe this trend is due to the growing proportion of homes built post 1987, which have a higher water consumption than houses built before 1987. BASIX and associated water conservation measures are expected to gradually reverse this trend.
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	Evidence of Hunter Water's continued activities to achieve compliance with the water conservation targets during 2005/06 included installation of 2,513 water efficient products in houses and the initiation of telemarketing to increase uptake. Leak detection work on 5.70 km of water main was completed and around 89 leaks were repaired during the audit period.
8.5 - Water Demand & Supply Indicators			
Security of Supply			
8.5.1	Hunter Water may impose Water restrictions only as approved by the Minister.	No requirement	No water restrictions were imposed during the 2005/06 Audit years.
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	No water restrictions were imposed during the 2005/06 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	No water restrictions were imposed during the 2005/06 Audit year.
8.5.4	Hunter Water must report on the quantity of water (in megalitres) supplied from each Water storage.	High compliance	The volumes supplied from each of the four sources was reported in the <i>Annual Integrated Water Resource Plan – Report to IPART</i> (Aug 2006) and is available on Hunter Water's website. A 'drop test' procedure to confirm accuracy of each flowmeter, using drop in actual water level in associated tanks, is in place but has not been



Clause	Requirement	Compliance	Findings
			repeated since June 2001. Only electrical calibration tests, at six monthly intervals, were completed and actual error was not defined in these certificates. The previous "drop test" indicated a bias towards under-reporting at lower flows (57ML/d) at the Grahamstown clear water tank outlet flow meter. However, the average flow rate is around 90ML/d. Hence, the effect of this bias would be relatively small. A high compliance has been awarded as Hunter Water has not defined how this possible bias has been accounted for and the period between "drop test" validations of the SCADA based calculated flow values, which is currently >6years, is considered too long.
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	Hunter Water reported the required components in the <i>Environmental and ESD Indicators Report</i> which is available on Hunter Water's website. About 99.8% of customers are metered. There is an ongoing program to improve meter accuracy by replacement of old meters, periodic checks for under/overflow errors and three-meter readings per year.
8.5.6	<p>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.</p> <p><i>[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.]</i></p>	Full compliance	<p>The differences were reported in Hunter Water's <i>Environmental and ESD Indicators Report</i> for 2005/06 published on Hunter Water's website. Where the difference suggested increasing trends in water consumption or in water losses. Hunter Water sometimes described the actions it has implemented, to try to reduce water consumption or losses in the specific area identified, as having an increasing trend. For example, a rising residential consumption per household will be addressed by a new telemarketing campaign to encourage uptake of water saving kits (REFIT KITS).</p> <p>Strong economic growth is believed to be the reason for the 16% increase in annual industrial and commercial water use (excluding large customers) between 2004/05 and 2005/06. Hunter Water is involved in the Cleaner Production Program, which aims to improve water efficiency in this sector. However, to date this Program has not yet produced any water savings.</p>
Recycled Water			
8.5.7	<p>Hunter Water must report on the quantity of Recycled water (in megalitres) supplied in a Reporting period for the following applications:</p> <p>(a) for industrial or commercial use;</p> <p>(b) for direct use in irrigation; or</p>	Full compliance	The quantities of recycled water in each category were reported in Hunter Water's IWRP report to IPART (August 2006), with industrial reuse at 1,200 ML, direct use in irrigation at 1,345 ML and indirect use in irrigation at 1,510 ML. Reporting also occurred in Hunter Water's <i>Environmental and ESD Indicators Report</i> . However, only direct use was reported in this document. The annual amount of directly reused recycled water, expressed as a percent of dry weather flow entering Hunter Water's wastewater



Clause	Requirement	Compliance	Findings
	(c) for uses, other than those described in (a) or (b).		<p>treatment plants was found to be different in each of these documents and was due to a double counting error in the IWRP report. The correct figure is 4.1%, as noted in the ESD report, and not 5% as noted in the IWRP report to IPART.</p> <p>Also there seems to be a downward trend in the annual volumes for direct reuse over the past 5 years.</p> <p>Setting a target for recycled water, to be used for potable water replacement, is recommended to encourage increased recycling.</p>
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> <p>(a) Consumption by persons in Residential Properties; (b) Industrial and commercial uses (excluding use by a Large Customer); and (c) Consumption by Large Customers.</p>	Full compliance	<p>The quantities were reported in the <i>Environmental and ESD Indicators Report</i> and in the annual IWRP report to IPART (August 2006), together with past trends.</p>
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> <p>(a) growth in the Customer base; (b) climatic impact; (c) the nature or extent of consumption of Recycled water; or (d) demand management initiatives.</p>	High compliance	<p>Comparison of the quantity of water supplied for each class of consumer was reported in the <i>Environmental and ESD Indicators Report</i>. Areas where water supplied was significantly higher in 2005/06 compared to 2004/05 were residential and industrial plus commercial.</p> <p>Assessment of Demand Management activities revealed a drop-off in uptake of water efficient appliance kits (REFIT KITS) installed by HWC. Whilst 6,727 kits were installed in 2004/05, only 2,513 kits were installed in 2005/06 against a target of 5,000 kits. Also, the total number installed to date represents only about 4% of all customers. Also, none of the thirty-two businesses receiving water audit funding over 2005/06 implemented water saving practices that lowered their measured consumption. In addition, the water savings of 400 ML/yr from old water main replacements is based on a 'guess' about leakage rates from existing service mains, set at 1 litre/hr/service main. Similarly, all water loss reductions due to leak repairs are not measured from changes in Minimum Night Flows (MNF) due to insufficient or inaccurate flow meters. There was a budget of \$285,000 to be spent in 2005/06 on installation of these water meters but less than \$2,000 was spent. Installation of 15 No flowmeters will be completed over winter 2007. However, significant success was evident in the Windale Pressure reduction project with perhaps a 16% reduction in Minimum Night Flows (MNF) or 4 ML/yr. Unfortunately, the</p>



Clause	Requirement	Compliance	Findings
			<p>MNF record prior to commencement was only about one month so it is difficult to confirm the 16% reduction.</p> <p>Hunter Water has prepared a comprehensive draft Recycled Water Strategy during the audit period to assess opportunities for water recycling. It has also completed a submission to IPART regarding further pricing mechanisms for recycled water. However, there has been no growth in the number of recycled water projects or in actual recycled water consumption for the past 5 years and the current proportion of reuse water of 7.5% is well below Hunter Water's stated objective of 13% reuse for potable substitution by 2007.</p>
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.	Full compliance	The <i>Environmental and ESD Indicators Report</i> for 2005/06 contains Hunter Water's performance. The <i>IWRP Annual Performance Report</i> also summarises Hunter Water's performance in the areas specified under clause 8.5.1 to 8.5.9; namely security of supply, water losses, recycled water and demand management.
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	The <i>IWRP Annual Performance Report</i> was forwarded to IPART on 1 September 2006 and is available for download from its web site. It is noted that IPART does not confirm receiving the report in writing.

8.4 Discussion

Integrated Water Resources Plan (IWRP)

The IWRP is well defined and in the process of being updated to consider issues such as climate change and drought security, supply augmentation options, and opportunities for further recycling and demand management.

These activities have increased significance given the possibility that bulk water transfers to Gosford/Wyong will increase and may become a more permanent feature under climate change scenarios for the region.

Water Conservation Target

While Hunter Water continues to achieve an annual residential consumption below the target of 215-kL/yr/residential property, an increasing trend in the five-year rolling consumption average may be occurring as indicated in Table 8.2 below. The current rolling average approach would account for the impact of wet or dry year climates but would tend to be biased towards a lower value if long periods of water restrictions occur. To date restrictions have been relatively short duration however this may change in the future with Climate change. At this point in time it is not considered that an alternative method of calculating performance against this Target is needed.

Table 8-2 Water Conservation Results

	Average Residential Water Consumption (kL/annum)						
	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Average Residential Usage	193.3	211.0	209.0	222.0	207.6	196.7	205.0
Rolling Five Year Average for this Year	- ¹	200	203	205	208.6	209.1	208.0
Target Rolling Five Year Average	-	-	-	-	215.0	215.0	215.0

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

Water Demand and Supply Indicators

Table 8.3 shows the reported quantity of water supplied from each of Hunter Water's storages/sources. It suggests there is no overall increasing trend in annual water supply to the region over the past five years.

REFIT Kit Program

The drop off in the number of REFIT kits installed by Hunter Water over 2005/06 is, in part, likely to be due to private sector competitors offering alternate kits at lower prices. If this is correct, it could put at risk

the credibility of this important demand management initiative. It may well be that Hunter Water revise its REFIT Kits program, particularly its pricing and promotion.

Table 8-3 Annual Supplies from Storages

Source	Annual Supplies from Storages (ML/annum)					
	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Chichester Dam	31,957	30,123	27,532	28,070	27,957	29,400
Tomago Sandbeds	15,958	14,749	14,845	16,098	5,176	9,800
Grahamstown Dam	24,208	24,170	31,142	26,338	37,197	31,500
Anna Bay Sandbeds	3,517	3,703	3,224	1,586	2,212	2,100
Lemon Tree Passage	823	821	884	790	0	0
Total Supplies	76,463	73,566	77,627	72,882	72,542	72,800

Water Demand and Losses from the Water Supply System

Table 8.4 shows the water demand and associated losses.

The Water Services Association of Australia (WSAA) benchmarking guidelines are used to calculate water losses.

Real water loss from Hunter Water's water supply system for 2005/06 was estimated at 6,422 ML/annum, which is 8.8% of total water supplied.

Various indices can be used to assess the losses. Hunter Water note that the Infrastructure Leakage Index (ILL) has undergone a steady downward trend since 2003 and is now in, or close to, the "excellent" range since 2005. There has been an unusually large drop in all water loss indices in 2005/06 compared to previous years. Hunter Water believes this reduction is the combined effect of their water loss prevention activities. However, the step reduction does not appear to be consistent with the reported water saving activities over 2005/06 compared to 2004/05.

Table 8-4 Water Demand and Water Losses from Water Supply System

	Annual Water Consumption (ML/annum unless indicated otherwise)				
	2001/02	2002/03	2003/04	2004/05	2005/06
Total Water Demand	73,566	77,627	72,882	71,616	72,800
Authorised Consumption	62,014	66,407	62,844	61,308	64,452
Water Losses (non Revenue)	11,552	11,220	10,038	10,308	8,376
Apparent Losses ¹	3,806	3,301	1,862	1,842	1,954
Real Losses ¹	8,466	7,919	8,174	8,466	6,422



	Annual Water Consumption (ML/annum unless indicated otherwise)				
Real Losses/Connection/Day (litres)	155	106	113	110	87
Real Losses/Connection/Average Metre of Pressure (litres)	2.30	2.11	2.03	1.99	1.57
Real Losses (as a % of Water Supplied)	11.5%	10.2%	11.2%	11.84%	8.8%
Real Losses per km of pipe	2.03	1.79	1.84	1.86	1.51
Infrastructure Leakage Indices	2.3	2.0	1.7	1.7	1.3

(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)

Water Conservation and Recycling Activity During 2005/06

Leak Detection & Active Leakage Control

Hunter Water has two independent Contractors involved in leak detection work. Random checks by each independent Contractor on the other's work are made to verify results. Hunter Water staff complete repair work, do a flow measurement and take a photo of the leak where possible. Out of a total of eighty-nine leaks detected in 2005/06 a total of fifteen leaks, that is 16%, were actually measured on site prior to repair. Also, measured values in some cases were one to two orders of magnitude different, both higher and lower, to the estimated leakage rate.

A further pressure management trial is being investigated for Argenton. However, no funds were spent on pressure management over 2005/06.

It is suggested that the method of estimating water savings in the water service replacement program, for which the reported water savings in 2005/06 was 400 ML, can be improved. The estimated water savings from replacing old water service pipes is the third highest source of water savings. However, the water saving is not based on any measurements, it is only an estimate.

Water Audits of Businesses

Between 2004/05 and 2005/06 annual Industrial and Commercial water use (excluding large customers) increased from 7,158ML to 8,308ML, which is a 16% increase. Over 2005/06, Hunter Water contributed \$30,000 funding to the Cleaner Production Project that aims at reducing water, energy and waste by such businesses that chose to participate in the Project.

The outcome of this expenditure by Hunter Water was a water audit of thirty-two businesses. Each company contributed between \$500-\$2,000. However, to date no water savings by these participating

businesses have been detected. It is recommended that Hunter Water determine the reasons for this result and develop strategies to address the situation.

Indoor/Outdoor Residential Metering Program

One important gap in demand management is an accurate understanding of where water is used in residential properties and the link between property characteristics (for example, garden size, soil type, number of occupants) and the split of water uses. Hunter Water expects to complete installation of all special water meters, for this program, to better define internal and external water use, by the end of 2005 at a cost of \$270,000.

The program is to run for about 13 months and is an important project, which should substantially improve the understanding and targeting of demand management activities.

Recycled Water

During 2006 Hunter Water completed a review of recycling opportunities and found that the technically feasible recycling limit for non-potable reuse (mainly by Industry) is about 16% of average dry weather flows. However, to date the amount reused is only about 4.1% and the amount recycled appears to have decreased over the past 5 years. It is therefore suggested that a process to encourage more recycling may be warranted, such as setting targets to be achieved by specific future dates.

The Eraring Power Station water recycling scheme is one of the largest long running modern schemes in Australia. The successful performance of this scheme is likely to be a key driver that contributes to other industries taking up re-use opportunities outlined in Hunter Water's Draft Recycled Water Strategy. Consequently, maintaining an active interest in the Eraring scheme is suggested. Specific areas where Hunter Water should consider follow up include the following.

1. The water quality performance of the Eraring Recycled Water Treatment Plant. This is currently not being actively tracked by Hunter Water.
2. Details of the 'problem' experienced by Eraring Power Station at its recycled water treatment plant that lead a substantial reduction in its take of recycled water in 2005/06.
3. Details of the cause(s) of the 'problem' and what "lessons learnt" might apply in future recycled water schemes.

8.5 Overview of Compliance

Specific factors affecting compliance are:

- » Hunter Water achieved 7.5% reuse, to date, against a target of 13% reuse by 2007;
- » Significant drop-off in uptake of REFIT KITS;
- » Lack of progress in developing another pressure reduction zone;
- » Lack of scientific verification of the estimate of water savings from service water main replacements;
- » Lack of regular 'drop test' checks, say at 5 year intervals, of its four supply flow meters and slow progress at installing additional meters for Minimum Night Flows assessment; and
- » Lack of progress with translating water audits of Industry into actual water savings by the audited industries.

8.6 Factors Affecting Compliance

Hunter Water has delivered all documents required in its Licence for Water Supply and Demand.

However, the technical quality of information contained in some of the documents can be improved. For example, the directly reused recycled water as a percent of dry weather flow entering the waste water treatment plants was quoted as 4.1% in the ESD Indicators report and quoted as 5% in the IWRP report.

Similarly, it is not stated in the performance reports prepared by Hunter Water that the 400ML per year water saving from replacement of old service pipes is only an estimate.

Also, progress on achieving water savings in some key areas has been slow. For example, in the water audits a relatively large number of industries have yet to produce any water savings.

Finally, the strategic value of the Eraring Power Station water-recycling project could be better monitored and promoted.

Equally though, Hunter Water also established some excellent activities, such as its leak detection/reduction program, its pressure management project, its review of water recycling opportunities and the REFIT KIT (provision of water efficient shower heads and taps for residential properties) program.

8.7 Recommendations

8.7.1 Key Recommendations

It is recommended that Hunter Water:

- R 8.1 Develop a summary table for each of its water saving initiatives identifying annual budget, actual expenditure to the end of each year, target water savings increase for the year, actual savings achieved for the year and key reasons for its performance;
- R 8.2 Review the methodology for defining actual water savings from its Water Service Replacement program; and
- R 8.3 Review the process of estimating water losses, due to leaks, to determine if greater accuracy can be achieved or, alternatively, ensure more leaks are actually measured on site before repairs are completed.

8.7.2 Secondary Recommendations

It is recommended that Hunter Water:

- R 8.4 Complete a post implementation review of performance and “lessons learnt” from the successful Eraring Power Station reuse project and incorporate this experience in Hunter Waters Recycled Water Strategy Study and revised Integrated Water Resources Plan;
- R 8.5 Complete more frequent “drop tests”, say once every 5 years, to confirm the accuracy of the four water supply meters that together determine the total water supply to the HAWK supply area;



- R 8.6 Implement a more effective Cleaner Production project to achieve real water use efficiencies and develop other strategies aimed at reducing water consumption by the Industrial and Commercial sector; and
- R 8.7 Work with IPART to establish, in the next Licence, an agreed position on how the impacts of water restrictions, accuracy of water meter readings and wet and dry year climate conditions should, if necessary, be considered in the calculation of the five year rolling average water consumption figure used to compare against the Target of <215KL/household/year.

9. Environment – Indicators and Plans

9.1 Summary of Findings

» The Environmental Management Plan

Compliance with the majority of clauses with respect to the development of an Environmental Management Plan (EMP) was achieved in the 2002/2003-audit period and in the 2004 – 2007 Strategic Business Plan. Thus '**No requirements**' were recorded for performance against the majority of clauses. Consequently, performance related primarily to monitoring activities over 2005/06, for which **Full compliance** was assessed.

Hunter Water has made no material or other amendments to the EMP during the current reporting period.

The EMP is available on the Hunter Water website as well as in public libraries within the service area. In addition, customers may obtain a hard copy of the EMP directly from Hunter Water's customer service centres.

» Environmental and ESD Indicators

Similarly, compliance with the requirements of the majority of clauses relating to environmental and ESD indicators was achieved in the 2002/2003 audit period and there were '**No requirements**' within the current audit period. IPART began a review of Hunter Water's Operating Licence commencing in July 2006. This review was still in progress, over the audit year.

Hunter Water has achieved **Full compliance** against clauses that relate to monitoring, compiling data and reporting performance against the environmental and ESD indicators.

» Energy Management

Hunter Water has achieved **Full compliance** against clauses that relate to energy management.

The audit notes that a Licence amendment should be sought during the current Licence review to remove references to SEDA and the Energy Smart Business Program.

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 – The Environmental Management Plan:** This Clause specifies the requirements for the production of an Environmental Management Plan.
- » **Clause 9.2 – Environmental and ESD Indicators:** This Clause specifies the requirements for the monitoring and reporting of performance with respect to environmental and ESD indicators.
- » **Clause 9.3 – Energy Management:** This Clause specifies the requirement for participation in the Energy Smart Business Program.

Clause 11.2.1(d) requires IPART, or the auditor, to investigate and report on Hunter Water's *'performance'* under Part 9 of the Operating Licence. Though for consistency, in definition and presentation of audit findings, the *'compliance'* ratings (as opposed to a separate *'performance'* rating) has been retained. 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 Performance

Table 9-1 Licence Part 9 - Environment – Indicators and Plans

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	Compliance was achieved in the 2002/2003 audit period. The next EMP is due in 2007.
9.1.2	Hunter Water must engage in Public consultation in developing an Environmental Management Plan.	No requirement	Compliance was achieved in the 2002/2003 audit period. The next EMP is due in 2007.
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.	No requirement	a) Compliance was achieved in the 2002/2003 audit period. Next EMP due 2007. b) Compliance was achieved in the 2002/2003 audit period. Next EMP due 2007. c) Compliance was achieved in the 2004-2007 Strategic Business Plan. Next Plan due 2007.
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.	No requirement	Compliance achieved in the 2002/2003 audit period with Minister's approval of targets and timeframes. Next EMP due 2007.



Clause	Requirement	Compliance	Findings
9.1.5	Any material amendments may only be made to the Environmental Management Plan following Public consultation.	No requirement	No amendments have been made to the Plan, over the audit year.
9.1.6	Hunter Water must report on any material amendments made in accordance with 9.1.5.	No requirement	No amendments have been made to the Plan, over the audit year.
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	<p>The Environmental Management Plan is available on the Hunter Water website and is available at request at its Customer centres.</p> <p>The Environmental Management Plan is also available at local libraries.</p>
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 on indicators including:</p> <ul style="list-style-type: none"> » Water quality; » Wastewater quality; » Beach water quality (Beachwatch); » Biosolids and effluent reuse; » Waste and recycling (WRAPP); » Energy usage (Government Energy Management Plan); » Water Services Association of Australia requirements; » Billing and metering; » Customer complaints; and » Population, customers and costs.



Clause	Requirement	Compliance	Findings
			Development of new ESD indicators has commenced ahead of the 2007 Report.
9.2.2	Hunter Water must develop a draft list of environmental and ESD indicators within 3 months of the Commencement date.	No requirement	Compliance was achieved in the 2002/2003 audit period.
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	Compliance was achieved in the 2002/2003 audit period.
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	Compliance was achieved in the 2002/2003 audit period.
9.2.5	The draft list of environmental and ESD indicators developed by Hunter Water must undergo Public consultation.	No requirement	Compliance was achieved in the 2002/2003 audit period.
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	Compliance was achieved in the 2002/2003 audit period.
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	Compliance was achieved in the 2002/2003 audit period. Data collection commenced ahead of 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.	Full compliance	<p>Hunter Water has reported its performance against its environmental and ESD indicators for 2005/2006 within the 2005/2006 Environment and ESD Indicators Report. This report meets the requirements of the Operating Licence.</p> <p>Trends are illustrated graphically for the last four to five reporting periods, depending on availability of data.</p>



Clause	Requirement	Compliance	Findings
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	Hunter Water's Operating Licence is due to expire on 30 June 2007. IPART began a review of Hunter Water's operating licence commencing in July 2006. This review was underway over the audit year.
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 SEDA.	Full compliance	<p>Following the closure of SEDA, Hunter Water has been negotiating with DEUS to develop an Energy Savings Action Plan appropriate to a water utility.</p> <p>Hunter Water will undertake Energy Audits of its ten largest buying points. Hunter Water's goal is to prepare an Energy Savings Action Plan for the Tomago Sand Beds by December 2006 and for the remaining nine sites by March 2007.</p> <p>A Licence amendment should be sought during the current Licence review period to remove references to SEDA and the Energy Smart Business Program.</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>Refer to comments provided against Clause 9.3.1.</p> <p>The 2005/2006 Environmental and ESD Indicator Report has been issued and is available on Hunter Water's website. Energy Management is a component of that report.</p> <p>Reporting of the outcomes of the Energy Savings Action Plan will be undertaken through the Government Energy Management Plan (GEMP) process.</p>

9.4 Discussion

9.4.1 Environmental Management Plan

Hunter Water has previously achieved Full compliance with respect to the development of an Environmental Management Plan. Compliance with these requirements (Clauses 9.1.1, 9.1.2, 9.1.3a and 9.1.3b) was achieved in the 2002/2003-audit period and there are no additional requirements within the current audit period. Compliance with Clause 9.1.3c was achieved in the 2004 – 2007 Strategic Business Plan and there are no additional requirements within the current audit period.

Hunter Water has made no material or other amendments to the EMP during the current reporting period. The requirements of Clause 9.1.5 and 9.1.6 of the Operating Licence have not been triggered.

Full compliance with Clause 9.1.7 of the Operating Licence has been achieved. The EMP is available on the Hunter Water website as well as in public libraries within the service area. In addition, customers may obtain a hard copy of the EMP directly from Hunter Water's customer service centres.

9.4.2 Environmental and ESD Indicators

Similarly, Hunter Water had 'No Requirement' against many of the relevant clauses having achieved compliance in 2002/03. Full compliance was assessed against clause 9.2.1 and 9.2.8 that relate to monitoring, compiling data and reporting performance against the environmental and ESD indicators. Hunter Water compile a range of water and wastewater data, effluent reuse, waste management, energy usage and financial and customer information, and reported the outcomes in an annual Environmental and ESD Indicators Report. The current Report provides trend data for the last four to five years, depending on availability of data.

Compliance with the requirements of Clauses 9.2.2 to 9.2.6 was achieved in the 2002/2003 audit period and there are no additional requirements within the current audit period. Clause 9.2.9 requires environmental and ESD indicators to be reviewed as part of the Licence review. Hunter Water's Operating Licence is due to expire on 30 June 2007. IPART began a review of Hunter Water's Operating Licence commencing in July 2006. This review is still in progress.

9.4.3 Energy Management

Hunter Water has achieved Full compliance against Clause 9.3.1 and 9.3.2 that relate to energy management.

Hunter Water has been negotiating with the Department of Energy, Utilities and Sustainability (DUES) to develop Energy Savings Action Plans for its ten largest buying points. This is in excess of DEUS requirements, which prescribes an audit of the single largest buying point. Hunter Water's goal is to prepare an Energy Savings Action Plan for the Tomago Sand Beds by December 2006 and for the remaining nine sites by March 2007.

The auditor notes that a Licence amendment should be sought during the current Licence review to remove references to SEDA and the Energy Smart Business Program.



Energy Management is a component of the 2005/2006 Environmental and ESD Indicator Report, which has been issued and is available on Hunter Water's website. In addition, reporting of the outcomes of the Energy Savings Action Plans, once developed, will be undertaken through the Government Energy Management Plan (GEMP) process.

9.5 Factors Affecting Compliance

No extraordinary 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

There are no recommendations required to ensure Hunter Water's compliance with Part 9 of the Operating Licence.

10. Catchment Management

10.1 Summary of Findings

Hunter Water has achieved **Full compliance** for activities under Part 10 of the Operating Licence.

» **Catchment Report**

The Catchment Report provides information on all catchment management activities as required (under Clause 10.1.1) and including:

- » Bulk water quality;
- » Activities undertaken in accordance with Hunter Water (Special Areas) Regulation, 2003, the Williams River Catchment Regional Environmental Plan, the Williams River Regional Planning Strategy (1997) and the Seaham Weir Operations Plan;
- » Performance against its Water Management Licence and the condition of its dams, ponds and detention basins under the Dam Safety Act 1978;
- » Additional water or land management activities undertaken within the catchment; and
- » Five-year trends observed in the Williams River against specified water quality parameters and other routinely tested water quality parameters.

» **Public Display of the Catchment Report**

The Catchment Report is available on the Hunter Water website. In addition, customers may obtain a hard copy of the Report directly from Hunter Water's customer service centres.

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 – Catchment Report:** This Sub-clause sets out the requirements for a Catchment Report and reporting; and
- » **Clause 10.1.2 – Public Display of the Catchment Report:** This Sub-clause sets out the requirements for the publication and display of the Catchment Report.

Clause 11.2.1 (f) requires that IPART or the auditor to investigate and report on Hunter Water's compliance 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 11.2.1(f) of the Operating Licence.

Clause 10.1 of the Operating Licence requires Hunter Water to prepare a report known as the '*Catchment Report*'.

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 the following.

1. 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 radiological parameters.
2. 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 Environmental Plan** – designed to protect and improve the environmental quality of the Williams River by establishing a coordinated and constituent 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 land use through Local Environmental 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.
3. 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.
4. 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.
5. 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 website for people to be able to download, free of charge. Hunter Water must also make the report available at its premises to be read or taken away, free of charge.

10.3 Details of Compliance

Table 10-1 Licence Part 10 Catchment Management

Clause	Requirement	Compliance	Findings
10.1	Catchment Report		
10.1.1	<p>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:</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> <p>(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;</p> <p>(c) details of Hunter Water's performance against the Water Management Licence and the Dam Safety Act 1978;</p> <p>(d) other catchment, Landcare or other supporting activities conducted by or on behalf of Hunter Water; and</p> <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>	Full compliance	<p>The <i>2005/2006 Catchment Report</i> was published in September 2006 and was submitted to Hunter Water's Board of Directors at their meeting of 28 September 2006. Minutes of the meeting have been sighted, acknowledging receipt of the Report. The Report is also available on the Hunter Water website.</p> <p>a) The <i>2005/2006 Catchment Report</i> includes monitoring results for all of the nominated bulk water monitoring parameters specified in Schedule 3 of the Operating Licence, including pesticides, chemical contaminants and radiological activity.</p> <p>b) Hunter Water has reported on all activities conducted under the planning instruments listed in the Operating Licence in the 2005/2006 Catchment Report and includes the following.</p> <p>» Regular inspections and maintenance of the existing Seaham Weir fishway and farm floodgates along the weir pool in accordance with the Seaham Weir Operating Plan, erection of signage on the floodgate structures to assist with identification and the removal of woody vegetation along the Seaham Weir rock embankment.</p> <p>» Studies and trials under the <i>Williams River Catchment Regional Environmental Plan and Regional Planning Strategy</i> resulted in NSW Fisheries advising Hunter Water that there was no requirement to provide fish passage between the Williams River and Hunter Water's off-river storage at Grahamstown. NSW Fisheries recommended that a pump flush procedure be carried out after each pumping event to release any eels that had been trapped in the pump station pipe work. This procedure is now adopted as a standard operating procedure and is an ongoing practice.</p> <p>» Hunter Water has provided comments to relevant authorities in relation to Development Applications for proposals within the areas prescribed in the Hunter Water Special Areas Regulation. During 2005/2006 Hunter Water provided comment on development,</p>



(iii) faecal coliforms;

(iv) chlorophyll-a;

(v) turbidity; and

(vi) other parameters as routinely tested and measured by Hunter Water.

subdivision and re-zoning applications, including:

- » DA for racing circuit and drag strip at 49 & 53 Pacific Highway and no. 105 Italia Road, Balickera;
- » Rezoning application 171/82/3 - Lot 1 DP 964046, 1285 Limeburners Creek Road, Clarence Town;
- » Proposed upgrading of the RAAF ordinance loading apron;
- » F3 to Raymond Terrace Upgrade to the Pacific Highway;
- » Proposed Tourist Facility at 519 Nelson Bay Road, Williamtown; and
- » Redlake Proposal on Tomago Road.

» Hunter Water also provided comment on landuse strategy proposals including:

- » The Draft Lower Hunter Regional Strategy; and
- » RAAF Base/Newcastle Airport Williamtown and Environs Land Use Strategy.

c) The 2005/2006 Catchment Report contains sections reporting on Hunter Water's performance against its Water Management Licence and the Dam Safety Act 1975, including the following.

- » The statutory five-yearly review was completed by the Department Natural Resources in 2003, with a revised Water Management Licence and new Water Access Licenses issued in June 2004.
 - » In 2005/2006, Hunter Water notified DNR of the non-compliances related to Seaham Weir level and Williams River algal quality.
 - » Statutory five-yearly surveillance reports on all of Hunter Water's dam structures, being Chichester Dam, Grahamstown Dam and Winding Creek Detention Basin, were submitted to the Dam Safety Committee earlier, namely during 2003.
 - » The Grahamstown Dam Stage II Augmentation works comprising a new embankment and a labyrinth spillway, were completed in December 2005 increasing the dam capacity to 190,000ML.
-



			<ul style="list-style-type: none">» Monitoring and remedial work was undertaken at Chichester Dam; and» Development Approval for an upgrade of the storage capacity of the Winding Creek Detention Basin, which was granted in July 2006. <p>d) The 2004/05 Catchment Report includes sections on Hunter Water's involvement with catchment, Landcare and other supporting activities within 20005/2006, such as:</p> <ul style="list-style-type: none">» Monitoring of the Bandon Grove fish way;» Participation on the Williams River Consultative Committee, formed to provide advice on the ongoing management of boating on the navigable length of the Williams River between Raymond Terrace and Clarence Town;» Development of property management plans for a number of rural properties adjoining the Chichester Dam and at the site of the future dam impoundment at Tillegra in the upper Williams Valley; and» Activities to address bush fire management, weed management, unauthorized access to Hunter Water lands, illegal dumping and feral animal control. <p>e) The 2005/2006 Catchment Report includes five-year water quality trends for the required water quality parameters and for twelve additional parameters. All trends are graphed showing trend lines.</p>
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.	Full compliance	The Catchment Report is available on the Hunter Water website and is available by request at its Customer centres.



10.4 Discussion

Hunter Water has achieved Full compliance with the requirements of Part 10 of the Operating Licence in the 2006/2006 audit year.

10.5 Factors Affecting Compliance

No extraordinary factors affected Hunter Water's compliance with Part 10 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 10 of the Operating Licence.

10.6 Recommendations

There are no recommendations required to ensure Hunter Water's compliance with Part 10 of the Operating Licence.

11. Complaint and Dispute Handling

11.1 Summary of Findings

» Effectiveness of Complaints and Dispute Handling Procedures

Hunter Water operates an effective complaints handling process and has achieved **High compliance**. Its systems are designed to comply with the Customer Contract; it has monitoring processes in place to measure 'effectiveness' and regularly reports to senior management and its customers on its performance.

» Complaints to Other Bodies

Hunter Water advised that there have been no complaints to a Court or Tribunal during this audit period.

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 as outlined below.

- » **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.
- » Comment on any submissions received by IPART regarding Hunter Water's complaint and dispute handling processes.

Clause 11.2.1(j) requires IPART, or the auditor, to report on the '*effectiveness*' of Hunter Water's internal complaints handling processes under Clause 12.1 and external dispute resolution scheme under Clause 12.2. Clause 11.2.1 (k) requires IPART or the auditor to report on '*Complaints made*' against Hunter Water to a Court or Tribunal under Clause 12.3. Though for consistency, in definition and presentation of audit findings, the '*compliance*' ratings (as opposed to separate '*effectiveness*' or '*complaints made*' rating) has been retained. This Clause does not set requirements for Hunter Water or IPART and/or the Auditor.

This section of the report presents the auditors findings in relation to Clause 11.2.1(j) and Clause 11.2.1(k).



11.3 Details of Compliance

Table 11-1 Licence Section 12 – Complaint and Dispute Handling

Clause	Requirement	Compliance	Findings
11.2	What the Audit is to Report on		
11.2.1(j) prepare a report on the effectiveness of Hunter Water's internal complaints handling process under clause 12.1 and external dispute resolution scheme under clause 12.2	High compliance	<p>Hunter Water operates an effective complaints handling process. Its systems are designed to comply with the Customer Contract; it has monitoring processes in place to measure 'effectiveness' and regularly reports to senior management and its customers on its performance.</p> <p>Detail on the procedures implemented by Hunter Water to monitor and improve the complaints handling process is provided in Section 11.4 of this report.</p> <p>An independent perception survey, undertaken by Ipsos Australia Pty Ltd, concluded in it's "2005 Domestic Customer Perception Survey – Final Report" that for 2005:</p> <p><i>'Hunter Water continues to be highly praised for its core services and respected as an organisation by domestic customers'.</i></p> <p>Fortnightly surveys are undertaken of customers with contact to the Call Centre. A review of the July 2006 report to senior management indicated that overall, the proportion of customers with favourable impression of Hunter Water consistently exceeded it's target of 80% for the year, with the exception of April and May 2006. It was also noted that in the latter part of the audit period:</p> <ul style="list-style-type: none"> » The number of calls exceeded the budgeted resources to receive the calls; » Delays were experienced in receiving calls; and » An increase in abandoned call and unresolved calls. <p>Factors affecting performance are provided in Section 11.5 of this report.</p>



... external dispute resolution scheme under clause 12.2.		In relation to the external dispute resolution scheme, the Customer Contract and Complaints Report indicated that by the end of the audit period, there were 65 YTD complaints to EWON that had been resolved; and seven YTD complaints that had not been resolved. By the end December of 2006, the unresolved complaints had been reduced to one, which is the subject of ongoing investigations by EWON.	
11.2.1(k)	...Complaints made against Hunter Water to a Court or Tribal under Clause 12.3	No requirement	Hunter Water advised that there have been no complaints to a Court or Tribunal during this audit period.

11.4 Discussion

11.4.1 Complaints Handling Procedures

Hunter Water uses two systems to log customer contacts. All service calls relating to water, sewerage and drainage systems are reported on the Assets and Operations Maintenance System (AOMS) and all complaints are reported on the Complaints Management System (CMS).

The Hunter Water Customer Service Centre handles approximately 10,000 contacts per month. New staff members to the Call Centre are provided with on-the-job training related to operation of the automated systems, use of the telephone system and handling of basic calls. This is undertaken in a coaching environment and new staff members monitored in the initial stages. The call centre also operates within a common area where support is readily available from supervisors, if required. Regular team meetings are also used to discuss up-coming issues, trends and performance.

Complaints received by the Call Centre are logged into an on-line Complaints Management System designed, specifically, to meet the requirements of the Customer Contract. Matters that cannot be resolved by the call centre are referred to the Case Investigation Team, which was established in August 2004. Hunter Water advise that members of the Case Investigation Team have been specifically selected for their skill set that includes writing skills, negotiation skills and ability to close a complaint.

Hunter Water recognises the opportunity to formalise training provided to members of the Customer Service Centre and the Case Investigation Team. To some extent, outlaying of a formalised training program has been delayed till the commissioning of the new Customer Information system (commissioned in November 2006).

Consistency in conformance with the Customer Contract, is facilitated by the automation of the Customer Management System and Billing System. Centralising all complaints to a small group also facilitates consistency in the manner in which the complaints are managed and handled.

Hunter Water monitors and reports the effectiveness of the internal complaints handling process using a number of tools:

- » weekly monitoring of data from the Complaints Information System to identify trends, systemic issues and response times;
- » fortnightly surveys are undertaken of customers with contact to the Call Centre; and
- » biennial perception surveys are undertaken by an external body.

(Note: During this audit period, a survey was undertaken in Jul 2005 and the findings were reported in October 2005).

Performance of the systems and procedures is reported to the General Manager on a monthly basis. Complaints statistics are also presented to the Consultative forum each quarter.

It is noted that Hunter Water does not have a sustainable target for unresolved complaints as it is strongly influenced by factors such as unpredictable weather conditions. Hunter Water advises that it is working with its Executive to establish an effective indicator of performance in this regard.



11.5 Factors Affecting Compliance

Hunter Water reported that factors affecting the performance of its call centre, over the latter part of the audit period, included:

- » training requirements for the new CIS System;
- » approximately 9500 payment demands were forwarded in June 2006 increasing the number of calls to the call centre; and
- » whether conditions.

11.6 Recommendations

NIL



Appendix A

Comparison of Hunter Water's Compliance Over Previous Years

Comparison of Hunter Water's Compliance Previous Years

This Appendix provides a tabular comparison of the compliance levels attained by Hunter Water in the 2005/06 Audit period and over the three previous audit periods. Table A-1 provides a summary of the assessment of compliance with each auditable requirement of the Operating Licence.

It is evident from Table A-1 that, for the auditable Licence conditions for this 2005/06 audit period, Hunter Water:

- » has, overall, apply its resources effectively and continued to achieve, predominantly, Full compliance, with a number of exceptions; noting many of the “develop a plan” type requirements were met in earlier audit periods and thus were ‘No requirement’;
- » continued to achieve Full compliance for its *Customer and Consumer rights*, including *Customer Contract*, *Consumer and Codes of Practice* and the *Consultative Forum*, though, as indicated above, numerous clauses had been met in earlier operating years;
- » has, as in previous years, continued to achieve Full compliance with all *Drinking Water Quality* requirements apart from a reduced compliance, (Full to High compliance), due to the lack of trend information or evidence of NSW Health formal acceptance, in meeting of its *Annual Water Quality Plan*, *Annual Water Quality Improvement Plan*, and *Incident Management Plan* reporting requirements;
- » continued to achieved Full compliance with the *System Performance* requirements apart from a drop, from Full to Low compliance, for not making available a number of its reports at its premises, including its reports on *uncontrolled sewage overflows* and *System Performance indicators*;
- » continued to achieved Full compliance with all *Water Demand and Supply Indicators* excluding a reduced compliance (from Full to High), in 2005/06 compared to earlier years, associated with the accuracy of reporting the quantity of water supply from its storages and a fall off in the outcomes achieved through its *Demand Management* requirements;
- » continued to achieve Full compliance with all *Environmental – Indicators and Plan* requirements, though many were ‘No requirement’ over 2005/06;
- » continued to achieve Full compliance with all *Catchment Management* requirements; and
- » achieved High compliance under “*What the Audit is to Report on*” (Clause 11.2) in regard to *Complaint and Dispute Handling*.

Note: In previous years, the Audit report had assessed the individual requirements of Part 12, *Complaints and Dispute Handling*, however it is the view of the auditor that the Operating Licence (Clause 11.2.1(j)) requires the Annual audit to investigate and prepare a report on the overall “*effectiveness*” of these processes and schemes, as opposed to a clause-by-clause compliance assessment.

Table A 1 Operating Licence - Summary of Compliance Over the Last Four Years

2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
Part 5. Customer and Consumer Rights					
5.1. Customer Contract					
5.1.1	The Customer Contract – rights and obligations	NR	NR	NR	NR
5.1.2	Applicability of the Customer Contract	NR	NR	NR	NR
5.1.3	Customer Contract posted on Hunter Water's website	FULL	FULL	FULL	FULL
5.1.4	The Customer Contract may only be varied in Accordance with the Act	NR	NR	FULL	FULL
5.1.5	Review of the Customer Contract	NR	NR	NR	NR
5.1.6	Contract review must have regard to system performance standards	NR	NR	NR	NR
5.1.7	Findings and recommendations of the review to be provided to the Minister	NR	NR	NR	NR
5.1.8	Hunter Water to issue a new Customer Contract that addresses the recommendations of the review report	NR	NR	FULL	NR
5.1.9	Hunter Water must prepare a summary pamphlet of the Customer Contract within 3 months of review	NR	NR	FULL	NR
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	FULL	FULL	HIGH	NR
5.1.11	Hunter Water to enter into other contracts or arrangements for the supply of Services	NR	NR	NR	NR
5.2. Consumers					
5.2.1	Fulfilment of obligations under the Customer Contract relating to complaint handling and complaint resolution	FULL	FULL	FULL	NR
5.2.2	Fulfilment of obligations under the Customer Contract relating to debt and disconnection procedures	FULL	FULL	FULL	NR
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	NR	NR	NR	NR



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
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	NR	HIGH	FULL	FULL
5.3.3	Rights and obligations in the Code are incorporated into the Customer Contract	NR	FULL	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	FULL	HIGH	FULL
5.4. Consultative Forum					
5.4.1	Establishment of Consultative Forum	FULL	FULL	FULL	FULL
5.4.2	Using the Forum consistent with the Consultative Forum Charter	FULL	FULL	FULL	NR
5.4.3	A Consultative Forum must be established within 6 months of the Commencement date.	NR	NR	NR	FULL
5.4.4	Forum and its membership prior to commencement date	NR	FULL	FULL	NR
5.4.5	Hunter Water must at all times appoint the members of the Consultative Forum.	FULL	FULL	FULL	FULL
5.4.6	Representing the community in membership of the Consultative Forum	FULL	FULL	FULL	FULL
5.4.7	Development of a Consultative Forum Charter	NR	NR	FULL	FULL
5.4.8	Hunter Water providing information to the Consultative Forum	FULL	FULL	FULL	NR
5.4.9	Availability of the Consultative Forum Charter to the public	FULL	FULL	FULL	FULL
5.4.10	Reporting on operations of Consultative Forum and the development of the Consultative Forum Charter.	FULL	FULL	FULL	FULL
5.4.11	Evaluation and reporting on effectiveness of the Consultative Forum and compliance with the Consultative Forum Charter.	NR	NR	NR	NR
Part 6. Water Quality					
6.2. Drinking Water Quality – Standards					
6.2.1(a)	Hunter Water must comply with the Drinking water guidelines as specified by NSW Health	FULL	FULL	FULL	FULL
6.2.1(b)	Hunter Water must comply with the Drinking water guidelines relating to aesthetic guidelines	FULL			
6.2.2	Inconsistencies between the Health Guideline and Drinking water Guidelines	NR	NR	NR	NR



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
6.2.3	Regard for the concepts of risk minimisation practices and system management of public water supplies.	FULL	FULL	FULL	FULL
6.2.4	pH levels in cement mortar lined pipes to be in the range 6.5 – 9.2	FULL	FULL	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	FULL	FULL
6.3.2	The Monitoring Plan must provide for performance monitoring, regular sampling, lab testing and processes for quality control.	FULL	FULL	FULL	FULL
6.3.2(a)	The monitoring of water quality must include health and aesthetic parameters as per clause 6.2.1 (a) and (b)	FULL			
6.3.2(b)	The monitoring of water quality must include parameters for bulk water as specified in schedule 3.	FULL			
6.3.3	The sampling frequency and the locations chosen for the monitoring should be representative of water quality	FULL	FULL	FULL	FULL
6.3.4	Undertake Drinking water quality monitoring	FULL	FULL	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	FULL	FULL	FULL	NR
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	FULL	FULL
6.4.2	Produce Annual Water Quality Report comparing actual Drinking water quality against the Drinking water guidelines	FULL	FULL	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	HIGH	FULL	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	FULL	FULL
6.5. Drinking Water Quality - Planning					
6.5.1	Hunter Water must maintain, a Five-Year Water Quality Management Plan.	NR	NR	FULL	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
6.5.2	Five-Year Water Quality Management Plan to include comprehensive management strategies to ensure that Drinking water quality supplied to customers and consumers complies with clause 6.2.1	NR	NR	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	NR	FULL	FULL	FULL
6.5.4	The Annual Water Quality Improvement Plan must be reviewed as part of any review of the Licence	FULL	FULL	FULL	FULL
6.5.5	The Annual Water Quality Improvement Plan must be reviewed as part of any review of the Licence	NR	NR	NR	NR
6.5.6	Hunter Water must assess the risks of failing to comply with clause 6.2, in relation to Drinking water	FULL	FULL	FULL	FULL
6.5.7	Maintaining an Incident Management Plan	HIGH	FULL	FULL	FULL
6.5.8	Incident Management Plan to contain procedures and protocols for the coordinated management of Drinking water incidents.	HIGH	FULL	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	FULL	FULL
6.6.2	The Minister's decision will prevail where there is a conflict between any of the guidelines, requirements or standards	NR	NR	NR	NR
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	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	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	FULL	FULL
Part 7. System Performance					
7.2. Interpretation					
Commencement and cessation of a Water interruption					
7.2.1	Water Interruption incidents as defined by Hunter Water and relevant authorities.	NR	NR	NR	NR



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
Commencement and cessation of a Pressure incident					
7.2.2	Application of Clause 7.2.1 (a) and (c) to Pressure incidents	NR	NR	NR	NR
Commencement and Cessation of Sewage overflows					
7.2.3	Application of Clause 7.2.1 (a) and (c) to Uncontrolled sewage overflow	NR	NR	NR	NR
7.3. System Performance Standards					
Water Continuity Standard					
7.3.1	Hunter Water must ensure that no more than 14,000 Properties in a year experience Water interruptions of greater than 5 hours (cumulative)	FULL	FULL	NON	FULL
Water Pressure Standard					
7.3.2	No more than 4,800 Properties in a year experience one or more pressure incidents	FULL	FULL	FULL	FULL
Sewage Overflows Standard					
7.3.3	Hunter Water must ensure that the number of Uncontrolled sewage overflows does not exceed 6,500.	FULL	FULL	FULL	FULL
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 water interruption	FULL	FULL	FULL	FULL
Reporting on Water Pressure					
7.4.2	Report on the number of Properties that experience one or more Pressure incidents	FULL	FULL	FULL	FULL
Reporting on Sewage Overflows					
7.4.3	Report on the number of Uncontrolled sewage overflows in dry weather or wet weather	FULL	FULL	FULL	FULL
Publication of Reports					
7.4.4	Reports must be made freely available to the Public.	LOW	FULL	FULL	FULL
7.5. System Performance Indicators					
7.5.1	Schedule 4 applies	NR	NR	NR	FULL
7.5.2	Report performance against the system performance indicators in Schedule 4 and make publicly available	LOW	FULL	FULL	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
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	FULL	FULL
7.6.2	Maintain records of Water interruptions, Pressure incidents and Sewage overflows	FULL	FULL	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	NR	NR	NR	FULL
Part 8. Water Demand and Supply					
8.2. Interpretation					
8.2.1	Definition describing references to options developed under the integrated water resources plan	NR	NR	NR	NR
8.3. Integrated Water Resources Plan Development of the Plan					
Development of the Plan					
8.3.1	Develop an Integrated Water Resources Plan.	NR	NR	FULL	FULL
8.3.2	Develop a draft of the Plan by 30 September 2002, and make available to the Public for 28 days	NR	NR	FULL	FULL
8.3.3	Must engage in Public consultation complete the Plan by 1 March 2003.	NR	NR	FULL	FULL
8.3.4	The Plan must be made freely available the Public	FULL	FULL	FULL	FULL
8.3.5	Regularly review the Plan	FULL	FULL	NR	FULL
8.3.6	Report any amendments	FULL	FULL	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.	FULL	FULL	FULL	NR
8.3.8	IPART must evaluate and report on the outcomes achieved by the Plan.	NR	NR	NR	NR
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	NR	NR	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	NR	NR	FULL	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
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	NR	NR	FULL	FULL
8.3.12	The Plan must make projections of the total demand for water	NR	NR	FULL	FULL
8.3.13	Hunter Water must utilise Present value calculations	NR	NR	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.	NR	NR	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.	NR	NR	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.	NR	NR	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	NR	NR	FULL	FULL
Results of the Plan					
8.3.18	Outline targets, standards, indicators or other proposals for consideration as part of the Licence review	NR	NR	FULL	FULL
Annual Reporting on the Plan					
8.3.19	Report performance against the Plan.	FULL	FULL	FULL	FULL
8.4. Water Conservation Target					
8.4.1	Calculation of the five year rolling average for annual residential water consumption	FULL	FULL	FULL	FULL
8.4.2	Report compliance with Water conservation target	FULL	FULL	FULL	FULL
8.4.3	Comply with conservation target until replaced	FULL	FULL	FULL	FULL
8.5. Water Demand and Supply Indicators					
Security of Supply					
8.5.1	Impose Water restrictions only as approved by the Minister	NR	NR	NR	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
8.5.2	Reporting on Water restrictions imposed in a Reporting period	NR	NR	NR	NR
8.5.3	Report on water restriction criteria	NR	NR	NR	NR
8.5.4	Report on the quantity of water supplied from each Water storage	HIGH	FULL	FULL	FULL
Losses from the Water System					
8.5.5	Report against each component in the Water balance table consistent	FULL	FULL	FULL	FULL
8.5.6	Reporting differences in the outcomes in applying clause 8.5.5 between Reporting periods	FULL	FULL	FULL	FULL
Recycled Water					
8.5.7	Report on the quantity of Recycled water supplied in a Reporting period for all applications	FULL	FULL	FULL	FULL
Demand Management					
8.5.8	Report on the total quantity of water supplied for all customers	FULL	FULL	FULL	FULL
8.5.9	Comparing applications in 8.5.8, with the preceding Reporting period, and indicate factors contributing to change	HIGH	FULL	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	FULL	FULL
8.6.2	Publicly display the report	FULL	FULL	FULL	FULL
Part 9. Environment – Indicators and Plan					
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.	NR	NR	NR	FULL
9.1.2	Hunter Water must engage in public consultation in developing the EMP.	NR	NR	NR	FULL
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.	NR	NR	HIGH	FULL
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.	NR	FULL	FULL	FULL
9.1.5	Material amendments may only be made to the EMP following public consultation.	NR	NR	NR	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
9.1.6	Hunter Water must report on any material amendments made to the EMP	NR	NR	NR	FULL
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	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	FULL	FULL
9.2.2	Hunter Water must develop a draft list of environmental and ESD indicators within three months of the Commencement date.	NR	NR	NR	FULL
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.	NR	NR	NR	FULL
9.2.4	The environmental and ESD indicators developed by Hunter Water must be consistent with the scope and objectives of the EMP.	NR	NR	NR	FULL
9.2.5	The draft list of environmental and ESD indicators developed by Hunter Water must undergo public consultation	NR	NR	NR	FULL
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.	NR	NR	NR	FULL
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.	NR	FULL	NR	FULL
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	FULL	HIGH	FULL
9.2.9	The environmental and ESD indicators must be reviewed as part of the Licence review.	NR	NR	NR	FULL
9.3. Energy Management					
9.3.1	Hunter Water must participate in the Energy Smart Business Program, or similar program administered by SEDA.	FULL	NR	HIGH	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
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	NR	FULL	FULL
Part 10. Catchment Management					
10.1. Catchment Report					
10.1.1	Report performance in the Catchment Report	FULL	FULL	FULL	Partial
10.1.1a	Report against bulk water quality parameters	FULL	HIGH	HIGH	FULL
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	FULL	HIGH	FULL
10.1.1c	Report details of performance against the Water Management Licence and the Dam Safety Act 1978	FULL	FULL	HIGH	FULL
10.1.1d	Report against other catchment, landcare and supporting activities by or on behalf of Hunter Water	FULL	FULL	HIGH	FULL
10.1.1e	Report against five year trends observed in the Williams River across five specified key water quality indicators	FULL	FULL	FULL	Partial
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	FULL	FULL
Part 12. Complaint and Dispute Handling					
12.1. Internal Complaint Handling Procedures					
12.1.1	Establish internal complaints handling procedures	Refer to 11.2	FULL	FULL	FULL
12.1.2	The internal complaints handling procedures must be based on the Australian Standard AS4269- 1995 Complaint Handling.	Refer to 11.2	FULL	FULL	FULL
12.1.3	Hunter Water must make available to Customers and Consumers information concerning its internal complaints handling procedures	Refer to 11.2	FULL	FULL	FULL
12.1.4	Hunter Water must provide information about making complaints in bills at least once each year.	Refer to 11.2	FULL	FULL	FULL



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
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.	Refer to 11.2	HIGH	HIGH	FULL
12.1.6	Reporting on details concerning complaints made against Hunter Water to IPART	Refer to 11.2	FULL	FULL	FULL
12.2. External Dispute Resolution Scheme					
12.2.1	Establishment of a Dispute Resolution Scheme	Refer to 11.2	NR	NR	FULL
12.2.2	The Dispute Resolution Scheme so established by Hunter Water is subject to the Minister's approval.	Refer to 11.2	NR	NR	FULL
12.2.3	Issues for complaints made to the Dispute Resolution Body	Refer to 11.2	FULL	FULL	FULL
12.2.4	The Dispute Resolution Scheme must comply with the minimum standards	Refer to 11.2	FULL	FULL	FULL
12.2.5	Features of the Dispute Resolution Scheme	Refer to 11.2	FULL	FULL	FULL
12.2.6	Pamphlet explaining how the Dispute Resolution Scheme operates and how it can be accessed.	Refer to 11.2	FULL	FULL	FULL
12.2.7	Hunter Water must provide the pamphlet to Customers and Consumers through their bills at least once each year.	Refer to 11.2	FULL	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.	Refer to 11.2	FULL	FULL	FULL
12.2.9	Contents of report on Dispute Resolution Body by Hunter Water	Refer to 11.2	FULL	FULL	FULL
12.2.10	Public display of the report	Refer to 11.2	FULL	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	Refer to 11.2	FULL	FULL	FULL
11.2. What the Audit is to Report on					
11.2.1(h)	... investigate and report on-going compliance with its Customer Contract and specific areas of non-compliance.	HIGH			



2002-2007 Operating Licence			Previous Audits		
Licence Clause	Summary of Requirement	2005/06	2004/05	2003/04	2002/03
11.2.1(i)	... investigate and report on-going Hunter Water's Compliance with its code of practice and procedures on debit and disconnection under Clause 5.3 and any similar initiatives developed by Hunter Water.	HIGH			
11.2.1(j) prepare a report on the effectiveness of Hunter Water's internal complaints handling process under clause 12.1 and external dispute resolution scheme under clause 12.2	HIGH			
11.2.1(k) prepare a report on Complaints made against Hunter Water to a Court or Tribal under Clause 12.3	NR			
11.2.2(a)	IPART or any person preparing the Annual Audit must investigate and prepare a report on.... Hunter Water's implementation of any Memorandum of Understanding referred to in Clause 3.3.	MOD			
	Department of Health (formerly NSW Health)	MOD			
	EPA (Now DEC)	NR			
	DLWC (Now DNR)	NR			

Table A2 provides a summary of compliance levels reached by Hunter Water in the 2005/06 Audit period for the Ministerial requirements. Ministerial requirements are usually specific to each operating year and hence yearly comparisons with previous operational audits are not applicable for a number of requirements.

Table A 2 Ministerial Requirements - Summary of Compliance

Directive No.	Summary of Requirement	2005/06
<i>Summary of Ministerial requirements arising from 2004/05 Operational Audit</i>		
2003/04		
MR5.1	Hunter Water is to continue to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment.	FULL
MR7.1	Continue to review its maintenance/operational practices to identify additional procedural and/or technological practices to enable it to better meet its water supply continuity Licence requirements	FULL
MR7.2	Continue to utilise and trial its maintenance/operational practices identified during the 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.	FULL
MR7.3	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 the failure by shutting down the trunk main and/or supplying customers from other sources Repair the failure/burst Return the trunk main to service, resupplying customers affected	FULL
MR7.4	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 trunk main failures to be more accurately pinpointed.	NR
2004/05		
MR7.5	Hunter Water should further progress the installation of additional pressure/flow monitoring devices linked to its new telemetry/SCADA system to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service.	FULL
MR7.6	Increase the awareness of its work crews as to the importance of endeavouring to reconnect customers within five hours of a discontinuity event.	FULL
2005/06		
MR 5.1	Hunter Water is to continue to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment.	FULL
MR 7.1	Further progress the installation of additional pressure/flow monitoring devices linked to its new telemetry/SCADA system to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service.	FULL
MR 7.2	Increase the awareness of its work crews to the importance of endeavouring to reconnect customers within five hours of a discontinuity event.	FULL



Appendix B

Audit Brief



Request for Tender

RFT No W2/2006
("RFT Reference")

Operational Audit of Sydney Water Corporation

Operational Audit of Hunter Water Corporation

Operational Audit of the Sydney Catchment Authority

Operational Audit of State Water Corporation

IMPORTANT NOTE

This Request for Tender refers to four Operational Audits, namely audits of Sydney Water Corporation, Hunter Water Corporation, The Sydney Catchment Authority and State Water Corporation.

Tenderers may wish to be considered for one or more of these audit projects.

Tenderers who wish to be considered for more than one audit need to submit a separate tender for each audit.

Some Background on the Regulatory Environment and the Water Utilities

Sydney Water Corporation (Sydney Water) is a State Owned Corporation that provides water, sewerage and some stormwater drainage services to about 4 million people within Sydney, Blue Mountains and Illawarra regions.

Hunter Water Corporation (Hunter Water) is also 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.

The Sydney Catchment Authority (SCA) was established to manage water supply and protect catchments, supply bulk water and regulate activities within the catchments to improve water quality, protect public health and protect the environment. It has primary responsibility for Sydney's bulk water supply, which is drawn from the catchments of four major river systems – the Warragamba, Upper Nepean, Woronora and Shoalhaven. These catchments extend over 16,000 square kilometres and surround the Greater Sydney Metropolitan Region.

State Water Corporation (State Water) operates 21 dams and 280 weirs and river regulators to deliver bulk water to regional and rural NSW. It provides bulk water to river pumpers, irrigation companies, towns, farms, mines and electricity generators. State Water also delivers water for the environment as well as unlicensed stock and domestic users on regulated rivers.

The NSW Government has granted Operating Licences to these water utilities in accordance with the relevant enabling legislation (*Sydney Water Act 1994*, *Hunter Water Act 1991*, *Sydney Water Catchment Management Act 1998* and *State Water Corporation Act 2004*). A copy of the current Operating Licences can be found at www.sydneywater.com.au, www.hunterwater.com.au, www.sca.nsw.gov.au, and www.statewater.com.au. Licences for the metropolitan utilities include a requirement that an annual Operational Audit of the utility's performance against its obligations under the respective Licence be undertaken. The State Water licence is required to be audited every two years following an initial audit. This Request for Tender refers to these audits.

It is intended that staff from the Tribunal's Secretariat will chair all audit meetings. The role of the Secretariat staff at these meetings is to facilitate discussion and manage any difficulties that arise between the auditor and the utility. This arrangement will also allow the Tribunal to be fully informed of the progress of these audits.

These audits are used by the Tribunal as the basis for its reports on the utility's performance and recommendations to the relevant portfolio Minister. The Environment Protection Authority, the Department of Infrastructure, Planning and Natural Resources and NSW Health continue to regulate water utilities activities concerning the environment, their use of water resources and public health respectively.

NSW is a signatory to the National Water Initiative. An obligation under this inter-governmental agreement is that each State collects data on benchmark indicators from certain water utilities. The Water Services Association of Australia (WSAA) will co-ordinate the collection of the national data on behalf of the National Water Commission.

The audits of performance against the Operating Licences for both Sydney Water and Hunter Water will include audits of these NWI indicators. Indicator definitions are shown at <http://www.wsaa.asn.au/pdf/2006/nationalperformanceframework.pdf>. It should be noted that it will not be mandatory for utilities to provide data for all indicators in the WSAA document, only those designated as NWI indicators (73 indicators in total). Audit of other WSAA indicators will be voluntary. The Tribunal will provide the successful tenderer with an excel spreadsheet template to accommodate NWI data.

1. Introduction

The Independent Pricing and Regulatory Tribunal (the "Tribunal") is a body corporate established under the Independent Pricing and Regulatory Tribunal Act 1992 (NSW) and its role is described on the Tribunal's web site at <http://www.ipart.nsw.gov.au/>.

This document, including the Schedules, is a Request for Tender ("RFT") and is an invitation to suitably qualified persons or organisations to tender to provide the Services in Schedule 1.

Anyone who receives a copy of this RFT is referred to in this RFT as a tenderer whether or not they submit a tender in response to this RFT.

The conditions of Tender are set out in this RFT.

Tenderers must complete Schedule 2 and address the requirements of Schedule 3 in submitting their Tender.

Tenders must be lodged with the Tribunal by no later than the closing date set out in Item 2 of Schedule 1 ("Closing Date").

The criteria used by the Tribunal to evaluate tenders are set out in Schedule 3.

2. Application of these Conditions of Tender

Tenderers must make themselves familiar with all of the conditions of this RFT at the Closing Date and are deemed to have tendered on the basis of any changes which may be made to the RFT up to the Closing Date.

Tenderers will be deemed to have accepted all of the conditions of tender in this Request for Tender and must ensure that they comply with them in all respects.

3. Communications with Tenderers

Tenderers may be invited to attend a briefing by the Tribunal on this RFT.

The Tribunal will only provide notices and address correspondence under this RFT to tenderers at the addresses notified in writing to the Tribunal.

The Tribunal will not be responsible for any correspondence or notices not received by any tenderer.

4. Format of Tender

Each tender must be in writing and must comply with the requirements of this RFT.

5. Lodgement and Opening of Tenders

Tenderers must submit three hardcopies and one electronic "soft" copy (in a format compatible with Microsoft Word XP Professional) of its tender. One set of the hardcopy documents must be marked "ORIGINAL" and the other copies must be marked "COPY". The electronic "soft" copy should be sent by email to the General Manager, Support Services at the following email address: meryl_mccracken@ipart.nsw.gov.au. If any inconsistency arises between the copies, including the electronic "soft" copy, the hardcopy tender marked "ORIGINAL" will prevail.

The tenders in hardcopy must be submitted in a sealed envelope marked with the RFT reference number so that it is received by the Closing Date.

All documentation must be in the English language and, if relevant, refer to Australian dollars.

All information must be printed without alterations or erasures (unless each amendment is signed in ink).

Tenders must be addressed to:

General Manager, Support Services
Independent Pricing and Regulatory Tribunal

and delivered to the following address by no later than the Closing Date:

At P O Box Q290
 QVB Post Office
 NSW 1230

Or The Tender Box, Level 2
 44 Market Street
 SYDNEY NSW 2000

Tenders will be secured in the Tender Box at the Tribunal on Level 2 of 44 Market Street, Sydney until after the Closing Date.

The opening of tenders is not a public process and neither tenderers nor their representatives are entitled to attend the opening of tenders.

All tenders must be provided free of charge to the Tribunal.

6. Non-Compliance/Late Tenders

Any tender not complying with this RFT.

Any tender received after the Closing Date will be registered as a late tender.

The Tribunal reserves the right at its absolute discretion to accept or not accept late and/or non-complying tenders.

7. Consultancy Agreement

The successful tenderer will enter into a consultancy agreement with the Tribunal, in the form set out in Schedule 4.

Any consultancy agreement arising from this RFT will be between the Tribunal and the tenderer whose tender is accepted by the Tribunal.

Each tenderer is required to identify in its tender any clauses of the Consultancy Agreement with which it does not agree. The tenderer should propose alternative clauses for consideration by the Tribunal and the rationale for the proposed amendment.

If a tenderer does not indicate disagreement in its tender with a clause of the Consultancy Agreement, that tenderer will be deemed to have agreed with that clause. The tenderer is precluded from raising any objection to, or amendment of, any clauses of the Consultancy Agreement with which the tenderer has not disagreed in its tender.

Any standard printed conditions of contract of, or provided by, the tenderer will be rejected by, and will not be binding on the Tribunal.

The Tribunal reserves the right at its absolute discretion to accept, reject or agree to modifications or amendments proposed by tenderers to the Consultancy Agreement, or any part thereof.

8. Validity and Withdrawal

All tenders will remain valid for a period of 6 calendar months from the Closing Date.

A tender must not be withdrawn without the prior written consent of the Tribunal.

9. Clarification of Tenders

The Tribunal may seek clarification or request further information from tenderers after the Closing Date, as part of the selection process.

10. The Negotiation Stage

This clause is subject to clause 22.

The Tribunal may commence negotiations at its absolute discretion with the tenderers whose tenders are acceptable to the Tribunal.

The Tribunal reserves the right to negotiate with any tenderer until a satisfactory conclusion is reached for the Tribunal.

The negotiation by the Tribunal with any tenderer will not create any rights of any kind in favour of any tenderer in relation to, or for the purposes of, any agreement with the Tribunal or at all.

11. Award of Agreement

This clause is subject to clause 22.

No rights of any kind accrue to a tenderer whose tender is acceptable to the Tribunal until the tenderer and the Tribunal execute a form of the consultancy agreement in Schedule 4.

12. Amendments to RFT

If the Tribunal considers it necessary to make a change to the RFT before the Closing Date, the amendments will be posted on the web site of the Tribunal and is deemed to be a communication of the change to the RFT to tenderers. No oral explanation or change to any part of this RFT by any officer or agent of the Tribunal will be deemed to constitute an addendum.

The Tribunal may in its absolute discretion, by notice posted on the web site of the Tribunal before the Closing Date, do all or any of the following:

- a) vary or deviate from the processes as set out in this RFT;
- b) terminate or vary the RFT process;
- c) add to, vary or amend this RFT and the conditions in this RFT;
- d) require additional information from any tenderer;
- e) change the structure and timing of the RFT; and
- f) amend the scope of the Services required by the Tribunal in Schedule 1.

13. Tenderers to bear own costs and risk

Participation in any stage of the RFT will be at the tenderer's sole risk, cost and expense.

The Tribunal and its advisers, employees and contractors will not be responsible for any loss, damage or claim (whether direct, indirect or consequential) to the tenderer or any person arising out of this RFT, tendering to the RFT, the RFT process, the negotiation with tenderers, or awarding or not awarding of the tender or any other associated matter. In no event will the Tribunal be responsible for any loss of profits.

This clause 13 will survive the conclusion of all processes arising from the RFT.

14. Acceptance of Tenders

While the Tribunal may have regard to the requirements set out in Schedules 2 and 3, it retains an absolute discretion as to how it will assess the tenders.

15. No obligation to accept tenders and part tenders

The Tribunal will be under no obligation to accept any tender or part tender.

The Tribunal will be under no obligation to accept the lowest priced tender.

16. Access to further information

The Tribunal may decide to provide further information concerning this RFT before the Closing Date. If the Tribunal decides to provide further information it will notify all tenderers by notice posted on the web site of the Tribunal.

17. Contact of Referees

The Tribunal reserves the right to contact the referees of each tenderer.

18. Interviews

The Tribunal reserves the right to conduct interviews of one or more tenderers after the Closing Date. If an interview is required, the Tribunal will give reasonable notice to the tenderer.

19. Confidentiality and Privacy

In this document:

"confidential information" means all information of the Tribunal, in any form or media, including, without limitation, trade secrets, know-how processes, techniques, source and object codes, software, computer records, business and marketing plans and projections, details of agreements and arrangements with third parties, customer information and lists, designs, plans, drawings and models, but does not include:

- (a) information which is at the date of this RFT, or which subsequently becomes into the public domain other than as a result of disclosure by a tenderer, or a person receiving the confidential information from the tenderer, in breach of the conditions of this RFT;
- (b) information which a tenderer can establish by written records is at the date of this document already known to that person; or
- (c) information which a tenderer can establish to the Tribunal's satisfaction, was developed independently of the Tribunal or any agent or employee of the Tribunal.

In consideration of the Tribunal agreeing to disclose confidential information to a tenderer under or as part of this RFT, the tenderer:

- a) acknowledges and agrees that any confidential information is secret and confidential and that any confidential information disclosed by the Tribunal to the tenderer is disclosed to the tenderer only for the purpose of this RFT and in reliance on, and pursuant to, the terms of the conditions of this RFT;
- b) agrees to keep the confidential information secret and confidential at all times;
- c) must not, without the prior written approval of the Tribunal, use, disclose, divulge or deal with any confidential information, nor cause, permit or allow any act, matter or thing to be done, omitted or occur whereby any confidential information may become known or be used by, or be disclosed or communicated to, any other person, except strictly in accordance with the terms of the conditions of this RFT; and
- d) must return to the Tribunal or destroy all copies of the confidential information upon written demand by the Tribunal or upon the withdrawal of the tenderer from the RFT;

The tenderer acknowledges and agrees that the Tribunal may publish the following details of the Consultancy Agreement, if any, awarded under this RFT:

- (a) details of the Consultancy Agreement (including a description of Services to be completed, the term of the Consultancy Agreement, the commencement date and anticipated completion date);
- (b) the full identity of the successful tenderer;

- (c) the price payable by the Tribunal and the basis for future changes in this price; and
- (d) the significant evaluation criteria and the weightings used in this RFT.

If a tenderer includes information in its tender that it does not wish to be disclosed, it must identify that information in writing to the Tribunal and provide written reasons for such request prior to or on the Closing Date. Where the Tribunal does not agree with the tenderer's request the Tribunal will advise the tenderer accordingly and that decision will be binding on the tenderer.

This clause 19 will not merge with the execution of the Consultancy Agreement.

20. Intellectual property

Nothing in the RFT constitutes a transfer of intellectual property rights of the Tribunal (including intellectual property rights in the RFT) to any tenderer.

The Tribunal may, in its absolute discretion, by written notice, require that all written information provided to tenderers (and copies of the information) be returned to the Tribunal at any time.

21. Disclaimer

The Tribunal has taken reasonable care in the preparation of the RFT, however the information contained in this RFT and the information upon which it is based has not been independently verified or audited. Tenderers are encouraged to seek independent verification on any information about which they are unclear.

The statements, opinions, projections, forecast or other information contained in this RFT may change. Where any such information relates to future matters, no steps have been taken to verify that that information is based upon reasonable grounds. Actual future events may vary significantly from the forecast.

Neither this RFT nor any agreement made on the basis of this RFT, may under any circumstances be taken to create an implication that there will be no material change in the affairs of the Tribunal from the date of issue of this RFT.

The provisions of this disclaimer apply in relation to this RFT and also in relation to any other oral or written communications or disclosures to the tenderer or to any other person.

22. Other Reservations

By issuing this RFT the Tribunal is not required to negotiate or to enter into an agreement for the provision of the Services for tender with any person.

The Tribunal may elect to withdraw from the process described in the RFT and may terminate the RFT altogether.

The Tribunal has no obligation to consider and no obligation in respect of the manner, timing or basis of consideration of, any tender.

The Tribunal may at its absolute discretion, withdraw, change or suspend the RFT and its consideration of tenders and any part thereof.

Any decision to shortlist tenderers is for the convenience of the Tribunal and does not create any rights in any person. The Tribunal reserves the right at its absolute discretion to invite persons who do not respond to this RFT to participate in any subsequent tender for the Services.

The Tribunal may at its absolute discretion approve or reject any sub-contractors the tenderer may wish to appoint.

23. Tenderer's duty to inform themselves fully

Any person contemplating the submission of a tender and who is in doubt as to the true meaning of any part of the specification/requirements, requires further information or finds discrepancies in, or omissions from, the RFT may submit a written request for an explanation or correction no later than 14 days before the Closing Date. The Tribunal or its agents will respond to each written request and reserve the right to advise in similar terms all tenderers save that the source of the inquiry will not be disclosed.

In order to maintain equity in the tendering, Tenderers are advised that they should not seek information in regard to this RFT directly from staff and contractors employed by the Tribunal other than via the mechanism detailed in this clause.

Tenderers must only rely on written advice from the Tribunal.

24. Briefing for interested persons

The Tribunal may provide a formal briefing for tenderers. Tenderers attending are required to register at the briefing. The register of tenderers will be distributed to all tenderers within 2 working days after the briefing. If a tenderer has a query or requires further information that is not addressed at the briefing, the tenderer must make a request for information in writing and that request will be registered. The request and such answer as the Tribunal is able to provide will be sent to all registered persons who registered at the briefing.

Questions may be submitted in advance of the briefing to be answered at the meeting. The originator of the question will not be disclosed. Advance questions must be submitted in writing seven days prior to the briefing.

25. Supporting material

Supporting material is material additional to the tender which elaborates on or clarifies the tender but does not alter it in any material respect. Material presented as supporting material, which effectively alters the formal tender in any material respect, may not be accepted. Supporting material may be provided at the initiative of the tenderer or at the request of the Tribunal. Supporting material must be received by the Tribunal on or before the Closing Date unless specifically requested by the Tribunal subsequent to that date. The Tribunal reserves the right to disregard any unsolicited supporting material dispatched after the Closing Date. Supporting material must be clearly labelled

(identifying this RFT and its subject matter). The intention to submit supporting material in this manner must be clearly stated in the tender.

26. Improper assistance in Tender preparation

Tenders which have been compiled with improper assistance of employees of the Tribunal, ex-employees of the Tribunal, and/or contractors or ex-contractors of the Tribunal or that are found to have been compiled utilising information unlawfully obtained from the Tribunal will be excluded from further consideration.

The emphasis above is on improper assistance. It does not preclude tenderers using former Tribunal employees or former contractors of the Tribunal, provided they have not been involved in the development of the RFT. If anyone has any concern regarding the employment of former Tribunal employees or former contractors of the Tribunal they should raise their concern in writing.

27. Conflict of interest

Tenderers must warrant that to the best of their knowledge at the date of submitting the tender no conflict of interest exists by itself, by its employees or any sub-contractors or is likely to arise in relation to this RFT during the RFT selection process.

If during the course of the selection process a conflict or potential conflict of interest arises tenderers undertake to notify the Tribunal immediately in writing of that conflict or potential conflict of interest.

Tenderers must not, and must use their best endeavours to ensure that any employee, agent or sub-contractor of the tenderer does not, during the course of the selection process, engage in any activity or obtain any interest likely to conflict with or restrict the tenderer in being considered under this RFT and must immediately disclose to the Tribunal such activity or interest if it occurs.

In this clause 27 a conflict of interest includes, but is not be limited to, an employee of the tenderer being related to or having a close association with or influence over an employee of the Tribunal which may have the effect of influencing, or giving the appearance of influencing, the review of the tenders to the RFT.

28. Collusive bidding

Tenderers and their officers, employees, agents, sub-contractors and advisers must not engage in any collusive bidding, anti-competitive conduct or any other similar conduct with any other tenderer, or any other person in relation to the preparation or lodgement of tenders.

29. Use of documents and information provided

The Tribunal will have permanent and unrestricted use of all documents submitted in a tender, subject to any constraints set out in the RFT.

Despite clause 29(1), intellectual property (including confidential information) owned by the tenderer or third parties and contained in the documents will not pass to the Tribunal. However, the Tribunal will be licensed to use or copy that intellectual property to the extent necessary to conduct an efficient selection process.

30. Freedom of Information

The Freedom of Information Act 1989 and provisions of the Independent Pricing and Regulatory Tribunal Act 1992 extend, as far as possible, to the right of the Australian community to access information in documentary form in the possession of the Tribunal, limited only by considerations of the protection of essential public interest and of the private and business affairs of persons in respect of whom information is collected and held by departments and public authorities.

Should a request for access to RFT documents be received, the Tribunal will consult with the tenderer before making any decision to grant access, subject to its obligations under the Freedom of Information Act 1989 and the Independent Pricing and Regulatory Tribunal Act 1992.

The Tribunal will not disclose, the following information about any contract awarded under this tender unless the tenderer agrees, or release is determined under the Freedom of Information Act 1989 and the Independent Pricing and Regulatory Tribunal Act 1992 or is otherwise legally required:

the tenderer's financing arrangements;

the tenderer's cost structure and profit margins; and

items of the tenderer having an intellectual property (including confidential information) characteristic but excluding ideas, concepts or know-how pertaining to the subject matter of the RFT.

The information included in an unsuccessful tender is treated as commercial-in-confidence material and will not be disclosed unless the tenderer agrees, or release is determined under the Freedom of Information Act 1989 and the Independent Pricing and Regulatory Tribunal Act 1992 or is otherwise legally required. However the Tribunal may use ideas, concepts or know-how obtained from the tenders in any manner the Tribunal deems appropriate.

31. Assignment

This RFT is personal to and not assignable or transferable by the tenderer without the prior written consent of the Tribunal, which consent may be declined at the Tribunal's absolute discretion.

32. Whole Agreement

To the extent of any inconsistency between the conditions of this RFT and: any correspondence or oral exchanges between the tenderer and the Tribunal; or

any Schedule, appendix or annexure to this RFT, the conditions of this RFT will prevail.

33. Relationship

The relationship between the Tribunal and tenderers is that of independent contractors and no partnership, employment, agency or joint venture may be implied into the relationship.

34. Warranty to the Tribunal

Tenderers who submit a tender to this RFT are deemed to have warranted to the Tribunal that statements, representations and claims made in the tender are true and correct and are not misleading or deceptive or likely to mislead or deceive.

35. Assistance to the Tribunal in regard to enquiries and due diligence

By submitting a tender, tenderers acknowledges that the Tribunal may make enquiries of any person to assist in establishing the suitability of the tenderer and to undertake a due diligence review. Tenderers must provide all reasonable assistance to the Tribunal to undertake these tasks.

36. Electronic document

The Tribunal may provide an electronic copy of documents and material. While the Tribunal will use its reasonable endeavours to ensure that the electronic copy is "virus free", the Tribunal does not expressly or by implication warrant that the electronic copy will not contain viruses. Tenderers who choose to receive the electronic copy supplied do so entirely at their own risk.

Schedule 1 Services Required

1. Services

This Request for Tender refers to four Operational Audits, namely audits of Sydney Water Corporation, Hunter Water Corporation, The Sydney Catchment Authority and State Water Corporation. The audits of Sydney Water and Hunter Water will also incorporate an audit of benchmark indicators for the National Water Initiative (NWI).

Tenderers may wish to be considered for one or more of these audit projects. Tenderers who wish to be considered for more than one audit need to submit a separate tender for each audit.

Objectives of Consultancy

The objective of each of these audits is to assess the utility's performance against the relevant Operating Licence for the period from 1 July 2005 to 30 June 2006. For Sydney Water and Hunter Water the audit will also assess performance against NWI benchmark indicators.

Detailed Scope of Work

Operational Audits

In undertaking the operational audits, the auditor must:

- a) conduct a detailed examination of those utility activities that are regulated by the Operating Licence;
- b) assess the level of compliance achieved by the utility against each of the requirements of the Operating Licence, providing detailed supporting evidence for this assessment and reporting compliance according to the Tribunal's established compliance scoring methodology;
- c) assess and report on progress by the utility in addressing any comments made by the relevant portfolio Minister pertaining to previous audits (Attachment 1), providing supporting evidence for these assessments;
- d) for each section of the Operating Licence, identify factors (if any) that have affected the utility's performance for the period from 1 July 2005 to 30 June 2006. This includes verifying the calculation of performance indicators associated with relevant requirements of the operating licences and undertaking an assessment of any underlying trends in performance arising from these indicators. Make recommendations to the Tribunal on how the utility can improve its performance in the future, based on the audit assessment;
- e) provide a formal briefing to the Tribunal or the Tribunal's Secretariat comprising an overview of the utility's overall performance against the requirements of the Operating Licence and the key findings of this assignment; and
- f) prepare a full report on the findings of the assignment, including a summary of the utility's overall performance against the requirements of the Operating Licence and detail of its compliance with each requirement of the Operating Licence and any requirements of the Minister in Attachment 1.

The auditor will be responsible for assessing and interpreting the audit requirements in the relevant Operating Licence and the Act and ensuring that the audit process satisfies all statutory requirements. Notwithstanding this, the audit report should reflect the emphasis of the legislation and the Operating Licence on water quality, system performance, environmental and consumer issues. Additionally, the Tribunal has identified some key issues for the 2004/2005 round of utility audits set out in the following table.

Utility	Issue
Sydney Water	Water Conservation and Demand management, Water quality
Hunter Water	Drinking Water Continuity
	Debt and disconnection
SCA	Catchment Management, Water quality
	Performance Criteria

Under the Operating Licences, the water utilities are required to provide the Tribunal with a range of reports to inform the Operational Audit. This package of information will be provided to each successful tenderer.

The Tribunal will advertise these audit processes and seek submissions from the public. The audit process must take account of any public submissions received and the views of relevant regulators (Department of Environment and Conservation, NSW Health and the Department of Natural Resources) and other stakeholders including environment, social welfare and public interest groups.

The Tribunal has determined that the Secretariat should undertake some aspects of future operational audits. The successful tenderer will be expected to provide the Secretariat with some training and guidance in audit concepts and procedures.

NWI Indicators

The Tribunal anticipates that the audit of NWI data will be done concurrently with the Operational Audits of Sydney Water and Hunter Water. The Tribunal will require that data and comments be entered into the electronic data templates and that these will be provided to the Tribunal by Friday 13 October, 2006.

In undertaking the NWI audit, for any measure not included in the Operational Audit, the auditor must ensure the consistency and comparability of audit results. This will include analysis of documented procedures, information and quality controls, and relevant data. Any changes in systems and documented procedures must be identified.

Compliance will need to be graded according to the NWI compliance scale, which will be provided to the successful tenderer. In cases of significant non-compliance, the auditor will need to assess the utility's business's plan to ensure compliance.

Outputs

The main outputs from each audit are:

1. two draft reports and a final written report addressing the objectives of the consultancy relevant to the Operating Licence and the Ministerial requirements.

2. discussions and meetings with the Tribunal and/or the Tribunal Secretariat, and
3. presentations to the Tribunal and/or Tribunal Secretariat which outline the major issues and findings relevant to the objectives.

Four bound copies and 1 loose-leaf copy, as well as electronic copies in Microsoft Word format, should be provided for the draft and final reports referred to in point 1 above. Details of the Tribunal's preferred format will be provided to the successful tenderer.

The first draft report should provide details of audit findings for each auditable requirement of the relevant Operating Licence. The second draft report should also include compliance assessment, commentary and relevant summaries.

On completion of the audit, the auditor's Operating Licence reports, working papers and advice provided to the Tribunal will become the property of the Tribunal. The final Operating Licence audit reports are provided to the relevant portfolio Minister (the Sydney Water audit report will be tabled in Parliament). Accordingly, the report should be clearly and logically set out and written in plain English, avoiding the use of unnecessary technical language. The Tribunal will also publicly display and make the report available for downloading on its website.

For the NWI audit, the Tribunal requires a 7 page WSAA excel data template be completed with relevant commentary.

Timing

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

Activity	State Water	Hunter Water	SCA	Sydney Water
Start Contract	28 August	28 August	28 August	28 August
First Draft Audit Report	29 September	29 September	29 September	29 September
NWI excel report complete		13 October		13 October
Second Draft Audit Report	27 October	27 October	27 October	27 October
Discussion of Final Draft	4 December	4 December	4 December	4 December
Delivery of Final Draft	15 December	15 December	15 December	15 December

Formal written progress updates will be required from the consultant on a weekly basis. Formal review meetings will be required following the delivery of each draft audit report (early October and early November). Other progress meetings may be required. The detailed consultancy work plan should reflect these progress meetings.

Proposal

The consultancy proposal should demonstrate an appreciation of the task and a description of the intended approach for carrying it out. It should list the personnel to be involved, including resumes detailing relevant experience. A detailed work plan, which includes the allocation of resources to tasks, is also required.

2. Closing date for tenders

Tenders to this RFT must be lodged with the Tribunal by no later than 5:00 pm on Friday 18 April 2006 ("Closing Date").

3. Further Information

All enquires in relation to this RFT must specify the RFT Reference and must be directed in writing in hard copy format, facsimile, or e-mail to:

Name	Bob Burford
Telephone	(02) 9290 8408
Facsimile	(02) 9290 2061
E-mail	bob_burford@ipart.nsw.gov.au
Address	Level 2 44 Market Street SYDNEY NSW 2000

A detailed response that addresses all enquiries received will be provided to all tenderers.



Appendix C

Operating Licence

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

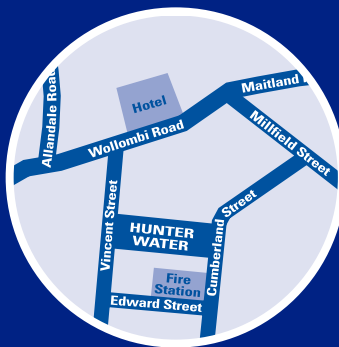
DIRECT EMAIL ENQUIRIES TO

enquiries@hunterwater.com.au



BOOLAROO OFFICE

143 MAIN ROAD
OPPOSITE COUNCIL



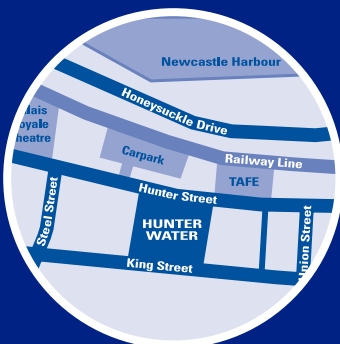
CESSNOCK OFFICE

16 VINCENT STREET
WOLLOMBI ROAD END



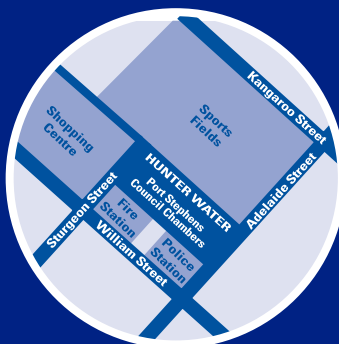
MAITLAND OFFICE

285 HIGH STREET
IN COUNCIL CHAMBERS



NEWCASTLE OFFICE

595 HUNTER STREET
GROUND FLOOR ON RIGHT



RAYMOND TERRACE OFFICE

118 PACIFIC HIGHWAY
IN COUNCIL CHAMBERS





Appendix D

Ministerial Requirements



NEW SOUTH WALES

**Minister for Police
Leader of the House**

**Mr Ron Robson
Chairman
Hunter Water Corporation
PO Box 5171
HRMC NSW 2310**

Dear Mr Robson

I am writing to you in relation to the Operating Licence Audit of Hunter Water Corporation for the period 1 July 2004 to 30 June 2005. As the Minister responsible for overseeing the Corporation's performance against the requirements of the Operating Licence, I have considered the advice given by the Independent Pricing and Regulatory Tribunal (IPART) on the audit findings.

I note that the independent Auditor found that:

"This year (2004/05) completes the third year of operation by Hunter Water under the revised Operating Licence. Hunter Water has again demonstrated its desire to perform well against the Operating Licence and this is reflected in the substantially full compliance Hunter Water achieved against the Licence requirements."

I note the Audit findings which show that the Corporation has performed well across the board against the requirements of the Operating Licence, demonstrating full compliance with the majority of its Licence obligations and high compliance against the remainder. IPART have advised that this is the best result achieved so far by Hunter Water during the current Licence term.

The management and staff of Hunter Water are to be congratulated on their performance over the 2004/05 period. The Audit findings reinforce the fact that the Corporation is delivering a sound level of service to the people of the Hunter region.

However, I also note two areas detracting from the strong overall performance and where IPART recommends the level of service can be improved. Accordingly, I am imposing two new Ministerial Requirements on Hunter Water.

Clause 7.3.1 of the Operating Licence provides that:

"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 hours."

IPART has advised me that Hunter Water has fully complied with this standard and the associated Ministerial Requirements arising from the previous Audit, with 13,723 properties affected by water interruptions in excess of five hours duration in 2004/05.

I note however that this standard was breached in 2003/04 (13,248 properties affected) and that Hunter Water has not met the requirement in 2004/05 by a sufficient margin to warrant confidence of full compliance in future years. IPART has recommended a number of Ministerial Requirements designed to improve underlying performance against the standard. The proposed measures require Hunter Water to:

"Further progress the installation of additional pressure / flow monitoring devices linked to its new telemetry and related information systems to enable the location of future trunk main failures to be more accurately pinpointed and so further improve its current capability to respond to mains failures more quickly to both minimise the number of customers affected and repair and return the main to service." (Recommendation 7.1)

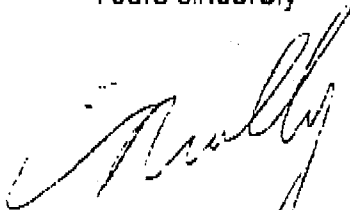
"Increase the awareness of its work crews as to the importance of endeavouring to reconnect customers within five hours of a discontinuity event." (Recommendation 7.2)

I endorse these recommendations and require Hunter Water to implement them during 2005/06.

I note IPART's comments with respect to the high level of disconnections and flow restrictions for non-payment over 2004/05. I am advised that Hunter Water has undertaken to look at ways of reducing the number of customers affected by these measures. With respect to this issue, I anticipate an improvement in performance over the next Audit period.

Please pass on my thanks to the Board and staff for their efforts over the past year.

Yours sincerely



CARL SCULLY MP
MINISTER FOR UTILITIES



Appendix E

Memoranda of Understanding

MEMORANDUM OF UNDERSTANDING

BETWEEN

NSW DEPARTMENT OF HEALTH

AND

HUNTER WATER CORPORATION

Dated: 19 April 2002

Memorandum of Understanding Between NSW Health and Hunter Water Corporation

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:-

- q the Hunter Area Health Service on www.health.hunter.nsw.gov.au; or
- q the NSW Health Department's Environmental Health Branch on Website www.health.nsw.gov.au/public-health/ehb/water; or
- q 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.

**Memorandum of Understanding Between
NSW Health and Hunter Water Corporation**

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:-

- Å annually review progress on the implementation of this Memorandum;
- Å consider long term strategic issues and policies and to define and implement processes for the interchange of strategic planning information;

and specifically to

- Å co-ordinate implementation of this Memorandum;
- Å establish data sharing programs;
- Å 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;
- Å make recommendations to the Director-General of NSW Health and the Managing Director of Hunter Water Corporation regarding the updating of this Memorandum; and
- Å 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.

**Memorandum of Understanding Between
NSW Health and Hunter Water Corporation**

- 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.

**Memorandum of Understanding Between
NSW Health and Hunter Water Corporation**

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

**Memorandum of Understanding Between
NSW Health and Hunter Water Corporation**



Appendix F

Comments from Government Agencies

Your reference : 21/15213/123981
Our reference : ED06/500
Contact : Joe Woodward , 9995 5400

Mr M Pignatelli
Manager - Environmental Audit
GHD Pty Ltd
10 Bond Street
SYDNEY NSW 2000

Attention: Rebecca Raap

Dear Mr Pignatelli


**Operational Audits of Sydney Water Corporation and Hunter Water Corporation 2005/06 –
request for comment by Department of Environment and Conservation**

I refer to your letters dated 21 December 2006 regarding the above matters and apologise for the delay in responding. I am replying on behalf of our Director General, Lisa Corbyn.

Please find enclosed two attachments which provide further details in relation to your requests.

If you have any further queries please contact me on 9995 5400.

Yours sincerely


JOSHUA GILROY 9/3/07
Assistant Executive Director Operations
Environment Protection and Regulation

Enclosure





Department of Environment and Conservation (NSW)

ATTACHMENT

2005-2006 AUDIT OF SYDNEY WATER CORPORATION 2002-2010 OPERATING LICENCE

Clause 2.3 Memorandum of Understanding

2.3.1 *Maintain an MoU with DEC*

Compliance with requirements: Satisfactory

Progress to meeting requirements: Satisfactory

Adequacy of actions being taken: Not applicable

Adequacy of the requirements: Adequate

An updated Memorandum of Understanding (MOU) between DEC and SWC came into effect in the 2005-2006 audit year. The update reflected the merger of the former Environment Protection Authority and National Parks and Wildlife Service and other agencies into DEC. The consultative mechanisms required by the MOU, including Chief Executive Officer meetings, Strategic Liaison Group (SLG) and Operational Policy Committee (OPC) meetings, continued unchanged. During 2005-2006, the SLG met two times and the OPC met three times. A third scheduled SLG meeting in June 2006 was postponed by mutual agreement.

2.3.2(b) *MoU recognises DEC as environmental regulator and commits Sydney Water to environmental improvements*

Compliance with requirements: Satisfactory

Progress to meeting requirements: Satisfactory

Adequacy of actions being taken: Adequate

Adequacy of the requirements: Adequate

i) Recognition of DEC as environmental regulator

The *Protection of the Environment Operations Act 1997* (POEO Act) designates DEC (in the name of the EPA) as the appropriate regulatory authority for the activities of public authorities, including Sydney Water. The MoU recognises DEC as the environmental regulator of Sydney Water's activities.

ii) Commitment of Sydney Water to environmental improvements

In accordance with the provisions of the POEO Act, DEC licences Sydney Water's sewage treatment systems. These licences require Sydney Water to continuously improve its environmental performance and to report on its progress. The operation and maintenance of Sydney Water's water supply infrastructure are not licensed by DEC. DEC expects Sydney Water to use industry best practice in the construction, maintenance and repair of assets, to avoid unnecessary environment harm.

Sewage Treatment Plants

During 2005-2006, Sydney Water's coastal and inland sewage treatment plants (STPs) generally complied with licence limit requirements. A small number of exceedances of pollutant load and concentration limits occurred at one STP. Following consideration of Sydney Water's explanation for the non-compliances, DEC decided no further regulatory action was warranted.

Sydney Water also reported non-compliances with routine STP monitoring requirements at a number of STPs on individual days. DEC considered these non-compliances to be minor and of no environmental consequence. In each case, Sydney Water undertook prompt and appropriate action to rectify the matter to prevent recurrence and take additional samples.

In the 2004-2005 audit response, DEC cited an incident in June 2005 where effluent containing high ammonia concentrations was discharged from the West Hornsby STP. Further, Sydney Water failed to report this as a licence non-compliance. DEC completed its investigations in 2005-2006 and issued a penalty infringement notice for the incident.

A penalty infringement notice was also issued to Sydney Water for an odour incident which happened at the Malabar STP in January 2006. DEC undertook a further investigation regarding an odour incident at Malabar STP in February 2006; as the investigation was not concluded until December 2006, the outcome will be reported in the 2006-2007 audit response.

Dry Weather Overflows

Sydney Water reported an increase in 2005-2006 in the number of individual dry weather overflows across its reticulation systems. DEC accepts Sydney Water's explanation that this is related to the extended drought in Sydney, which has resulted in a large number of tree root blockages of reticulation systems. DEC also accepts Sydney Water's explanation of increased response times to some sewer overflow incidents as a result of priority being given to water main breaks in this time of water shortage.

During 2005-2006, DEC investigated selected dry weather sewer overflows with the potential to cause environmental harm, to assess whether all measures were taken by Sydney Water to minimise harm and whether the appropriate notifications were given to third parties as required by the environment protection licences. DEC was satisfied with the findings of these investigations.

Wet Weather Overflows

The sewage treatment system (STS) licences requires no deterioration and ongoing improvement in system environmental performance compared to agreed baseline performance indicators. DEC notes that the number of STSs that did not comply with the wet weather performance requirements has decreased from eight to seven. Commencing in 2005-2006, DEC imposed wet weather overflow frequency limits on the licences for the 17 inland STSs. The wet weather overflow frequency limit was exceeded in three of these systems in this first year. Sydney Water is progressing with works and activities required by Pollution Reduction Programs in the licences to return the three systems to complying performance and to meet lower 2010 wet weather overflow targets for all 17 systems.

During 2005-2006, Sydney Water has generally complied with licence conditions at its water filtration plants. DEC's investigation of an incident involving a discharge of acid to the Hawkesbury River from the North Richmond plant in December 2004 was concluded in 2005-2006. DEC decided that neither a prosecution nor issue of a penalty infringement notice could be supported in the full circumstances surrounding the incident, and no further action was warranted.

ATTACHMENT 2**2005-2006 AUDIT OF HUNTER WATER CORPORATION 2002-2010 IPART Operating Licence****Clause 3.3 Memorandum of Understanding****3.3.3 MoU Acknowledgement that Hunter Water has entered into MoU with EPA as at the commencement date**

The Memorandum of understanding between the Department of Environment and Conservation (DEC) and Hunter Water Corporation ("Hunter Water") expired on 30 June 2005. DEC and Hunter Water are continuing to meet on a regular basis and work cooperatively on both regulatory administrative and compliance issues and the prioritisation of programs to improve the environmental performance of Hunter Water's sewage treatment systems. Given the current working relationship, DEC and Hunter Water are not seeking to renew the Memorandum.

6.6.1 Other grades of Water supplied according to relevant DEC guidelines

To the extent that Hunter Water's Environment Protection Licences include discharge points for treated effluent reuse schemes, the limits specified in the licence take into consideration relevant guidelines and site specific environmental assessment. DEC monitors Hunter Water performance against the pollutant limits specified in each licence.

6.7.1 Hunter Water must provide environmental water quality reports for discharges/water to DEC

Hunter Water's Environment Protection Licences include specific monitoring and reporting requirements. Hunter Water is required to submit an 'Annual Return' annually for each licence. The annual return is signed by the Managing Director and certifies the extent to which Hunter Water has complied with the licence conditions.

DEC is broadly satisfied with Hunter Water's level of compliance with licence conditions and progress on agreed sewage treatment system improvement programs.



Clause 3.6 Other Grades of Water**3.6.1 Other grades of water supplied according to relevant DEC guidelines**

Compliance with requirements: Satisfactory

Progress to meeting requirements: Satisfactory

Adequacy of actions being taken: Adequate

Adequacy of the requirements: Adequate

Sydney Water supplies suitably treated effluent for domestic use, commercial irrigation and industrial purposes. The Wollongong STP has capacity to supply 20 ML per day of treated effluent to Bluescope Steel for industrial use, in place of dam water that is more suitable for treatment to potable standard. Recycled water is provided to the Rouse Hill development area for non-potable uses such as flushing toilets and watering gardens. The Picton STP and the Gerringong - Gerroa sewerage scheme both provide recycled water for local agricultural use. Several other STPs supply treated effluent to local golf courses and playing fields.

A number of Sydney Water's STS licences allow suitably treated effluent to be tinkered to Sydney Water customers on demand in accordance with DEC effluent irrigation guidelines. The licences include conditions regarding the quality of this water. Sydney Water complied with these licence conditions in 2005-2006.

Clause 7.2 Environment Management**7.2.7 DEC consultation on Sydney Water's Environmental Plan**

Compliance with requirement: Satisfactory

Progress to meeting requirement: Satisfactory

Adequacy of actions being taken: Adequate

Adequacy of the requirement: Adequate

Sydney Water formally consulted DEC on the format and performance indicators for its 2006 Environment Plan. Minor changes were suggested by DEC. DEC is satisfied with Sydney Water's consideration and decisions regarding the suggestions and comments offered.

Hunter New England Population Health

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final copy

19 January 2007

Mr Maurice Pignatelli
Manager - Environmental Audit
GHD Pty Ltd
10 Bond Street
SYDNEY NSW 2000

Dear Mr Pignatelli

RE: OPERATIONAL AUDIT OF HUNTER WATER CORPORATION 2005/2006
REQUEST FOR COMMENT

Thank you for inviting NSW Health to comment on the 2005/06 Operational Audit of the Hunter Water Corporation. Comments have been collected from various members of the team who have regular contact with Hunter Water Corporation, both operationally and strategically to ensure a comprehensive review. It is expected that these comments will be taken into consideration with other findings in the preparation of the Operational Audit Report. These comments have been arranged as requested under the following headings:

Compliance with requirements:

NSW Health enjoys an open and co-operative relationship with Hunter Water. NSW Health is of the opinion that Hunter Water has met the public health requirements of the 2002-2007 Operating Licence during the audit period as per attachment 1 of your correspondence.

Progress to meeting requirements:

Not applicable.

Details of any specific incidence of non-compliance:

The Operating Licence requires Hunter Water Corporation to comply with health-related guideline values specified by NSW Health. Occasionally individual water samples are found to contain *E. coli* bacteria. These results are generally very low (1 organism/100 mL). NSW Health is satisfied that Hunter Water meets the target set in the *Australian Drinking Water Guidelines* (ADWG 2004) that 98% of samples are free of *E. coli*. NSW Health is also satisfied with Hunter Water's response to these detections. Protocols are followed for re-sampling to determine any source of contamination. There have been no associated gastrointestinal incidents or outbreaks linked with Hunter Water.

From time to time there are elevated levels of cyanobacteria in Hunter Water's storages. However Hunter Water carefully monitor the levels and introduce powdered activated carbon treatment when required to manage taste and odour. The species found are generally not toxin producing. They also have contractual agreements and systems in place for notifying customers who directly draw off from Chichester dam at times when levels are elevated.

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Mr Maurice Pignatelli
19 January 2007

Adequacy of actions being taken:

Hunter Water Corporation has always undertaken necessary action to ensure a safe water supply and to meet NSW Health's requirements. It is important for NSW Health not only to receive information on water quality problems and public health threats but on actions taken to prevent future similar problems occurring. This applies to the drinking water supply system, to the sewerage system and recycled water.

Adequacy of the requirements of the licence and the MOU:

Both the operating licence and the MOU are important documents that assist with ensuring a safe water supply. The MOU in particular provides a framework for outlining the roles and responsibilities and for facilitating effective communication between NSW Health and Hunter Water. Whilst the MOU has been an excellent tool over the past 5 years there are a number of important aspects that require review to ensure its applicability and practicality in the future. This is necessary to ensure an up to date document, streamline communication and encompass a broader public health approach to ensure all health risks are addressed. NSW Health has made a separate submission to the current IPART review of the Hunter Water Operating Licence.

In addition you requested confirmation or further commentary on the statement that 'Hunter Water takes samples for Cryptosporidium and Giardia in raw and treated water but only analyses the treated water sample if there is a positive result in the raw water analysis. This process leaves a certain element of risk in place. A regime similar to that used by Sydney Water and the Sydney Catchment Authority should be implemented.'

NSW Health does not support this statement. Hunter Water's current arrangements are appropriate. Testing raw water or treated water may help identify a potential hazard but this does not eliminate the risk.

NSW Health made a significant contribution to the development of the ADWG 2004. The NSW Government has endorsed the Australian Drinking Water Guidelines as a model for best practice. NSW Health supports the implementation of a multiple barrier approach operating from the catchment to tap to minimise the risk of contamination, including *Cryptosporidium* and *Giardia* protozoa; with the protection of catchments from human and animal wastes a priority. For both *Cryptosporidium* and *Giardia* the ADWG 2004 states 'no guideline value is set due principally to the lack of a method to identify human infectious strains in drinking water. Routine monitoring of distribution systems is not recommended; however, investigative testing maybe required in response to events that could increase the risk of contamination. Such events could include heavy rainfall leading to a marked increase in turbidity and numbers of either *Cryptosporidium* or *Giardia* in source water, sub-optimal operation of treatment processes or treatment plant failures. Investigative and event-based testing of source waters is recommended'.

I trust that this information is of assistance. If you have any questions please feel free to contact myself on (02) 4924 6206 or Dr Paul Byleveld on (02) 9816 0292.

Yours sincerely

Kelly Main
Environmental Health Manager
Hunter New England Population Health
Hunter New England Area Health Service



NSW Government

DEPARTMENT OF NATURAL RESOURCES

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Ms Rebecca Raap
Audit Coordinator
GHD Pty Ltd
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Our ref: HWCL01; 04/07
Your ref: 21/15213/123983
File: 2007-01-08 letter re HWC Op Lic audit 05-06.doc

25 January 2007

Received 5 Feb 2007.
Paul

Dear Ms Raap

Subject: Operational Audit of the Hunter Water Corporation 2005/06

I refer to your letter dated 21 December 2006 inviting comments from the Department of Natural Resources (DNR) on the audit of Hunter Water Corporation's (HWC) Operating Licence for the period 1 July 2005 to 30 June 2006.

The Department has reviewed HWC's performance against their Operating Licence, in consideration of the attachment to your letter and provides following comments:

Clause 3.3 – Memorandum of Understanding

DNR has issued Hunter Water Corporation a Water Management Licence and established a Strategic Liaison Committee which provides an appropriate forum for discussions on licensing and other strategic issues between HWC and DNR. Furthermore, both organisations acknowledged the regulatory relationship between the two organisations had matured since the MOU was developed, with the Strategic Liaison Committee proving to be an effective forum. DNR considers that the an MoU under its operating licence is now no longer necessary and the requirement for an MoU should be removed from the revised Operating Licence.

Clause 6.6 – Other Grades of Water

DNR has no requirements for HWC to meet any water quality guidelines for other grades of water. Clause 6.6.1 should be amended to remove "DLWC" (now DNR).

DNR considers that HWC should be required by the Operating Licence to publicly report on the quality of other grades of water, as they are required to report on the quality of drinking water.

Clause 6.7.1 – Environmental Water Quality

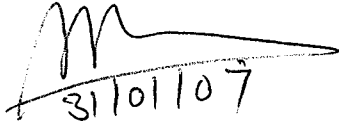
HWC is required to regularly monitor groundwater quality for pH, electrical conductivity, and metals in the Tomago and Tomaree groundwater sources. HWC is also required to monitor surface water at several locations in the Williams and Chichester Rivers where their operations have the potential to impact water quality. Monitoring requirements include cyanobacterial levels and physico-chemical parameters (e.g. dissolved oxygen and temperature) in Chichester Dam and downstream and in Seaham Weir Pool.

HWC is required to report any non-compliance with guideline levels to DNR for any of the water quality monitoring as soon as practical, as well as reporting all water quality monitoring results

in the annual Water Licence Report. For the period July 05 to June 06, HWC complied with all monitoring and reporting requirements under their Water Management Licence package.

Should you have any further enquiries about this matter please contact Dr Helen Keenan on telephone (02) 4729 8120 or email Helen.Keenan@dnr.nsw.gov.au .

Yours sincerely



31101107

Salim Vhora
Manager Corporate Licensing Unit
Compliance and Licensing



Appendix G

Customer Contract Compliance Table



Table G.1 Customer Contract Compliance Table

Clause	Requirement	Compliance	Findings
1	Introduction	No requirement	
2	What is a Customer Contract and who is covered by it?	No requirement	This clause provides background information, a definition of the Customer Contract and who is covered.
3	What service does Hunter Water provide?		
3.1	Water supply services	Full compliance	Hunter Water reported 13,133 properties experienced one or more water interruptions resulting in a cumulative duration of 5 hours or more during 2005/06. This figure is a decrease from the 2004/05 audit where the figure was 13,723. There were four instances where 250 or more properties were affected in a single event by a planned or unplanned water interruption, which was longer than 5 hours. The most significant of these was an unplanned incident in Maitland, which affected 1,122 properties for more than seven hours. For more information refer to Section 7 Table 7.1, Clauses 7.3.1.
	3.1.1 Supply of drinking water		
	3.1.2 Drinking water quality	Full compliance	Hunter Water published its annual water quality report for 2005/06 in September 2006. The report shows that Hunter Water has delivered water of a very good quality consistently throughout the period. Hunter Water achieved a result of 99.6% (Licence Target = >98%) for <i>E.coli</i> for Microbiological water quality parameters. This represents full compliance. <i>Escherichia coli</i> is a type of thermotolerant coliform bacteria and is nearly always present in the gut of humans and warm-blooded animals. <i>E.coli</i> is generally regarded as the most specific indicator of faecal contamination and therefore an important indicator in public health. All results for Physical, Chemical and Aesthetic parameters of water quality were within the Guideline values and represented Full compliance. For more information refer to Section 6, Clause 6.2.
	3.1.3 Drinking water pressure	Full compliance	Hunter Water reported 1,663 properties that experienced one or more water pressure incidents (that is, a pressure below 20 metres head at the point of connection of the Property to Hunter Water's main). This figure is similar to the number affected in 2004/05. For more information refer to Section 7 Table 7.1, Clauses 7.3 (Subclause 2) and 7.5 (Subclause 2).

**Table G.1 Customer Contract Compliance Table**

Clause	Requirement	Compliance	Findings
	3.1.4 Supply of recycled water	Full compliance	<p>Hunter Water supplies recycled water to a range of its customers. The arrangements for the supply of these waters are detailed within separate agreements with each of the customers supplied. These supply arrangements are consistent with the requirements of the relevant NSW Government Agencies.</p> <p>For more information refer to Section 6, Clause 6.6 of the HWC Operational Audit 2006/07.</p>
	3.1.5 Health or special needs	Full compliance	<p>Hunter Water Supplies other grades of water for Health or Special Needs to relevant customers and has in place individual supply agreements with each customer that addresses all required terms.</p> <p>For more information refer to Section 6, Clause 6.6 of the HWC Operational Audit 2006/07.</p>
3.2	Sewerage services		
	3.2.1 Supply of sewerage services	High compliance	<p>A review of data relating to operational complaints, which would include complaints related to supply of sewerage services, indicates these complaints are with the target range.</p>
	3.2.2 Sewage overflow 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	<p>In 2005/06, there were 3,359 uncontrolled sewage overflows onto private property (other than on public land).</p> <p>For more information, refer to Section 7, Clause 7.3 (Subclause 3) of the HWC Operational Audit 2006/07.</p>
	3.2.3 Blockage of sewer system	No requirement	Information customer
	3.2.4 Trade waste	No requirement	Responsibility of customer.

**Table G.1 Customer Contract Compliance Table**

Clause	Requirement	Compliance	Findings
3.3	Stormwater drainage services	No requirement	Responsibility of customer.
3.4	Factors affecting service		
	3.4.1 Repairs and maintenance	High compliance	A review of data relating to operational complaints, which would include complaints related to repairs and maintenance, indicates these complaints are with the target range.
	3.4.2 Unplanned interruptions	Full compliance	Hunter water has procedures are in place to facilitate the requirements of this clause. Examples of implementation of those procedures were provided.
	3.4.3 Planned interruptions	Full compliance	Hunter water has procedures are in place to facilitate the requirements of this clause. Examples of implementation of those procedures were provided.
	3.4.4.1 Restrictions (Drought)	No requirement	There have been no restrictions due to drought during the audit year. Notwithstanding, Hunter Water has actively promoted water saving initiatives in the community.
	3.4.4.2 Restrictions (Major Operational Difficulty)	No requirement	There have been no restrictions due to major operational difficulty during the audit year
4	What you pay		
4.1	Responsibility to pay account	No requirement	Responsibility of customer.
4.2	Publication of charges	No requirement	Addressed in a previous audit. For more information, refer to Section 5, Clause 5.3 of the HWC Operational Audit 2005/06.
4.3	Concessions	No requirement	This is an Information clause



Table G.1 Customer Contract Compliance Table

Clause	Requirement	Compliance	Findings
4.4	Your account	Full compliance	There are several subsections to this clause, including when the account will be sent (4.4.1), what information is on the account (4.4.2), how the accounts are to be sent (4.4.3), how payments can be made (4.4.4) and the consequences of overdue account balances (4.4.5). Example accounts were sighted and the relevant information was included.
4.5-4.7	Undercharging Over charging Account disputes	Full compliance	Hunter Water operates an effective complaints handling process. Its systems are designed to comply with the Customer Contract; it has monitoring processes in place to measure their effectiveness and regularly reports to senior management and its customers on its performance. For more information refer to Table 11.2.1(j) Licence Section 12 – Complaint and Dispute Handling
4.8	How prices are determined	Full compliance	Customers are informed about how prices are determined. This is outlined in the <i>Charges Guide 2005>2006</i> brochure.
4.9	Notification of price variations	Full compliance	Customers are notified through their accounts and advertisements in newspapers. <i>Customer News and Nov 05 >Feb 06</i> and the <i>Charges Guide 2005>2006</i> were sighted.
4.10	Other costs and charges	No requirement	Responsibility of customer.
5	What can you do if you are unable to pay your account		
5.1	Payment difficulties	No requirement	Addressed in a previous audit. For more information, refer to Clause 5.3 of the HWC Operational Audit 2006/07.
5.2	Account relief	No requirement	As above.
6	Disconnection or restriction of water and sewerage services	Full compliance	Hunter water has continued to look at ways at reducing the number of customers affected by disconnection and flow restrictions measures for non-payment. It introduced new disconnection Policy in May 2006 and commenced to trial a further step in its credit management process, in September 2006. Refer to Section 5, Clause 5.2 (Subclause 2) and Table 5.3 of the HWC Operational Audit 2006/07 for more information.



Table G.1 Customer Contract Compliance Table

Clause	Requirement	Compliance	Findings
7	Redress	High compliance	The requirements of this clause are address in the Code of Practice for Debt and Disconnection.
8	Responsibilities for maintenance	No requirement	Information Clause
9	Entry onto a customer's property for maintenance		
9.1	Access to Hunter Water's system	No requirement	Primarily information for the customer.
9.2	Identification	Full compliance	The policy on Employee Identification Cards is consistent with the requirements of this clause.
9.3	Notice of access	High compliance	Hunter water issues a <i>Notice of Impending Work</i> to the occupier of a property, prior to entering private property. The notice does not indicate that a minimum of 2 days notice is required in accordance with the Customer Contract (unless agreed otherwise) and a reference on the Notice to the Customer contract is incorrect.
9.4	Impact on customer's property	High compliance	A review of data relating to operational complaints, which would include complaints related to repairs and maintenance, indicates these complaints are with target ranges.
10	Water meter installation, testing and maintenance	Full compliance	The Customer Services Policies & Procedures are consistent with the requirements of this clause.
11	Who can I speak to if I have any questions or want to make enquiries?	No requirement	Primarily for the information of the customer.
12	What can you do if you are unhappy with the service provided by Hunter Water?		
12.1	Customer complaints	Full compliance	The Complaints Management System captures Hunter Water's complaints handling and complaints resolution procedures. For more information, refer to Section 5, Clause 5.2 of the HWC Operational Audit 2006/07.
12.2	Complaints review	High compliance	Hunter Water has monitoring protocols in place to measure its effectiveness in complaints review and regularly reports to senior management and its customers on its performance. For more information, refer to Section 11, Clause 11.2 of the HWC Operational Audit 2005/06.

**Table G.1 Customer Contract Compliance Table**

Clause	Requirement	Compliance	Findings
12.3	When a dispute is considered resolved	No requirement	Primarily for the information of the customer.
12.4	External dispute resolution	High compliance	Hunter Water advised that there have been no complaints to a Court or Tribunal during this audit period. For more information, refer to Section 11, Clause 11.2 (Subclause 1) of the HWC Operational Audit 2006/07 and Clause 12.3 of the Licence.
13	Consultation, information and privacy		
13.1	Involving customers in service planning	Full compliance	The Forum consists of representatives from all groups specified in Subclause 5.4.6, including consumers and customers. Refer to Clause 5.4 of the HWC Operational Audit 2006/07 for more information.
13.2	Provision of information	Full compliance	The provision and dissemination of information was consistent with the Freedom of Information Act 1998. For more information, refer to Section 5 of the HWC Operational Audit 2005/06.
13.3	Privacy	High compliance	Hunter Water does not have a formal privacy policy however, procedures in place in both the Contact Centre and the Case Investigations Team to minimise the possibility of providing inappropriate information: <ul style="list-style-type: none">» Hunter Water confirms the identity of a caller by asking for the person's name and address. Financial information is provided only to the owner or to the owner's representative such as a solicitor or real estate agent;» All employees are bound by a Code of Conduct which includes the behavior expected of employees with regard to Customer Accounts; and» Access to systems that would include customer information such as CSS (now CIS) and AOMS is limited by security requiring a valid username and password combination to access the system.
14	When does my customer contract with Hunter Water terminate?	No requirement	Primarily for the information of the customer.
15	Dictionary and interpretation	No requirement	Primarily for the information of the customer.



Appendix H

Code of Practice on Debt and Disconnection Compliance Table



Table H.1 Code of Practice on Debt and Disconnection Compliance Table

Clause	Requirement	Compliance	Findings
1.1	Service of Accounts	High compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice. It is noted however that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities, referred to in the Code of Practice, have been re-directed to equivalent positions in the new structure.
1.2	Accounts Process	Full compliance	Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice. The triggers outlined in the Code of Practice were triggered by the CSS system up to the reminder letters; thereafter personnel control the collection process.
1.3	Notice of Proposed Recovery	Full compliance	Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice. The triggers outlined in the Code of Practice were triggered by the CSS system up to the reminder letters; thereafter personnel control the collection process.
1.4	Restriction/Disconnection of Water Supply	High compliance	<p>Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice.</p> <p>Hunter Water has added a further step in the disconnection process. No disconnections can occur without the sign-off of the Hunter Water GM.</p> <p>It further noted that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities referred to in the Code of Practice have been re-directed to equivalent positions in the new structure.</p>
1.5	Mercantile Agents/Legal Action	High compliance	Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice. It is noted however that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities referred to in the Code of Practice have been re-directed to equivalent positions in the new structure.
1.6	Recovery Action on Pensioners	High compliance	Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice. Hunter Water advised, however that with the new CIS system, reminder letters are sent to the pensioners once every three months, rather than annually.
1.7	Recovery Action on Home Units	Full compliance	Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice.
1.8	Recovery Action on Exempt properties	High compliance	Hunter Water's procedures are consistent with the procedures outlined in the Code of Practice. Hunter Water advised, however that with the new CIS system, recovery can proceed on exempt properties.



Table H.1 Code of Practice on Debt and Disconnection Compliance Table

Clause	Requirement	Compliance	Findings
1.9	Recovery on Government owned and council properties	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice.
1.10	Sub-metering arrangements	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice.
1.11	Payment Arrangements	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice. Authorities to negotiate arrangements have been extended to include limits for the Contact Centre Team Leader, Manager and General Manager.
1.12	Hold Codes	Full compliance	Hold points were eased in the old CSS system during the audit period. Hold points no longer apply in the new CIS system.
1.13	Change of ownership	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice.
1.14	Change of postal address	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice.
1.15	Returned Notices	High compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice. It noted however that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities referred to in the Code of Practice have been re-directed to equivalent positions in the new structure.
1.16	Major customers/Large Customer Accounts	High compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice. It noted however that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities referred to in the Code of Practice have been re-directed to equivalent positions in the new structure.
1.17	Property Lists	High compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice. It noted however that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities referred to in the Code of Practice have been re-directed to equivalent positions in the new structure.
1.18	Interest	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice.
1.19	Changes to the supreme court judgement rate	Full compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice.
1.20	Recovery fees	High compliance	Hunter Water's procedures are consistent with those outlined in the Code of Practice. It noted

**Table H.1 Code of Practice on Debt and Disconnection Compliance Table**

Clause	Requirement	Compliance	Findings
			however that Customer Services within Hunter Water was restructured during the audit period and direct responsibilities referred to in the Code of Practice have been re-directed to equivalent positions in the new structure.
1.21	Tenants and occupiers	No requirement	Information only
1.22	Regulatory references	No requirement	Information only



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		Name	Signature	Name	Signature	Date
A	R Raap	M Pignatelli		I Garrard		21/12/06
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