

Sydney Water Corporation
Operational Audit 2001/2002

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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OF NEW SOUTH WALES**

Sydney Water Corporation
Operational Audit 2001/2002

Compliance No 9

January 2003

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Independent Pricing and Regulatory
Tribunal

**Sydney Water Corporation
Operating Licence Audit (2001/02)**

Report

January 2003

ACKNOWLEDGEMENTS

GHD Pty Ltd and the Hunter Valley Research Foundation would like to thank the officers of the Sydney Water Corporation, the Licence Regulator and the Independent Pricing and Regulatory Tribunal for the cooperative and positive assistance provided during the audit process.

The task of information gathering and transfer was significant. The support provided by Sydney Water staff was greatly appreciated.

Our reference: 02/105

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13 January 2003

The Hon K Yeadon MP
Minister for Energy and Utilities
Level 36
Governor Macquarie Tower
1 Farrer Place
SYDNEY NSW 2000

Dear Minister

Operational Audit of Sydney Water Corporation 2001-2002

In accordance with Section 31 of the Sydney Water Act 1994, the Tribunal is pleased to submit the independent Operational Audit Report for Sydney Water Corporation for the period from 1 July 2001 to 30 June 2002.

The Tribunal is pleased to report that Sydney Water has continued to improve its performance against its Licence obligations having achieved full or high compliance with the majority of the Licence conditions.

One of the purposes of the annual Audit is to promote business improvements. The Auditors have identified a number of areas where Sydney Water, while generally performing well, could improve further. Aspects of the Corporation's performance against its demand management obligations also remain of concern.

Having considered the Audit report, the Tribunal recommends that no penalties be imposed on the Corporation.

With respect to areas for which potential improvements have been identified, the Tribunal makes the following recommendations.

Water Conservation and Demand Management

The key finding within this section of the Auditors report is that:

"Sydney Water has achieved 'Low compliance' with respect to actions taken to reduce the quantity of water it draws from all sources and it is unlikely that SWC will meet its 2004/05 target. The 2010/11 target may be achievable but expansion of current demand management activities or greater than expected outcomes from existing programs may be required."

Despite this finding, the Tribunal can report that Sydney Water is actively seeking to expand its demand management program and commit additional expenditure and resources to meet the significant challenges inherent in reducing the demand for water whilst supplying an expanding customer base.

In particular, the Tribunal notes the Auditors comments that the Corporation has committed \$42 million for demand management actions to the end of 2002/03 and proposes to inspect 4000km of water pipes over the next year as part of its leakage reduction program.

One of the key issues of focus for the demand management program is in reducing leaks from the distribution system. There is significant potential for water savings given current leakage rates of 10.5% of all water entering the system. Although, Sydney Water has a well defined program for identifying and repairing leaks, it has been unable to accurately report the actual water savings achieved. The Tribunal believes that if the outputs from the leakage reduction program cannot be accurately quantified, it will be difficult for Sydney Water to ensure that its expenditure is efficient and appropriate.

To address this, the Tribunal recommends (based on the Audit Recommendation R8.2) that Sydney Water as part of its annual Demand Management Strategy Implementation Report, describe the methodology that it uses to determine the economic rate of leakage and to assess and validate the levels of leakage reduction achieved, and the results of investigations using these methodologies.

Water Quality

The Auditors have reported strong performance by Sydney Water against this aspect of the Licence, commenting that:

"Sydney Water obtained 'Full compliance' with respect to the supplies of treated drinking water to its customers. The water quality supplied is generally of an excellent standard and complies with the health related requirements of the Australian Drinking Water Guidelines and the aesthetic related requirements of NSW Health."

Whilst this is a very positive result, the Auditors have suggested a possible improvement to Sydney Water's current planning arrangements (R6.2). The recommendation calls for Sydney Water, through its Annual Drinking Water Quality Improvement Plan, to consider risks that may occur through variations in bulk water quality or plant failure.

The Tribunal endorses this recommendation.

Complaint Handling System

The Audit found that Sydney Water generally performed well in terms of its customer complaint handling systems and mechanisms for customer redress. However, the Auditors reported a finding of "partial compliance" with the Licence requirement that Sydney Water identify and report on "*problems of a systemic nature*" which have been identified through its complaint handling system.

The Tribunal believes that it is important to ensure that complaint data is used to identify and correct systemic and localised service problems. Sydney Water has disputed this finding, arguing that information provided by complainants is utilised in an operational sense. However, the Auditors maintain that Sydney Water's 2 page report on this issue provided inadequate detail to give confidence in their approach

To address this issue for the 2002/03 Operational Audit, the Tribunal recommends that Sydney Water be required to provide a comprehensive report which demonstrates the use of complaint data to identify problems of a systemic nature in specific geographical areas and the strategies used to overcome these problems.

System Performance Standards

The current Audit reports that Sydney Water has fully complied with the amended system performance standards for water pressure, water continuity and sewage overflows.

One area of difficulty identified in the Audit is that of reporting to the specific accuracy and confidence limits set out for each performance standard. These accuracy and confidence limits are important to ensure that Sydney Water can accurately identify, report and correct service problems affecting customer service. Although the Auditors have reported that the Corporation has robust measuring and reporting systems in place, for the current Audit period the Auditors have been unable to determine whether Sydney Water complies with the accuracy and confidence limits.

Sydney Water proposes to address this for the 2002/03 Audit period by undertaking internal audits of the accuracy of the reported results for each of the performance standards.

The Tribunal believes that over the longer term this issue is best addressed by the Monitoring and Reporting Protocol which is currently being negotiated with Sydney Water. The Tribunal will use its best endeavours to ensure that this Protocol is in place no later than 1 July 2003.

The Tribunal intends to monitor Sydney Water's progress in addressing all matters raised by the Auditor.

Please do not hesitate to contact me if you require more information.

Yours sincerely

Thomas G. Parry
Chairman

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ABBREVIATIONS

Acronym	Description
ACCESS	Automated Corporate Customer Enquiry Service System
Act	Sydney Water Act 1994
ARMCANZ	Agriculture and Resource Management Council of Australia and NZ
AWT	Australian Water Technologies Pty. Ltd.
CEO	Chief Executive Officer
CIBS	Customer Information and Billing Service
CRC	Co-operative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSR	Customer/Stakeholder/Regulator
DLWC	Department of Land and Water Conservation (NSW)
DLWPA	Designated Low Water Pressure Areas
DUAP	Department of Urban Affairs and Planning (NSW)
DWQMS	Drinking Water Quality Management System
EDC	Every Drop Counts
EIS	Environmental Impact Statement
EMS	Environmental Monitoring Services, a division of AWT
EP	Environment Plan
EPA	Environment Protection Authority (NSW)
ESD	Ecologically Sustainable Development
EWON	Energy and Water Ombudsman NSW
GHD	GHD Pty Ltd
GIS	Geographical Information Systems (computer mapping)
HRC	Healthy Rivers Commission
HVRF	Hunter Valley Research Foundation
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISF	Institute for Sustainable Futures
IWA	International Water Association
JLG	Joint Liaison Group
LR	Licence Regulator
ML	Megalitre (1 million litres)
MOU	Memorandum of Understanding
M&R	Measurement and Reporting
NATA	National Analytical Testing Authority
NCC	Nature Conservation Council (NSW)
NHMRC	National Health and Medical Research Council
NHT	Natural Heritage Trust
NPWS	National Parks and Wildlife Service (NSW)
NSW Health	NSW Department of Health
PENGO	Peak Environmental Non-Government Organisation
POEO	Protection of the Environment Operations Act, 1997
REP	Regional Environmental Plan
RIS	Regulatory Impact Statement
SCA	Sydney Catchment Authority
SEDA	Sustainable Energy Development Authority
SEPP	State Environmental Planning Policy
SLG	Strategic Liaison Group
SoE	State of Environment (report)



SOP	Standard Operating Procedure
STP	Sewage Treatment Plant
Sydney Water	Sydney Water Corporation
TEC	Total Environment Centre
WAMC	Water Administration Ministerial Corporation
WAMS	Works and Asset Management System
WFP	Water Filtration Plant
WHO	World Health Organisation
WML	Water Management Licence
WSAA	Water Services Association of Australia

GLOSSARY/DEFINITIONS

GENERAL TERMS AND DEFINITIONS

Term	Meaning
Act	<i>Sydney Water Act 1994.</i>
Area of Operations	As specified in section 10(1) of the Act and described in Schedule 2 of the Operating Licence.
Audit period	1 July 2001 to 30 June 2002.
Auditor	GHD Pty. Ltd. in association with Hunter Valley Research Foundation.
Bulk Water	Water supplied by the SCA to Sydney Water (under the Bulk Water Supply Agreement) and to customers other than Sydney Water.
Bulk Water Supply Agreement	The Bulk Water Supply Agreement between the SCA and Sydney Water signed on 15 September 1999.
Commencement Date	12 April 2000.
End of Term Review	A review of the Operating Licence to be undertaken on or about 1 January 2004.
Function	Means a power, authority or duty.
Minister	The Minister responsible for administering the provisions of the Sydney Water Act, 1994.
Operating Licence	The licence between 1 January 2000 and 31 December 2004.
Water Management Licence	A Water Management Licence granted under the <i>Water Act, 1912</i> and issued by DLWC on 23 April 2001.

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.
Partial Compliance	The major requirements of the condition have been met.
Low Compliance	Key requirements of the condition have not been met but minor achievements regarding compliance have been demonstrated.
Non Compliance	The requirements of the condition have not been met.
Insufficient information	Relevant, suitable or adequate information to make an objective determination regarding compliance was not available to the Auditor.
No Requirement	The requirement to comply with this condition does not occur within the audit period or there is no requirement for Sydney Water to meet, such as a definition, or a requirement placed upon another agency.

PREFACE

GHD Pty Ltd in association with the Hunter Valley Research Foundation (HVRF), was commissioned by the Independent Pricing and Regulatory Tribunal (IPART) to undertake the 2001/02 Operational Audit of the Sydney Water Corporation (Sydney Water). The 2001/02 Operational Audit (and the extent of this report) covers the period 1 July 2001 to 30 June 2002.

Sydney Water is a State Owned Corporation, which is wholly owned by the NSW Government. The roles and responsibilities of Sydney Water derive from the *Sydney Water Act 1994* (the Act) and the Operating Licence issued pursuant to Part 5 of the Act. The Operating Licence enables Sydney Water to provide water, sewerage and some stormwater drainage services to approximately 4 million customers within the areas of Sydney, the Blue Mountains and Illawarra Regions.

The scope of the audit is defined in Part 10 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 *Sydney Water Act, 1994*, following the 2000/01 Operational Audit and the Review of the System Performance Standards.

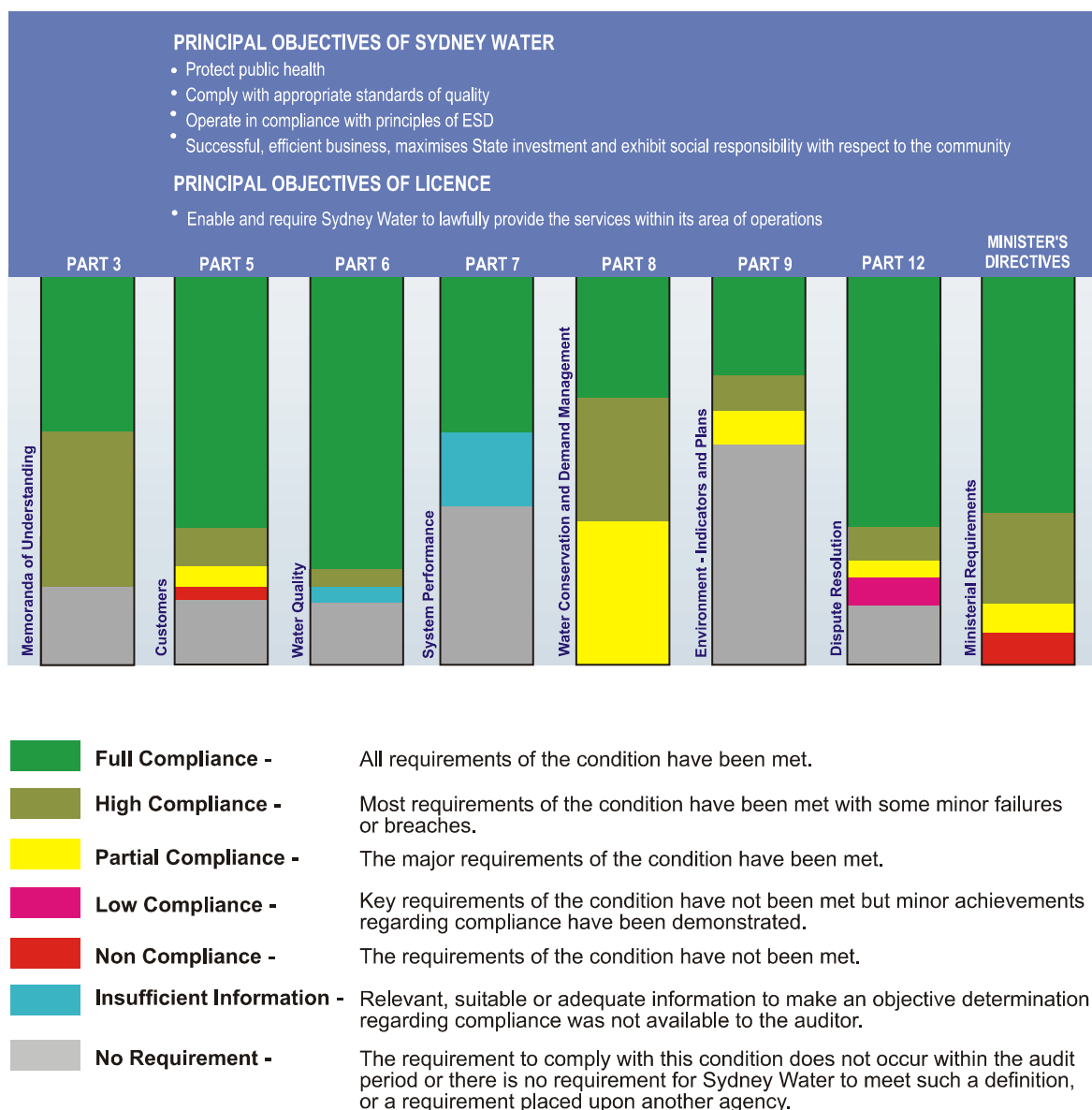
The findings of the report are presented in a format consistent with the Operating Licence structure and not in a “prioritised order” or “order of significance”. The report also identifies factors that have affected compliance and presents recommendations to improve compliance in subsequent years.

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 Sydney Water Corporation (Sydney Water) has managed its resources to achieve predominantly full to high compliance with the Operating Licence, although some areas of non-compliance have been recorded. **Figure 1** provides an indicative overview of Sydney Water's level of compliance.

Figure 1: Overview of Compliance for 2001/02 Audit Period



NOTE: Figure is indicative only.

Compliance against each Part of the Licence is summarised below in the order the parts appear in the Licence:

Memoranda of Understanding

Sydney Water is required to maintain Memoranda of Understanding (MOU) with the Water Administration Ministerial Corporation (WAMC), NSW Department of Health (NSW Health) and Environment Protection Authority (EPA) for the term of the Licence. 'Partial compliance' was assessed as only the MOU with NSW Health has been maintained and fully operational. In the case of WAMC, a new MOU was finalised on 28 June 2002 however, over the operating year, the 1996 MOU prevailed. A new EPA MOU was drafted during the year but not finalised. Despite the outdated MOU with EPA evidence of improved "cooperative relationships" was sighted at CEO, policy and operation level through the Strategic Liaison and Joint Operational Groups.

Customer and Consumer Rights

The revised Customer Contract came into effect on the 1 April 2002 and Sydney Water has achieved 'High compliance' with most clauses of the Contract.

Sydney Water obtained 'Full compliance' with the code of practice and procedure on debt and disconnection and most aspects of the Customer Councils.

Water Quality

Sydney Water obtained 'Full compliance' with respect to the supplies of treated drinking water to its customers. The water quality supplied is generally of an excellent standard and complies with the health related requirements of the Australian Drinking Water Guidelines and the aesthetic related requirements of NSW Health.

Sydney Water has also obtained 'Full compliance' for:

- having regard to the concepts of risk minimisation in its management of the water supplies;
- the preparation of a Five year Drinking Water Quality Management Plan;
- the preparation of an *Annual Drinking Water Quality Monitoring Plan* (endorsed by NSW Health) and monitoring in accordance with the Plan; and
- the preparation of a Drinking Water Quality Incident Management Plan.

System Performance

Sydney Water has achieved 'Full compliance' with each of the amended System Performance Standards of water pressure, water supply continuity (unplanned interruptions and "planned and warned" interruptions) and sewage overflows. There is 'Insufficient information' available to the Auditor to make an objective judgement on whether Sydney Water has met the accuracy and

confidence limit requirements for the reported numbers for each of the System Performance Standards.

Sydney Water also achieved 'Full compliance' with the proposed program of capital works to address water pressure in all urban Designated Low Water Pressure Areas.

Water Conservation and Demand Management

Sydney Water has achieved 'Low compliance' with respect to actions taken to reduce the quantity of water it draws from all sources and it is unlikely that SWC will meet its 2004/05 target. The 2010/11 target may be achievable but expansion of current demand management activities or greater than expected outcomes for existing programs may be required. Sydney Water has reported that it has increased its demand management and water conservation activities, however, it does not define the projected contributions each of the various activities will make towards meeting the 2003/04 and the 2010/11 targets.

A 'Partial compliance' was assessed for progress on performance measures for reliability criteria because no significant evidence of confirmation of model accuracy, analysis of options, and consideration of demand hardening impacts on restrictions has been provided. This is considered a significant issue given current demand (622 GLpa) exceeds safe supply (600 GLpa).

Environment – Indicators and Plans

Sydney Water obtained an overall 'Partial compliance' for requirements relating to environmental indicators. Sydney Water did not prepare a report that described its performance against all gazetted environmental indicators. For those indicators reported on, performance was very high in some areas and low in others. Sydney Water obtained 'High compliance' for requirements relating to ESD indicators. Sydney Water prepared a clear report outlining performance against each indicator to the Licence Regulator. Performance was very high in some areas and low in others. Sydney Water's Environment Plan was adopted at the end of September 2000 and includes objectives for the five-year period to 2005. Targets were set and for those targets due in the audit period, Sydney Water obtained 'High compliance', having met most of the targets.

Sydney Water obtained a 'High compliance' for the implementation of the Botany Wetlands Plan of Management.

Dispute Resolution Scheme

Sydney Water generally achieved 'High compliance' regarding reports covering external complaint handling (EWON) and complaints to other bodies.

There are, however, a number of issues associated with the internal complaint handling system that provide opportunity for improvement. There is ongoing concern by Sydney Water about the usefulness of reporting complaint data by suburb. Sydney Water classifies complaints by local government area and complaint type, however this information does not provide the necessary detail to assess the spatial component of systemic problems.

There was also lack of detail about how well disputes were resolved or why disputes were not resolved. With the demise of its proposed Customer Information and Billing System (CIBS), Sydney Water will need to take a fresh look at how the different complaint handling systems interact and determine the appropriate way to obtain greater integration.

Ministerial Requirements

Following the findings and recommendations of the 2000/01 Operational Audit and the Review of the System Performance Standards, the Minister for Energy issued thirteen (13) Ministerial requirements on Sydney Water. Sydney Water demonstrated 'High' to 'Full' compliance with eleven (11) of these requirements. SWC demonstrated 'Partial' and 'Low compliance' with the following directives:

- Sydney Water did not demonstrate adequate evidence of working with the SCA to develop performance measures for water reliability. This is particularly critical given that Sydney Water's demand exceeded the SCA's estimate of "Safe Yield" ("Partial compliance"); and
- A monitoring and reporting protocol was not finalised for implementation by 1 July 2002, although consultation between Sydney Water and IPART had commenced and preliminary drafts had been prepared ('Low compliance').

The Big Picture

The 2001/02 Operational Audit of Sydney Water Corporation has identified Sydney Water's performance against the following key issues as the "big picture" items for noting. In brief:

- **Excellent quality water and an excellent integrated water quality management system, although with drought conditions, the extremes of bulk water quality have been avoided.**
- **Sydney Water demand currently exceeds the SCA estimate of "safe yield". Considerable effort in demand management and defining "safe yield" is required to correct this shortfall.**
- **System Performance Standards (SPS) were all met and associated reporting systems continue to be well structured, documented and integrated, although accuracy and confidence limits for SPS were not reported.**
- **Progress was demonstrated against the requirements of the Environment Plan.**
- **Improvement is required in the reporting of gazetted environmental indicators to the community.**
- **A high level of compliance was demonstrated with the revised Customer Contract.**
- **External complaint handling is generally well managed however there are a number of concerns relating to the internal complaints handling system.**

Water Quality

Sydney Water has an excellent water quality management system certified under ISO9002 which includes a systematic process for identifying risks to water quality and the requirements for addressing those risks.

The treated water supplied to customers is overall, of excellent quality with respect to the health - based parameters and is clear and colourless entering the distribution system. This reflects a generally good raw water quality for the major portion of supply and a high level of treatment in the water treatment plants. It is noted however, that with drought conditions, the extremes of bulk water quality have been avoided. However, with storms, bulk water quality has the potential to deteriorate.

During the 2001/02 audit period, Sydney Water continued to develop its Water Quality Management System and has addressed the opportunities for improvement identified during the previous audit period. The Auditor concludes that the risk management process that Sydney Water has implemented provide clear linkages with operational control requirements to address those risks, even when the control requirements relate to bulk water quality which are the responsibility of the SCA.

To provide assurance, it is recommended that Sydney Water implements a process to monitor and confirm that the SCA is undertaking actions necessary for longer term water quality improvements, as determined by its risk management plan.

Demand Management and "Safe Yield"

Sydney Water demand currently exceeds SCA estimate of "safe yield" which will become increasingly significant in the longer term. "Safe yield" may be defined as *"the amount of water that can be withdrawn*

from a reservoir on an ongoing basis with an acceptably small risk of reducing the reservoir storage to zero". Two of the critical factors for consideration by Sydney Water to provide assurance of long term water supply for Sydney are:

- reliability criteria and accuracy of the SCA estimate of "safe yield"; and
- management of demand.

Sydney Water and SCA have a combined responsibility in the determination of "acceptable risk" associated with the estimation of "safe yield". This was recognised by a Ministerial requirement on Sydney Water to develop, with the SCA, performance measures for water reliability. Within this audit period however, Sydney Water made little progress in this regard.

There has been a ramping up of the water conservation and demand management activities by Sydney Water and although the water conservation 2004/05 target is not likely to be achieved, the 2010/11 target may be achieved. It is noted, however, the projected contributions that activities make towards the targets has not been reported by Sydney Water. Leakage reduction represents the most significant contribution to the demand reduction program, however there are inherent difficulties in accurately estimating the actual savings in demand through leakage reduction. Improved accuracy in measurement and sustainability, and in estimating uncertainty, must be provided to determine the effectiveness of this activity towards the long term demand reduction program.

Greater commitment is required by Sydney Water to provide assurance that:

- appropriate reliability criteria have been adopted and the accuracy of the SCA estimate of "safe yield" is reasonable;
- demand management programs are adequately expanded to meet the water conservation targets and bring actual average annual demand below the "safe yield"; and
- all demand management/recycling options have been taken into account in a systematic way to demonstrate that the final Demand Management program represents the best options correctly prioritised and scheduled for implementation.

System Performance Standards

This is the first year of assessment against the amended System Performance Standards (SPS) for Sydney Water. Sydney Water demonstrated full compliance with each of the amended standards. The overall systems, processes and procedures for measurement and reporting of compliance with SPS was found to be well documented, well structured and integrated, and complied with by staff, except for the absence of accuracy and confidence level assessment. The same observation from the previous audit is made relating to the continuing need for planned internal audits and maintaining records training in relevant processes.

Environment

The Environment Plan identifies how Sydney Water will minimise adverse effects on the environment. It is evident that Sydney Water has made notable progress in 18 months towards meeting the targets of the 5-year Plan.

Sydney Water's reporting against the environmental indicators has improved since the previous audit period however, it continues to fall short of clearly reporting performance and has not included a number

of gazetted indicators. For the indicators reported, performance was very high in some areas and low in others.

Performance against the ESD indicators is clearly documented and a high level of performance was demonstrated against most indicators.

Customer Contract

Sydney Water demonstrated a high level of compliance with the revised Customer Contract. The key challenge will be to monitor annual performance on either the previous years performance or on benchmarks established with other water utilities. The difference between a “standards” approach (i.e. meeting a minimum set of standards) versus a continual improvement approach has important implications for the collection of information about performance measures which are used in compliance assessment.

Complaints Handling

External compliant handling is generally well managed however there are a number of concerns relating to the internal complaints handling system. Sydney Water maintains three systems for collecting internal complaint information. It was intended by Sydney water to integrate these systems, using the proposed Customer Information Billing System (CIBS). However, the development of CIBS has been discontinued. The key issues with the three separate systems include:

- Need for greater use of customer/complaint feedback;
- Lack of suburb details for the reporting of complaints;
- Lack of detail of how and how-well complaints were resolved/not resolved; and
- Lack of comprehensive reports that integrates system based complaints with the relevant spatial components.

COMPARISON OF SYDNEY WATER'S LICENCE COMPLIANCE WITH THE PREVIOUS YEAR

This section of the audit provides a tabular summary of the compliance levels attained by Sydney water in the 2001/02 audit period and the previous audit period. **Table A** provides a summary of the assessment of compliance with each auditable requirement of the Operating Licence. It is evident from the table that:

- There is an overall improvement *trend towards full compliance* by Sydney Water with the Operating Licence;
- Continued improvement in compliance is evident in the 'Customers' and 'Water Quality' parts of the Licence;
- Minor improvement in performance is evident in the 'Water Conservation and Demand Management' part of the Licence. Concerted efforts are required in this area to demonstrate improved compliance in future years;
- The majority of clauses reported as "No requirement" for this audit period, were reported as 'Full' or 'High' compliance in previous years. These relate predominantly to the development of plans and other milestone oriented requirements of previous audit periods which have now been satisfied.
- Conversely, compliance ratings have been awarded to some clauses that were previously reported as "No requirement". This occurs on assessments of compliance for requirements relating to the new Customer Contract and the Customer Councils.
- Other clauses reported as "No requirements" are "Definitions" or requirements on agencies other than Sydney Water; and
- There are a number of fluctuations from 'Full' to 'High' compliance between years on individual clauses. These results reflect changing priorities and resourcing that take place within organisations from year to year. Thus the Auditor does not believe that this signifies an overall trend unless numerous clauses within a Part of the Licence demonstrate a similar change in compliance rating.

Table A: Summary of Compliance

Licence Clause	Summary of Requirement	2001/02	2000/01
3.3.1	Maintain MOUs for Licence term	Partial	Partial
3.3.2	The MOU is to form the basis for co-operative relationships between the parties	Partial	Low
3.3.3	Not limit the persons with whom Sydney Water may have a MOU	NR	NR
5.1	Customer contract		
5.1.1	The Customer Contract may only be varied in accordance with the Act	Full	NR
5.1.2	The Customer Contract automatically applies to persons specified in the Act	Full	NR
5.1.3	The Customer Contract is to set out the rights and obligations of customers and Sydney Water	Full	NR
5.1.4	A copy of the Customer Contract, and any variations to it must be posted on Sydney Water's website	Full	NR
5.1.5	Sydney Water must initiate an independent review of the Customer Contract	Partial	NR
5.1.6	The person undertaking the review must produce a report setting out its findings and recommendations.	Full	NR
5.1.7	Within three months of the completion of the review of the Customer Contract, Sydney Water must issue a new Customer Contract	High	NR
5.1.8	Within three months of the review Sydney Water must prepare a pamphlet.	Partial	NR
5.1.9	The pamphlet must be updated and disseminated free of charge.	NR	NR
5.1.10	Sydney Water may enter into other contracts or arrangements for the supply of services.	Full	NR
5.3	Code of Practice & Procedure on Debt & Disconnection		
5.3.1	Develop a code of practice and procedure on debt and disconnection by 12 October 2000	NR	Full
5.3.2(a)	Provide for deferred payment or payment by instalment options for consumption bills	Full	Full
5.3.2(b)	Provide for the payment options referred to in (a) to be advised in consumption bills	Full	Partial
5.3.3	Include the code of practice and procedure on debt and disconnection in its Customer Contract	Full	Non
5.3.4(a)	Disseminate information by placing sufficient copies with the Rental Bond Board	Full	Non
5.3.4(b)	Disseminate information to Customers at least once annually with their quarterly or other bills	Full	Full
5.3.4(c)	Disseminate information to any other person on request	Full	Full
5.4	Customer Councils		
5.4.1	Establish and regularly consult with one or more Customer Councils	Full	NR
5.4.2	A Customer Council may be utilised by Sydney Water to provide high quality advice	Full	NR
5.4.3	The first Customer Council must be established within 3 months of the commencement date	Full	NR
5.4.4	Members must be appointed consistent with the licence	High	NR
5.4.5	Membership must include the specified groups	Full	NR
5.4.6	Sydney Water may require members to serve on multiple Councils	NR	NR
5.4.7	Term of members is two years	Full	NR
5.4.8	Half the members of a Council must be new members	High	NR
5.4.9	No person may have more than two consecutive terms	Non	NR
5.4.10	Appointments for the remaining term of the Council is possible if a position becomes vacant	NR	NR
5.4.11	If members of a Council are not individuals 5.4.8. and 5.4.9 do not apply	Full	NR
5.4.12	Development of a Customer Council Charter addressing the specified issues	Full	NR
5.4.13	Special compliance provisions	NR	NR
5.4.14	A single Customer Council Charter may be applied to other Councils	Full	NR
5.4.15	Provide the necessary information to enable the Council to discharge its tasks	Full	NR

Licence Clause	Summary of Requirement	2001/02	2000/01
5.4.16	The Charters must be posted on Sydney Water's website	Full	NR
5.4.17	As part of the end of term review the Licence Review Body must evaluate the effectiveness of the Councils	NR	NR
6.2	Drinking Water Quality - Standards		
6.2.1(a)	Comply with NHRMC & ARMCANZ guidelines (1996 Guidelines)	Full	Full
6.2.1(b)	Comply with updates to 1996 Guidelines (Updated Guidelines) specified by NSW Health	Full	NR
6.2.1(c)	Comply with aesthetic guideline values of 1996 Guidelines	Full	Full
6.2.1(d)	Comply with aesthetic guideline values of the Updated Guidelines	Full	NR
6.2.2	Have regard to risk minimisation practices & system management of public water supplies	Full	Full
6.2.3	Commission an independent study on costs & benefits of compliance with 1996 Guidelines	Full	NR
6.3	Drinking Water Quality – Monitoring		
6.3.1	Prepare an Annual Drinking Water Quality Monitoring Plan by 30 June 2000	Full	Full
6.3.2	Include system performance monitoring in the Plan to ensure quality control	Full	Full
6.3.2(a)	The Plan to include health guideline values required in 6.2.1(a) & (b)	Full	Full
6.3.2(b)	The Plan to include aesthetic guideline values required in 6.2.1(c) & (d)	Full	Full
6.3.3	Monitor for aesthetic guideline values of 1996 Guidelines	Full	Full
6.3.4	Monitor to assess drinking water quality	Full	High
6.3.5	Undertake drinking water quality monitoring to 30 June 2001	Full	Full
6.4	Drinking Water Quality - Reporting		
6.4.1	Make monitoring results publicly available and on website	Full	Full
6.4.2	Produce an Annual Drinking Water Quality Report	Full	High
6.4.2(a)	The Report to use health guideline values required in 6.2.1(a) & (b)	Full	High
6.4.2(b)	The Report to use aesthetic guideline values required in 6.2.1(c) & (d)	Full	High
6.4.2(c)	The Report to use aesthetic guideline values of 1996 Guidelines for Physical Characteristics	Full	High
6.4.3	Include a summary of monitoring information, problems and system failures	Full	High
6.4.4	Prepare a report by 30 November annually and make publicly available	Full	Full
6.5	Drinking Water – Planning		
6.5.1	Prepare a 5 year Drinking Water Quality Management Plan before 12 September 2000	NR	Full
6.5.2	Include Management Strategies in Plan	NR	Full
6.5.3	Prepare an Annual Drinking Water Quality Improvement Plan for water supply system	Full	Full
6.5.4	The Plan to incorporate system and operational changes	Full	High
6.5.5	Review Plan as part of Mid-term review in 2.3.1	Full	NR
6.5.6	Prepare a Drinking Water Incident Management Plan by 12 May 2000	NR	Full
6.5.7	The Plan to contain procedures and protocols for managing incidents	NR	Full
6.6	Environmental Water Quality		
6.6	Meet environmental water quality requirements for discharges	High	High
6.7	Other Grades of Water		
6.7.1	Supply other grades of water according to relevant guidelines	Insufficient Information	High
6.7.2	Identify minimum standards to regulate supply of other grades of water in Mid term review	NR	NR
6.7.3	Minister to resolve any conflict	NR	NR
7.1	Compliance with Performance Standards		
7.1.1	Comply with amended standards for continuity, water pressure and sewerage overflows.	Full	Full
	• Accuracy and confidence limits	Insufficient Information	NR
7.2	Standards in Respect of Low Pressure Areas		

Licence Clause	Summary of Requirement	2001/02	2000/01
7.2.1(a)	Develop standards for minimum level of water pressure required in Blue Mountains	NR	Full
7.2.1(b)	Develop standards for minimum level of water pressure required in non-urban areas	NR	Full
7.2.2	Comply with standards developed in 7.2 (or those determined by the Minister in 7.3)	Full	High
8.1 Water Conservation Target			
8.1.1(a)	Take action to reduce water quantity from all sources to 364L/day/capita by 2004/5	Partial	Low
8.1.1(b)	Take action to reduce water quantity from all sources to 329L/day/capita by 2010/11	Partial	Low
8.1.1(c)	Mid term review to specify reduction target for 2014/15	Partial	Low
8.2 Demand Management Strategy			
8.2.1	Definition of Demand Management Strategy	NR	NR
8.2.2	Consider demand side management for planning future services	Full	Full
8.2.3	Provide Demand Management Strategy Implementation Report by 1 September 2001	Full	Full
8.2.4(a)	The Report to estimate past, current and projected water uses and distinguish users	High	High
8.2.4(b)	The Report to describe supply deficiencies	Partial	Low
8.2.4(c)	The Report to identify conservation measures	Full	Full
8.2.4(d)	The Report to describe, cost and evaluate additional conservation measures	High	Partial
8.2.4(e)	The Report to describe future plans for water reclamation & strategies to alter water use practices	Full	Full
8.2.4(f)	The Report to evaluate cost of plans and alternatives	High	Non
8.2.4(g)	The Report to prioritise and schedule the implementation of courses of action	Partial	Partial
8.2.4(h)	Report to identify strategies for reducing unaccounted water losses	High	Full
8.2.5	Engage third party to verify mathematical models for future water demand	Full	Full
8.3 Reducing Discharges			
8.3.1	Take action to implement non-potable reuse of effluent	Partial	Partial
8.4 Water Conservation Rating and Labelling			
8.4.1	Encourage manufacturers to improve water use efficiency of appliances	High	High
9.1 Environmental Indicators			
9.1.1	Monitor and compile data on indicators of impact on environment	Partial	Full
9.1.2	Use indicators in accord with those published in Government Gazette 15 December 1995	High	Partial
9.1.3	Report to Licence Regulator on performance in relation to indicators by 1 September 2000	Partial	Partial
9.1.4	The Report to enable a year to year comparison	Partial	Low
9.1.5	The Report to be made publicly available within one month of receipt by Licence Regulator	Full	Non
9.1.6	Indicators in 9.1.2 to be reviewed in End of term review	NR	NR
9.2 Ecologically Sustainable Development Indicators			
9.2.1	Develop measures to indicate the degree to which its activities / services comply with ESD principles	NR	Full
9.2.2	Develop a draft list of ESD Indicators by 12 May 2000	NR	Full

Licence Clause	Summary of Requirement	2001/02	2000/01
9.2.3	The draft list must undergo public consultation.	NR	Full
9.2.4	Present a final list of ESD Indicators to the Minister for approval within three months of 9.2.3	NR	Full
9.2.5	Monitor and compile data on ESD indicators by 1 July	NR	Full
9.2.6	Report to Licence Regulator on performance in relation to ESD indicators by 1 September	High	Full
9.2.7	Make yearly report available to the public within one month of receipt by Licence Regulator	Full	Non
9.2.8	The ESD indicators in clause 9.2.4 are to be reviewed as part of the End of term review	NR	NR
9.3	Environment Plan		
9.3.1	Produce 5 year Environment Plan by 30 September 2000	NR	Full
9.3.2	Engage public consultation in developing the Plan	NR	Full
9.3.3(a)	The Plan to contain water, waste water and stormwater strategies and environmental aspects of other activities	NR	Full
9.3.3(b)	The Plan to endorse ESD principles	NR	Full
9.3.3(c)	The Plan to be recognised in business plans	NR	Full
9.3.4	The Plan must set targets & time tables for compliance over term of Plan	NR	Full
9.3.5	Make Plan publicly available and on website	NR	Full
9.3.6	Compile report detailing progress in meeting Plan and complying with targets and timetables	Full	Partial
9.3.7	Amendments to Plan made only after public consultation	NR	NR
9.4	Energy Management		
9.4.1	Energy Management Policy	NR	NR
9.4.2	Adopt energy consumption targets in the Energy Management Policy	Full	Full
9.4.2(a)	Targets in Policy to reduce consumption in buildings to 15% of 1995 level by 2001	Full	Insufficient Information
9.4.2(b)	Targets in Policy to reduce consumption in buildings to 25% of 1995 level by 2005	NR	NR
9.4.2(c)	Targets in Policy to reduce consumption to any subsequent targets set by Policy	NR	NR
9.4.3	Report to licence regulator on performance in relation to Clause 9.4.2 by 1 September	Full	Full
9.5	Botany Wetlands		
9.5.1	Definition of Botany Wetlands Plan	NR	NR
9.5.2	Implement Plan in conjunction with appropriate persons	High	Full
9.5.3	Report annually to IPART on compliance with Plan	Full	Full
9.5.4	Prior to End of term review, review Plan in consultation with EPA, DLWC, NPWS etc.	NR	Full
9.7	Trade Waste		
9.7.1	Prepare trade waste policy & management plan	Full	High
9.7.2	Report to IPART on progress on objectives and indicators under Clause 9.7.1 by 1 September	Full	Full
12.1	Internal Dispute Resolution Process		
12.1.1	Establish internal complaints handling procedures	Full	Full
12.1.2	Base internal complaints handling procedures for customer and consumer complaints on AS4269-1995	High	Partial

Licence Clause	Summary of Requirement	2001/02	2000/01
12.1.3	Make information on procedures publicly available	Full	Full
12.1.4	Provide information in 12.1.3 through customer bills at least annually	Full	Full
12.1.5	Complaint process to be reviewed and amended where necessary to AS4269	High	Partial
12.1.6	Report each year to the Licence Regulator concerning complaints on the following:	Low	Partial
12.1.6(a)	• number & type of complaints each month in each suburb	Low	Partial
12.1.6(b)	• number & type of complaints & how well each was handled	Low	Partial
12.1.6(c)	• any systemic problems	Partial	Partial
12.2 External Dispute Resolution Scheme			
12.2.1	Establish Dispute Resolution Scheme for customers and consumers by 12 May 2000	NR	Full
12.2.2	Scheme subject to Minister's approval	NR	Full
12.2.3	Dispute Resolution Body to handle complaints	Full	Full
12.2.4	Scheme to comply with minimum standards as in Benchmarks for Industry based Consumer Dispute Resolution Schemes	Full	Full
12.2.5(a)	Scheme to be independent of Sydney Water	Full	Full
12.2.5(b)	Sydney Water to abide by decisions of Body	Full	Full
12.2.5(c)	Scheme must discourage legalistic adversarial approach	Full	Full
12.2.5(d)	Decisions of Body to be fair	Full	High
12.2.5(e)	Scheme to operate efficiently by keeping track of disputes	Full	High
12.2.5(f)	Scheme to be free of cost to customers	Full	Full
12.2.6	Prepare pamphlet to explain Scheme	Full	Full
12.2.7	Provide pamphlet to customers through bills	Full	Full
12.2.8	Provide reports to Licence Regulator on determinations of Body	NR	NR
12.2.9(a)	Produce annual report to Licence Regulator on Dispute Resolution Scheme on:	Full	Full
12.2.9(b)	• number and types of complaints received by Body	High	Full
12.2.9(c)	• outcome of complaints	Full	Full
12.2.9(d)	• time taken to resolve complaints	Full	Full
12.2.9(e)	• procedure for resolving complaints	Full	Full
12.2.9(f)	• systemic problems arising from complaints	High	Full
12.2.9(g)	• other information required by IPART	NR	NR
12.2.10	Make report in 12.2.9 publicly available	Full	Full
12.3 Complaints to Other Bodies			
12.3(a)	Report to Licence Regulator on number & type of complaints made to a court or tribunal by 1 September	Full	Full
12.3(b)	Report on outcome of these complaints	Full	Full
12.3(c)	Report on how complaints were resolved	Full	Full
12.3(d)	Report on systemic problems arising from complaints	NR	NR
12.3(e)	Report on other information required by Licence Regulator	NR	NR

Table B provides a summary of compliance levels reached by Sydney Water in the 2001/02 audit period for the Ministerial Requirements. As Ministerial Requirements are specific to each operational year, yearly comparisons with previous operational audits are not applicable.

Table B: Ministerial Requirements – Summary of Compliance

Directive No.	Summary of Requirement	2001/02
<i>Summary of Ministerial Requirements arising from 2000/01 Operational Audit (Letter from the Minister of Energy to the Chairman, Sydney Water 12 April 2002)</i>		
M1	"In the interim, and so that I remain informed of the Corporation's progress in terms of its water conservation and demand management programs, I expect a continuation of the six monthly Demand Management Strategy Progress reports."	Full
M2	"...I require that Sydney Water include in future Annual Drinking Water Quality Monitoring Plans, submitted to NSW Health, reference to the selection and frequency of testing of the drinking water characteristics."	Full
M3	"...I require Sydney Water to implement a system to track adherence by the SCA to the water quality aspects of the Bulk Water Supply Agreement by 1 September 2002."	Full
M4	"...I require Sydney Water to seek from EWON annual confirmation that it continues to meet the requirements of the Operating Licence clauses relevant to its role."	Full
M5	"...I also require that, for future reporting to IPART, Sydney Water include information it already receives from EWON on those contracts from customers where the costs for reparations place the matters outside EWON's jurisdiction."	High
<i>Summary of Ministerial requirements arising from the Review of System Performance Standards (Letter from the Minister of Energy to the Chairman, Sydney Water 22 August 2001)</i>		
M6	"...I require Sydney Water to report to me by 1 July 2002 on its program of capital works to bring the Designated Low Water Pressure Areas in urban areas up to the amended pressure standard. The program should also reflect any of Sydney Water's existing arrangements with regard to the provision of water services to these areas."	High
M7	"...I require Sydney Water to work with the Sydney Catchment Authority with a view to develop performance measures for water reliability for further consideration at the end of term review of both Operating licences."	Partial
M8	"...I now require Sydney Water to incorporate the Tribunal's findings regarding repeat continuity and repeat sewage overflow events into its Asset Management Framework and to provide the Framework to the Minister of Energy and Utilities for comment."	High
M9	"Sydney Water is to update its Asset Management Framework by 1 January 2002"	Full
M10	"I support the use of performance indicators to provide further insight into performance against system performance standards. Accordingly, I require Sydney Water to collect and report data on those performance indicators that relate to the amended standards for drinking water pressure, drinking water continuity and sewerage overflows on private land."	Full
M11	"Performance indicators are to be reported to the Tribunal by 1 September each year with the first report due to the Tribunal on 1 September 2002."	Full
M12	"While I am satisfied that negotiations between Sydney Water and the Tribunal have begun, I would like Sydney Water to commence collection of data on the customer service indicators in Attachment 3 from 1 July 2001."	Full



Directive No.	Summary of Requirement	2001/02
M13	"I require Sydney Water to finalise this Protocol in consultation with the Tribunal as soon as possible, so that data collected during the audit period commencing 1 July 2002 is covered by the new arrangements"	Low

Summary of Key Recommendations

The **key recommendations** of the 2000/01 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. Sydney Water is encouraged to give due consideration to those recommendations and facilitate improved performance and compliance for subsequent audit periods.

It is recommended that Sydney Water:

Memoranda of Understanding

- R3.1 Complete and implement a revised MOU with EPA which provides a “*basis for a cooperative relationship*” in 2002/03.
- R3.2 Report annually to the Sydney Water Executive and IPART its performance against the action plans developed through Sydney Water’s *Stakeholder Relationship Plans* so progress in improved relations is monitored, reported and actioned, as required.

Customers

It is recommended that Sydney Water:

- R5.1 Review the customer service and satisfaction measures proposed by the Minister to ensure consistency with the revised Customer Contract. These measures should be expanded to cover the relevant clauses within the Contract and use customer perception/satisfaction research and complaint data together with other physical measures of performance.
- R5.2 Ensure the *Operating Licence Compliance Report* (OLCR) report contains a full year of results for the audit period, as a minimum.
- R5.3 Include Community Council members in the evaluation of Sydney Water’s performance against the Customer Contract each year at the end of June.
- R5.4 Investigate the potential for developing benchmarking information based on the Customer Contract in association with other water utilities.

Water Quality

It is recommended that Sydney Water:

- R6.1 Establish a system which allows it to confirm and report that the measures necessary for protection of bulk water quality are being carried out.
- R6.2 Consider possible variations in bulk water quality in the preparation of its Drinking

Water Quality Improvement Plan.

- R6.3 Prepare a report for its senior management on risks to drinking water quality so that it is clear that management is appraised of these issues.
- R6.4 Prepare a summary report, in preparation for the 2002/03 and future audits, which presents the performance of Sydney water on Other Grades of water it supplies, according to relevant guidelines and requirements prescribed by EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture, other relevant government agencies and the NSW Recycled Water Coordination Committee.

System Performance

It is recommended that Sydney Water:

- R7.1 Develop, as part of the M&R Protocol with IPART, an agreed scope, methodology and assumptions in order to provide a platform for reporting on the Accuracy and Confidence Limits for each of the respective System Performance Standards.
- R7.2 Prepare a discussion paper on Future Performance Standards for Repeat Service Disruptions reference to IPART and Ministry of Energy and Utilities, to cover aspects such as:
- Reporting thresholds or compliance targets that may be appropriate;
 - The costs and benefits of reporting to a new standard;
 - The impact such standards may have as business drivers within Sydney Water; and
 - Recommended Performance Standards.

Water Conservation and Demand Management

It is recommended that Sydney Water:

- R8.1 Commence detailed evaluation with SCA of the risk associated with the current situation where demand exceeds “safe yield”.
- R8.2 Continue to install flow meters suitable for Minimum Night Flow (MNF) measurement so that estimated gains from leak detection and repair can be validated and monitored in the long term.
- R8.3 Establish a separate program aimed at reducing the apparent rising water use per dwelling trend in flats and units.
- R8.4 Clarify the scoring process for prioritising programs, include an estimated year by year budget and provide details of each program, which demonstrates how Sydney Water expects to meet the 2004/05 water conservation target and the 2010/11 target.

- R8.5 Explore further the option of incentives and/or discounted pricing arrangements for reuse water to make it an attractive option to potable water wherever possible.
- R8.6 Investigate the feasibility of offering greater incentives for implementation of water efficiency improvements amongst large industrial customers.

Environment – Indicators and Plans

It is recommended that Sydney Water:

- R9.1 Sydney Water improve the format and presentation to more clearly demonstrate performance against each environmental indicator.
- R9.2 Implement programs in areas where environmental and ESD indicators show poor or decreasing performance, especially heritage and greenhouse gas emissions, or where progress indicates future targets are unlikely to be met, such as reduced water consumption.
- R9.3 Undertake a review of the Botany Wetland Implementation Plan recognising it is now in its sixth year of operation. In addition Sydney Water should call for participation of wider interests so as to reinvigorate and establish an active Botany Wetlands Management Steering Committee.

Dispute Resolution

It is recommended that Sydney Water:

- R10.1 Following the termination of the development of the Customer Information and Billing System (CIBS) integrate the three complaint recording systems, namely Water Asset Management System (WAMS), Emergency Contacts Survey (ECS) and ACCESS.
- R10.2 Obtain resolution from IPART as to whether Sydney Water should report complaints by suburb.
- R10.3 Prepare a comprehensive report which demonstrates the use of complaint data to identify problems of a systemic nature in specific geographic areas and the strategies used to overcome these problems.

1. INTRODUCTION AND OBJECTIVES

1.1 SYDNEY WATER CORPORATION

Sydney Water Corporation (Sydney Water) is a State Owned Corporation, wholly owned by the NSW Government. The roles and responsibilities of Sydney Water derive from the *Sydney Water Act 1994* (the Act) and the Operating Licence issued pursuant to Part 5 of the Act. In accordance with the Act, the NSW Government granted an Operating Licence to Sydney Water in 1995. At the end of 1999, the Licence Regulator recommended to the Government various terms and conditions to amend the Operating Licence for Sydney Water. The current Operating Licence was developed by IPART and commenced on 12 April 2000 for a 5-year term.

The Operating Licence enables Sydney Water to provide, construct, operate, manage and maintain systems and services (in accordance with the Act) for:

- a) supplying water;
- b) providing sewerage services;
- c) providing stormwater drainage systems, and
- d) disposing of wastewater.

Throughout its Area of Operations, Sydney Water provides services to approximately four million customers within the areas of Sydney, the Blue Mountains and Illawarra Regions. The area of operations for which Sydney Water is responsible is shown in **Figure 1.1**. A schematic representation of the major infrastructure under the control of Sydney Water is shown in **Figure 1.2**.

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.

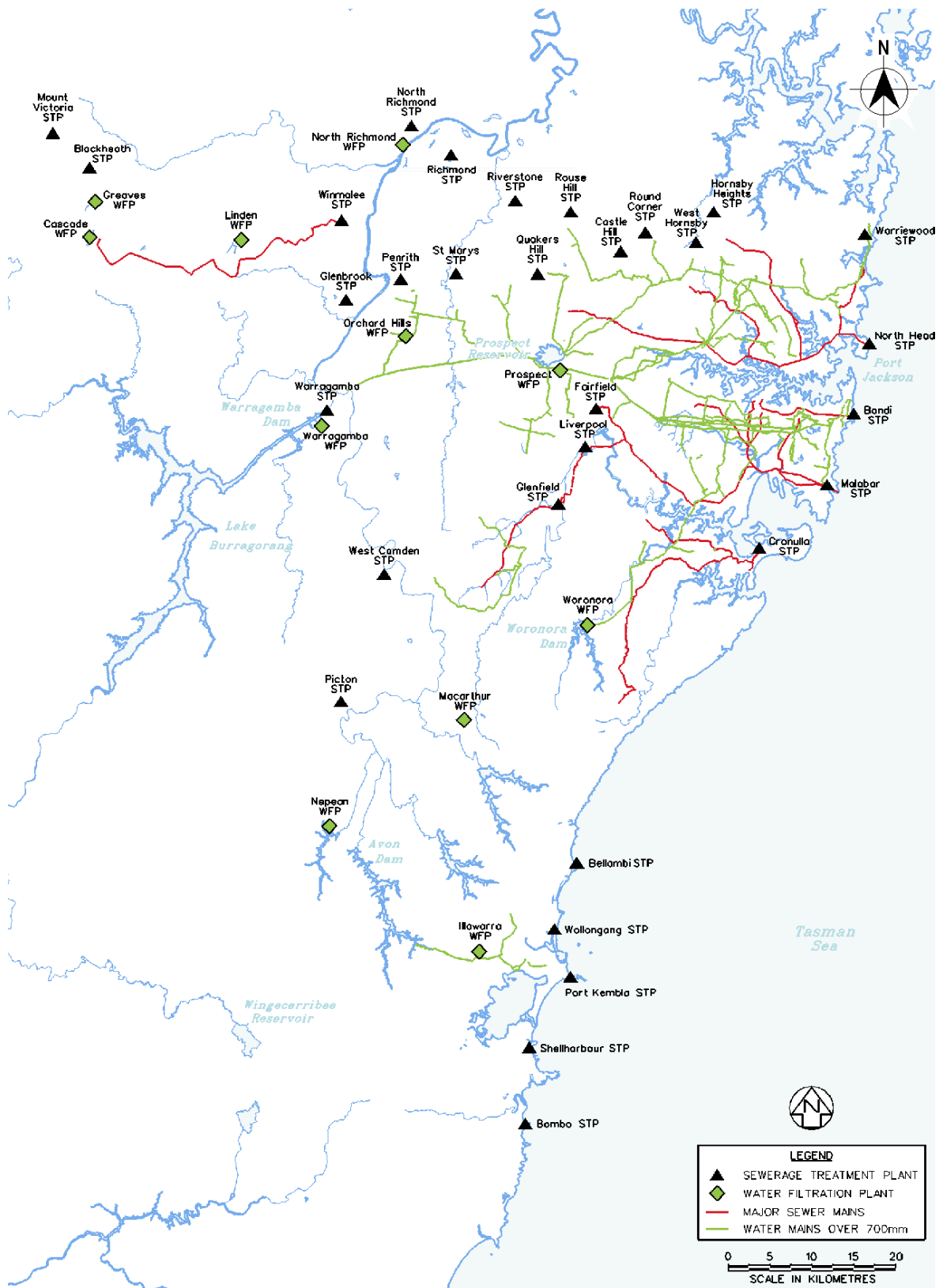
1.3 SCOPE OF OPERATIONAL AUDIT

This is the sixth annual audit of Sydney Water's compliance against the requirements of the Operating Licence. It is the second annual audit against the requirements of the current Licence.

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DN.: 2111273

Figure 1.2 Major Infrastructure



Source: Sydney Water Corporation

The audit of the Operating Licence for Sydney Water (and the extent of this report) covers the period 1 July 2001 to 30 June 2002. The scope of the audit is defined in Part 10 of the Operating Licence and broadly includes assessment of compliance against the Parts of the Licence as outlined in **Table 1.1**.

The scope of the audit also includes assessment of compliance against the requirements of the Minister for Energy resulting from the 2000/01 Operational Audit and the Review of System Performance Standards.

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

Table 1.1: Scope of the 2001/02 Audit

Licence Part - Key Area		General Requirements	Report Section
Part 3	Sydney Water's Responsibilities	Memoranda of Understanding with the Department of Health, the Environment Protection Authority and the Water Administration Ministerial Corporation.	Section 4
Part 5	Customer and Consumer Rights	Customer Contract; Code of Practice and procedures on debt and disconnection; and Customer Councils	Section 5
Part 6	Water Quality	Drinking water quality standards, monitoring and reporting; drinking water planning; environmental water quality; and other grades of water.	Section 6
Part 7	System Performance	Compliance with performance standards; standards in respect to low pressure areas; review of performance standards; keeping of records of discontinuity, low pressure and sewage overflow; and annual reporting on compliance with performance standards.	Section 7
Part 8	Water Conservation and Demand Management	Water conservation targets; demand management strategy; reducing discharges; and water conservation rating and labelling.	Section 8
Part 9	Environment – Indicators and Plans	Environmental indicators; ecologically sustainable development indicators; environment plan; energy management; Botany Wetlands; pollution reduction targets; and trade waste.	Section 9
Part 10	Operational Audits of the Licence	Commission of audits; what the audit is to report on; reporting of audit; additional audits; and provision of information.	NA
Part 12	Dispute Resolution Scheme	Internal dispute resolution process; external dispute resolution scheme; and complaints to other bodies.	Section 10

1.4 STRUCTURE OF THE AUDIT REPORT

This 2001/02 Operational Audit report has been presented in plain English and in a format that provides detail directed at different levels of readership and detail to provide an understanding of Sydney Water's operations and its compliance with specific statutory requirements.

The audit report has been specifically prepared to meet the audit brief and Part 10 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 in compliance sections that correspond to the key areas (parts) of the Operating Licence (see **Table 1.1** above). Each compliance section of the report provides the following:

- a *compliance summary* at the beginning of each section addressing the principal compliances and any non-compliances relevant;
- a *requirements summary* for each section placing in context and summarising the requirements of the Operating Licence against which the performance of Sydney Water is assessed;
- *substantive evidence and findings* for each section that support the assessments of compliance and are presented in compliance tables breaking each auditable requirement into sub-clauses and includes:
 - 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.

There are up to three compliance tables in each section:

- The first table presents **compliance under Part 10 of the Licence**;
- The second table presents **compliance with the relevant Part of the Licence**; and
- The third table presents the assessment of **compliance with any Ministerial Requirements**.

This is followed by:

- a **discussion** or expansion of compliance comments for each key area when required;
- **factors affecting compliance** for each key area where applicable; and
- **recommendations** for each key area.

As the specific requirements of Part 10 of the Operating Licence and the Ministerial Requirements are reported in the relevant sections, **Table 1.2** and **Table 1.3** provide guidance on where these are addressed in this report.

Table 1.2: Requirements of Part 10 of the Operating Licence

Part 10 of the Operating Licence		Report Table
10.2.1 The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:		
(a)	on-going compliance by Sydney Water with its Customer Contract and specific areas of non-compliance	Table 5.1
(b)	Sydney Water's compliance with its Code of Practice and Procedure on Debt and Disconnection under clause 5.3.2 and any similar initiatives developed by Sydney Water	Table 5.1
(c)	Compliance by Sydney Water with its obligations under Part 6 (Water Quality) of this Licence	Table 6.1
(d)	Compliance by Sydney Water with the performance standards under clauses 7.1 (Compliance with Performance Standards) and 7.2 (Standards in respect of Low Pressure Areas)	Table 7.1
(e)	Compliance by Sydney Water with the water conservation targets under clause 8.1.1	Table 8.1
(f)	Sydney Water's performance in relation to implementation of the Demand Management Strategy under clause 8.2	Table 8.1
(g)	Progress by Sydney Water in meeting the Reuse Target required under clause 8.3.1	Table 8.1
(h)	Progress by Sydney Water in relation to the implementation of the National Water Conservation Rating and Labelling Scheme under clause 8.4.1	Table 8.1
(i)	Sydney Water's performance in relation to the Environment Indicators under clause 9.1	Table 9.1
(j)	Sydney Water's performance in relation to the ESD Indicators compiled under clause 9.2.5	Table 9.1
(k)	Compliance by Sydney Water with the Environment Plan under clause 9.3	Table 9.1
(l)	Compliance by Sydney Water with the targets in the Energy Management Policy for Energy Consumption of Buildings in clause 9.4.2	Table 9.1
(m)	Compliance by Sydney Water with the Botany Wetlands Plan under clause 9.5	Table 9.1
(n)	Compliance by Sydney Water with the Trade Waste objectives and performance indicators under clause 9.7	Table 9.1
(o)	The effectiveness of Sydney Water's Internal Dispute Resolution scheme under clause 12.1	Table 10.1
(p)	The effectiveness of Sydney Water's External Dispute Resolution scheme under clause 12.2	Table 10.1
(q)	Complaints made against Sydney Water to a court or tribunal under clause 12.3 (Complaints by other Bodies).	Table 10.1
(r)	Any other matter required by this Licence or the Act to be assessed or considered as part of the Annual Audit, eg; Ministerial Directives.	See Table 1.3
10.2.2 Despite clause 10.2.1, neither the Licence Regulator nor the persons undertaking the Annual Audit may investigate a matter under clause 10.2.1 if the investigation of that matter is ordinarily within the regulatory activities of the EPA, NSW Health or the DLWC and the relevant agency has undertaken an investigation of that matter. However, the Licence Regulator may, as part of the Annual Audit:		
(a)	Report on Sydney Water's implementation of any Memorandum of Understanding referred to in clause 3.3.1.	Table 4.1

Table 1.3: Ministerial Directives

Ministerial Directive		Report Table
<i>Summary of Ministerial Requirements arising from 2000/01 Operational Audit (Letter from the Minister of Energy to the Chairman, Sydney Water 12 April 2002)</i>		
M1	"In the interim, and so that I remain informed of the Corporation's progress in terms of its water conservation and demand management programs, I expect a continuation of the six monthly Demand Management Strategy Progress reports."	Table 8.3
M2	"...I require that Sydney Water include in future Annual Drinking Water Quality Monitoring Plans, submitted to NSW Health, reference to the selection and frequency of testing of the drinking water characteristics."	Table 6.3
M3	"...I require Sydney Water to implement a system to track adherence by the SCA to the water quality aspects of the Bulk Water Supply Agreement by 1 September 2002."	Table 6.3
M4	"...I require Sydney Water to seek from EWON annual confirmation that it continues to meet the requirements of the Operating Licence clauses relevant to its role."	Table 10.3
M5	"...I also require that, for future reporting to IPART, Sydney Water include information it already receives from EWON on those contracts from customers where the costs for reparations place the matters outside EWON's jurisdiction."	Table 10.3
<i>Summary of Ministerial Requirements arising from the Review of System Performance Standards (Letter from the Minister of Energy to the Chairman, Sydney Water 22 August 2001)</i>		
M6	"...I require Sydney Water to report to me by 1 July 2002 on its program of capital works to bring the Designated Low Water Pressure Areas in urban areas up to the amended pressure standard. The program should also reflect any of Sydney Water's existing arrangements with regard to the provision of water services to these areas."	Table 7.3
M7	"...I require Sydney Water to work with the Sydney Catchment Authority with a view to develop performance measures for water reliability for further consideration at the end of term review of both Operating licences."	Table 8.3
M8	"...I now require Sydney Water to incorporate the Tribunal's findings regarding repeat continuity and repeat sewage overflow events into its Asset Management Framework and to provide the Framework to the Minister of Energy and Utilities for comment."	Table 7.3
M9	"Sydney Water is to update its Asset Management Framework by 1 January 2002"	Table 7.3
M10	"I support the use of performance indicators to provide further insight into performance against system performance standards. Accordingly, I require Sydney Water to collect and report data on those performance indicators that relate to the amended standards for drinking water pressure, drinking water continuity and sewerage overflows on private land."	Table 7.3
M11	"Performance indicators are to be reported to the Tribunal by 1 September each year with the first report due to the Tribunal on 1 September 2002."	Table 7.3
M12	"While I am satisfied that negotiations between Sydney Water and the Tribunal have begun, I would like Sydney Water to commence collection of data on the customer service indicators in Attachment 3 from 1 July 2001."	Table 5.3
M13	"I require Sydney Water to finalise this Protocol in consultation with the Tribunal as soon as possible, so that data collected during the audit period commencing 1 July 2002 is covered by the new arrangements"	Table 7.3

2. AUDIT METHODOLOGY

2.1 STANDARDS

To meet the specific requirements of IPART, the Operational Audit was undertaken adopting a methodology consistent with ISO1401, “*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

Brief descriptions and dates for key audit activities are described below.

Draft Audit Plan

To ensure that the audit requirements outlined in the 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, meetings with IPART representatives and Sydney Water were held on 22 August 2002 and the 29 August 2002, respectively. The primary objective of these meetings was to develop working relationships, mutual understandings and expectations relating to the requirements and process of the audit. The meeting also enabled Sydney Water to present an organisational background and its overview of compliance.

Audit Tests

Specific audit tests were developed for all requirements within the scope of the audit. These tests were designed to define *substantive compliance* with the Licence requirements as well as to identify factors that have impacted on compliance in the future. Development and conduct of the audit tests was achieved by:

- dissecting each Licence condition or other requirement into elements;
- interpreting (and documenting the interpretation of) each element;
- assembling evidence to assess levels of compliance for each element;
- identifying the factors that have affected, or may affect compliance (within the risk framework); and
- identifying the measures to determine Sydney Water’s performance against those factors.

The above tasks were collated into the audit tests that were provided to Sydney Water prior to the audit interviews wherever practicable.

The audit tests also assessed the application of underlying procedures that Sydney Water has in place relevant to the requirements. The purpose was to verify that the underlying management processes within Sydney Water are sound and that there is confidence that work is carried out systematically and in accordance with internal procedures.

2.3 CONDUCT OF THE AUDIT

To ensure a positive relationship, audit protocols were established at the inception meeting between the Auditor and Sydney 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 Sydney Water and the Auditor adhered to the established protocols.

2.4 AUDIT INTERVIEWS

The relevant specialist team Auditors conducted the first and second round interviews against the audit tests on the dates shown in **Table 2.1**. Second round interviews allowed information requested in advance to be explained and presented in person by Sydney Water and provided another opportunity for detailed examination and additional questioning.

Table 2.1: Interview Program

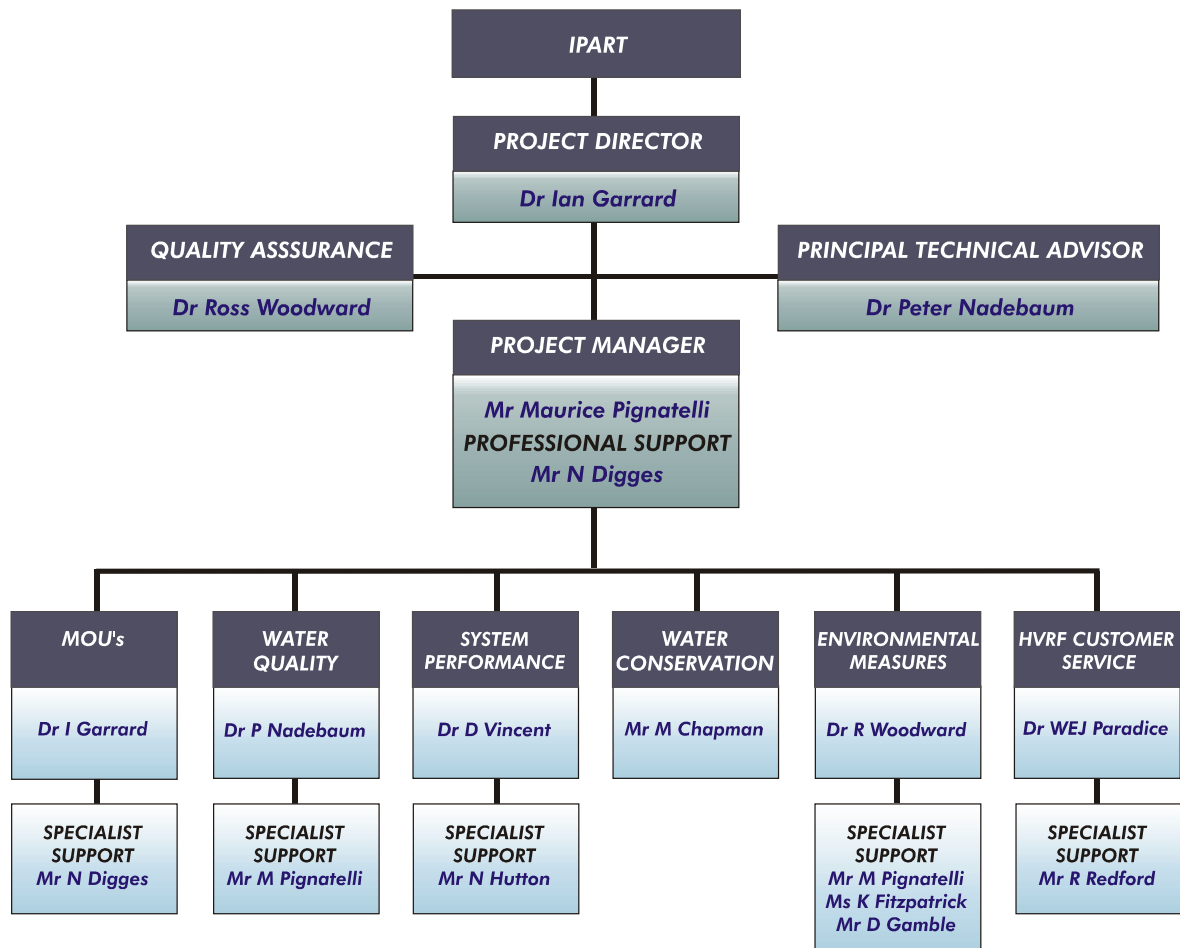
Licence Part or Ministerial Directive	Sydney Water Representatives	GHD/HVRF Representatives	Interview Dates
3.3.1	Richard Birrell (Health) Kaia Hodge (EPA) Cathy O'Toole (WAMC)	Ian Garrard Nicholas Digges	1 October
5.1 Customer Contract	Colin Ridley	WEJ Paradise	10 October
5.3.1 & 5.3.2	Colin Ridley	WEJ Paradise	10 October
5.4	Sandi Kolbe	WEJ Paradise	11 October
Part 6	Christine Cowie NSW Health	Peter Nadebaum	8 October
6.2 to 6.5	Eric De Rooy Phil Broad Steve Inkster	Peter Nadebaum	9 October
6.6	Lionel Harris Ryan Carr Greg Barr	Maurice Pignatelli	11 October
6.7	Alan Gregory	Peter Nadebaum	8 October.
6.7.1	TBA	Maurice Pignatelli	TBA



Licence Part or Ministerial Directive	Sydney Water Representatives	GHD/HVRF Representatives	Interview Dates
7.1	Lionel Harris Peter Fisher Bruce Frier Gary Hurley Ian Watts	Don Vincent Neville Hutton	10 October
7.2	Eric De Rooy Andrew Darroch Ryan Carr	Don Vincent Neville Hutton	9 October
8.1, 8.2, 8.3, 8.4	Alan Gregory Carol Howe	Michael Chapman	8 October
9.1	Lionel Harris Louisa Vorreiter Madhulika Bhonsle	Ross Woodward	8 October
9.2 and 9.3	Kaia Hodge	Ross Woodward	2 October
9.4	John Petre Trevor Cronk Mathew Inman	David Gamble	30 September
9.5 and 9.6	Robin Sim	Ian Garrard Nicholas Digges	30 September
9.7	John Nieuwland	David Gamble	9 October
12.1 and 12.3	Peter Donnelly	WEJ Paradise	10 October
12.1 (Second Interview)	Peter Donnelly	WEJ Paradise Russ Redford	14 November
12.2	Colin Ridley	WEJ Paradise	10 October
Ministerial Requirements			
M1	Alan Gregory	Michael Chapman	8 October
M2 and M3	Col Nicholson Eric De Rooy M. Govintharajah	Peter Nadebaum	9 October
M4 and M5	Colin Ridley	WEJ Paradise	10 October
M6	Eric De Rooy Andrew Darroch	Don Vincent	9 October
M7	Cathy O'Toole	Michael Chapman	8 October
M8 and M9	Judith Meeske	Don Vincent	10 October
M10 and M11	Lionel Harris Gary Hurley Ryan Carr Ian Watts	Don Vincent	10 October
M12	Jody Redfern	WEJ Paradise	10 October
M13	Graham Giddey Mark Bible	Maurice Pignatelli	11 October

2.5 AUDIT TEAM

Figure 2.1: Structure and Responsibility of the Audit Team



3. REGULATORY REGIME

3.1 INTRODUCTION

Sydney Water has the primary role of managing potable water supply and sewerage treatment (including assets) to protect public health and the environment for the benefit of Sydney and surrounding urban areas. These roles and responsibilities of Sydney Water are derived from the Sydney Water Act 1994 and the Operating Licence issued pursuant to Part 5 of the Act.

The NSW Government in 1995 granted the Operating Licence to Sydney Water. At the end of 1999, the Licence Regulator recommended to the Government various terms and conditions to amend the Operating Licence for Sydney Water. The Licence was amended by IPART and renewed on 1 January 2000 for a five-year term though did not commence until 12 April 2000.

The Act establishes a set of sub-ordinate statutory instruments namely: the Operating Licence; Memoranda of Understanding (MOUs) with regulatory agencies; and a Customer Contract. Such instruments impose compliance requirements upon Sydney Water, which are measurable and can therefore be audited.

A brief description of the major components of the regulatory framework within which Sydney Water operates is presented below.

3.2 SYDNEY WATER ACT 1994

Under Section 21 of the Act, the principal objectives of Sydney Water are as follows:

- *To be a successful business and to this end operate at least as efficiently as any comparable businesses, maximise the net worth of the State's investment in the Corporation, and exhibit a sense of social responsibility by having regard to the interests of the community in which it operates;*
- *To protect the environment by conducting its operations in compliance with the principles of ecologically sustainable development contained in section 6(2) of the Protection of the Environment Administration Act, 1991; and*
- *To protect public health by supplying safe drinking water to its customers and other members of the public in compliance with the requirements of any operating licence.*

In addition, Sydney Water has special objectives under section 22(1) regarding reduction of risks to human health and preventing the degradation of the environment.

The Act also establishes the provisions listed in **Table 3.1**.

Table 3.1: Provisions of the Sydney Water Act, 1994 - Relating to the Audit

• the Sydney Water Corporation (Sydney Water);	• provisions relating to works;
• the functions of Sydney Water;	• the preparation and implementation of MOUs;
• the area of operations;	• customer contracts;
• the granting of the Operating Licence;	• fees and charges;
• the objectives of Sydney Water;	• management of infrastructure;
• the functions of the Licence Regulator;	• offences provisions; and
• environmental management;	• other miscellaneous matters.
• the operational audit;	

3.3 OPERATING LICENCE

Sydney Water must conduct its activities in accordance with an Operating Licence issued under section 12 of the Sydney Water Act, 1994. The current Operating Licence has effect from 1 January 2000 until 31 December 2004.

The nature and scope of the Operating Licence and the period over which the Licence is applicable, for the purposes of this audit report, have been presented in Section 1.3. The Operating Licence is reproduced in full in Appendix B.

A summary of the requirements of each Part of the Operating Licence is presented in **Section 4** to **Section 10** of this report.

3.4 CUSTOMER CONTRACT

The Customer Contract sets out the terms of the contract between Sydney Water and each person who is defined to be a customer of Sydney Water. It sets out the rights of customers and those of Sydney Water. The Contract is comprehensive and includes the areas outlined in **Table 3.2**. Under the Operating Licence, Sydney Water was required to “initiate an independent review of the Customer Contract to be carried out within 12 months of the Commencement Date”. It was also required to:

“...within 3 months of the completion of the review of the Customer Contract, Sydney Water must take all steps necessary to issue a new Customer Contract that addresses the recommendations of the review report”.

The Independent Pricing and Regulatory Tribunal (IPART), who conducted the review, sent the revised Customer Contract to the Minister on 23 November 2001. The Minister wrote to Sydney Water on 1 March 2002 indicating his approval of the new Customer Contract with implementation of the Contract beginning on 1 April 2002.

This audit assesses Sydney Water’s performance against the revised Customer Contract although consideration was to be given that if areas of non compliance were found these areas would be reviewed against the previous Contract.

Table 3.2: Key Areas of the Customer Contract

<ul style="list-style-type: none"> • Who is covered; • Services provided by Sydney Water including water supply, sewerage services, stormwater drainage; • Charges and payment; • Assistance in payment; • Disconnection or restriction of services; • Redress; • Responsibilities for maintenance; 	<ul style="list-style-type: none"> • Entry into a customer's property for maintenance; • Water meter installation, testing and maintenance; • Obtaining information from Sydney Water; • Complaints and complaint handling; • Consultation, information and privacy; and • Termination of the contract.
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3.5 MEMORANDA OF UNDERSTANDING

Sydney Water is required, under Part 6, Division 3 of the Act and the provisions of the Operating Licence, to enter into Memoranda of Understanding (MOUs) with key regulatory agencies. The objective of the MOUs is to assist in the formation and development of “*cooperative relationships*” between the agencies with a view to furthering the objectives of the Operating Licence and the Act.

The key regulatory agencies with which Sydney Water has established MOUs are:

- Water Administration Ministerial Corporation (WAMC);
- NSW Department of Health (NSW Health); and
- NSW Environment Protection Authority (EPA).

MOUs are useful in identifying roles and responsibilities and for establishing the frameworks for on-going consultation and joint initiatives between the parties. They become more useful and rigorous documents when they also contain specific agreements for planning, implementation, monitoring and review of programs.

3.5.1 Water Administration Ministerial Corporation and Sydney Water

The MOU with the Water Administration Ministerial Corporation (WAMC) was signed in 1996 and was to continue until 30 December 1999. This MOU is out of date and a revised MOU was finalised at the conclusion (28 June 2002) of the last operating year. As such the audit focussed on the MOU (1996) which was in operation over this period.

The MOU sets out the intended relationship between WAMC (managed by the Department of Land and Water Conservation) and Sydney Water. It relates to the use and management of both surface and groundwater pending the development of a water use licence (the equivalent of which has now been issued). The MOU sets out the principals for cooperative actions, rights and obligations of signatories, structures and processes and a schedule of agreed programs of study, all of which were to be completed prior to the audit period.

3.5.2 NSW Department of Health and Sydney Water

The MOU with NSW Health was entered into in November 1997 and updated in November 2000. Its objective is consistent with Sydney Water's Operating Licence being a "*basis for a cooperative relationship*" and includes issues of respective roles and responsibilities, dispute resolution, liaison and public health issues and events.

3.5.3 NSW Environment Protection Authority and Sydney Water

The MOU with the EPA is required to recognise the EPA as the environmental regulator of the State and to commit Sydney Water to environmental improvements. It was executed in November 1996 and expired at the same time as the previous Operating Licence (April 2000). This MOU is out of date and a revised MOU was drafted but not finalised in the operating year.

The EPA MOU (1996) includes an agreed purpose, principles, structures and processes, data sharing and mechanisms for dispute resolution and amendment.

3.6 OTHER ACTS

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

- *Environmental Planning and Assessment Act, 1979;*
- *Protection of the Environment Operations Act, 1997;*
- *Public Health Act, 1991;*
- *Water Legislation Amendment (Drinking Water and Corporate Structure) Act, 1998;*
- *Water Act, 1912; and*
- *Independent Pricing and Regulatory Tribunal Act, 1992.*

4. MEMORANDA OF UNDERSTANDING

4.1 SUMMARY OF FINDINGS

Sydney Water is required to maintain Memoranda of Understanding (MOU) with the Water Administration Ministerial Corporation (WAMC), NSW Department of Health (NSW Health) and Environment Protection Authority (EPA) for the term of the Licence. **Partial compliance** was assessed as only the MOU with NSW Health has been maintained and fully operational.

Sydney Water exhibited a **Full compliance** for the MOU with NSW Health.

In the case of WAMC, a new MOU was finalised on 28 June 2002 however, over the operating year, the 1996 MOU continued to apply. Similarly, a new EPA MOU was drafted but not finalised. Thus effectively both the 1996 EPA and WAMC MOUs continued over 2001/2002. These two MOUs reflect the responsibilities and accountabilities of EPA, WAMC and Sydney Water Corporation as at 1996 and not those that applied to the audit period. Thus both EPA and WAMC MOUs did not provide a relevant or current basis for cooperative relationships.

Despite the outdated MOUs with EPA and WAMC, improved relationships were evident at policy and operational levels.

The new WAMC and draft EPA MOUs are largely consistent and generic in form (addressing *Functions and Objectives, Principles, Terms* etc) compared to a more explicit and rigorous document they replace. The 1996 MOUs contain specific agreements on, for example, *cooperative actions of studies and review programs*. Thus the new MOUs appear to be more flexible for the agencies to operate under though less effective as a strategic and performance monitoring tool. In part, Sydney Water “*Stakeholder Relationship Plans*” may substitute *Tasks/Actions* contained in the existing MOUs, however these are internal Sydney Water programs and not interagency agreements. Thus while the increased flexibility of the new MOU may well be laudable, accountability must not be diminished.

4.2 SUMMARY OF REQUIREMENTS

Section 35 of the Sydney Water Act 1994 requires Sydney Water to maintain Memoranda of Understanding with three agencies, namely the Water Administration Ministerial Corporation (WAMC), NSW Department of Health (NSW Health) and the Environment Protection Authority (EPA) for the term of this Operating Licence. A Memorandum of Understanding is entered with each of the three agencies recognising the regulatory role these agencies have with Sydney Water. Should Sydney Water and the respective regulatory agency not be able to agree on the terms of the MOU then the views of the regulatory agency prevail. Any amendments to the three Memoranda are to be made available for public input through public exhibition and public comment.

The Operating Licence (clause 3.3.2) states the purpose of the Memoranda is to form the basis for “*cooperative relationships*” between the parties (clause 3.3.2) and, in particular, recognise the role of NSW Health in providing advice in relation to drinking water qualities and the supply of safe

water. Further, the EPA MOU needs to recognise EPA's role as an environmental regulator of the State and also ensure Sydney Water is committed to environmental improvements.

Though not stated within the respective Operating Licence clause, the MOU between Sydney Water and the Water Administration Ministerial Corporation should reflect Sydney Water's role as a joint manager (with Sydney Catchment Authority) of Sydney's water supply. Sydney Water is licensed by the Department of Land and Water Conservation for the North Richmond Water Filtration Plant which draws form the River, Manly Dam and Botany Wetlands.

A final clause under Section 3.3 (Clause 3.3.3) also indicates that there is no limit to the persons with whom Sydney Water may have a Memorandum of Understanding.

4.3 DETAILS OF COMPLIANCE

Table 4.1: Memoranda of Understanding – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2.2	Despite clause 10.2.1, neither the Licence Regulator nor the persons undertaking the Annual Audit may investigate a matter under clause 10.2.1 if the investigation of that matter is ordinarily within the regulatory activities of the EPA, NSW Health or the DLWC and the relevant agency has undertaken an investigation of that matter. However, the Licence regulator may, as part of the Annual Audit:	No requirement	
10.2.2 (a)	Report on Sydney Water's implementation of any MOU referred to in clause 3.3.1.	No requirement	<p>Sydney Water has MOUs with NSW Health, Environment Protection Authority and the Water Administration Ministerial Council (via the Department of Land and Water Conservation). Although the Operating Licence does not limit (Clause 3.3.1) the persons with whom Sydney Water may have an MOU, no other MOUs have been established. Audit assessment of the MOUs is outlined in the following Table 4.2 – Memoranda of Understanding – Part 3 Licence Clauses.</p> <p>Last year NPWS indicated that it was in the process of developing a MOU with Sydney Water. Instead the two organisations have established a <i>Strategic Relationship Agreement</i> in-line with Sydney Water's <i>Stakeholder Relations Plan</i>.</p> <p>Sydney Water has developed <i>Strategic Relationship Agreements</i> (SRA) with the SCA and NPWS. These SRA agreements sets a framework for interaction between the two organisations and are designed to outline the roles and responsibilities of both organisations to facilitate effective interaction. Sydney Water regularly assesses the relationship with it's stakeholders.</p> <p>Sydney Water has developed <i>Stakeholder Relationship Plans</i> for SCA, DLWC, NSW Health, EPA and IPART.</p>

Table 4.2: Memoranda of Understanding – Part 3 Licence Clauses

Clause	Requirement	Compliance	Findings
3.3	Memoranda of Understanding		
3.3.1	<p>In accordance with Section 35 of the Act, Sydney Water must maintain a Memorandum of Understanding (MOU) with each of the Water Administration Ministerial Corporation (WAMC), NSW Health (Health) and Environment Protection Authority (EPA) for the term of this Licence.</p> <p>[Note: Section 35 of the Act requires Sydney Water to enter into separate memoranda of understanding with certain regulatory agencies, being the Water Administration Ministerial Corporation, the Director-General of NSW Health and EPA. If Sydney Water and those regulatory agencies are not able to agree on a term of the memorandum of understanding, the view of the regulatory agency prevails. Section 36 deals with public exhibition of memoranda of understanding.]</p>	<p>Partial compliance</p> <p>MOU NSW Health Full compliance</p> <p>MOU NSW EPA Partial compliance</p> <p>MOU WAMC Partial compliance</p>	<p>MOUs exist between the Sydney Water Corporation and the WAMC, NSW Health and EPA. Operating under current and 'cooperative' MOUs is a joint responsibility of Sydney Water and its regulators.</p> <p>In light of Section 35 of the Act, Sydney Water's performance in 'maintaining' the MOUs is reliant on the response from the respective regulatory agencies. Sydney Water has updated its MOU with the WAMC and EPA (in draft form) and maintained its MOU with NSW Health over the audit period.</p> <p>The MOU with NSW Health exhibits Full compliance with the requirement of the Operating Licence. The MOUs with EPA and WAMC have been reviewed and updated during the audit period and a new MOU with WAMC was executed on the 28 June 2002. The EPA MOU was in draft format at completion of the audit year. The EPA and WAMC MOUs in effect for the audit period were largely out of date and had not been <i>maintained</i> (as required by the Operating Licence) between the parties.</p> <p>The 28 June 2002 MOU with WAMC and draft MOU with the EPA reflect the current operating environment of the organisations. The effectiveness of these MOUs to <i>'form the basis for a cooperative relationship'</i> between Sydney Water and the respective party can be assessed in the following audit period.</p> <p>Notwithstanding the shortfalls of the MOU documents applying over the audit period, evidence (minutes of Strategic Liaison Group and Operational Policy Committee) is clear that, for example with EPA, a more cooperative relationship had developed over the year.</p>
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:	Partial compliance	Evidence presented by Sydney Water demonstrated that the MOU Health is providing the basis for a cooperative relationship between the two parties. Both parties have demonstrated a commitment to fulfilling their roles and responsibilities, cooperatively, to ensure the supply of safe drinking water.

Table 4.2: Memoranda of Understanding – Part 3 Licence Clauses

Clause	Requirement	Compliance	Findings
	<p>(a) 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; and</p> <p>(b) the memorandum with the EPA is to recognise the EPA as the environmental regulator of the State and to commit Sydney Water to environmental improvements;</p>		The MOUs with the EPA and the WAMC (executed in 1996) do not reflect the current legislative environment, are out of date and do not provide a current basis for a cooperative relationship between the respective parties.
		MOU NSW Health Full compliance	The MOU between Sydney Water and NSW Health has provided the basis for a positive and co-operative relationship. NSW Health's role 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 is clearly stated, and the roles and responsibilities of each party is defined, in the MOU. NSW Health (Appendix H) has indicated it is " <i>satisfied</i> " that Sydney Water is meeting its obligations under the MOU which is " <i>adequate and provide(s) a sound basis for cooperative relationships</i> ".
		MOU EPA Partial compliance	<p>The MOU with the EPA (signed in 1996), is reflective of the environmental legislation of that time and does not effectively reflect EPA's role as the environmental regulator in 2001/2002. Sydney Water has exhibited partial compliance in its MOU with the EPA (see Appendix E, Table C) which is an increased compliance over 2000/01 (low compliance) in recognition of the efforts to prepare a new MOU (that reflects current organisation structure and environmental objectives) and improved relationships.</p> <p>Evidence was presented that Sydney Water recognises EPA's role as an environmental regulator. Activities through a Strategic Liaison Group (SLG) and Operational Policy Committee (OPC) indicate a clear and positive improvement in the relationship (see Appendix E, Table A) with the EPA.</p>

Table 4.2: Memoranda of Understanding – Part 3 Licence Clauses

Clause	Requirement	Compliance	Findings
		MOU WAMC Partial compliance	<p>The MOU with WAMC was not reflective of the current operating environment for the two organisations, nor did it form the basis for a cooperative relationship. To Sydney Water and DLWC's credit these shortfalls have been recognised and the two parties have worked together to review, amend and execute (28 June 2002) a new MOU. DLWC has indicated (Appendix H) that the MOU was delayed, however is <i>satisfied</i> with recent progress.</p> <p>In recognition of their mutual interests, the two parties have maintained a cooperative working relationship, but not one built from the MOU. This relationship may well be enhanced with the effective implementation of the new MOU and a shared commitment to cooperatively address strategic and operational issues of mutual concern. (See Appendix E, Table B).</p>
3.3.3	Clause 3.3.1 does not limit the persons with whom Sydney Water may have a Memorandum of Understanding	No requirement	<p>Sydney Water has not exercised this clause in that it does not have MOUs apart from those three specified viz: EPA, WAMC and NSW Health.</p> <p>NPWS previously (2001/2002) indicated an interest in developing an MOU with Sydney Water. However the two parties have developed a '<i>Strategic Relationship Agreement</i>' (in accordance with Sydney Water Stakeholder Relations Strategy) as a preferred basis for the relationship.</p>

4.4 DISCUSSION

Progress has been made by Sydney Water in regard to demonstrating an improved “*cooperative relationship*” with each of the three regulatory bodies with which it has MOUs. The Department of Health had established a sound MOU the previous year that is being further implemented at a bilateral and at times trilateral (including EPA) involvement.

Draft MOUs were prepared with EPA and WAMC during the operational year and these will form the basis for future cooperation.

- One issue in particular is raised concerning rigour and accountability of the new WAMC and EPA MOUs. The previous MOUs, in addition to setting out the general purpose, principles, and structure for the MOU and an overall framework, went further to identify specific data sharing arrangements, projects, mechanisms and agreed priorities. The drafted MOU for both EPA and WAMC whilst providing the former framework do not include agreed programs of joint planning, implementation, monitoring or program review. Rather Sydney Water has developed “Stakeholder Relationship Plans” with detailed *strategies and objectives, tasks and actions* as well as the responsible persons and timetable. It is recognised however that the combination of a ‘general’ MOU and ‘specifics’ of the Stakeholder Relationship Plan may well achieve the desired outcome.
- The initiative by Sydney Water to develop, in cooperation with the agencies, the Stakeholder Relationship Plans is to be commended and gives a clear indication of the “*co-operative relationship*” that Sydney Water is seeking to achieve. It must however be recognised that these plans may fulfil or replace many of the specific intents of the previous MOUs. Also, the Stakeholder Relationship Plans are “internal” and thus may be less accountable than the MOUs which have been clearly identified under the Operational Licence as a requirement. Sydney Water will need to ensure that the original intent of the MOUs for transparency and performance monitoring (as set out in the Operating Licence) is maintained by reporting its performance against implementation of the actions included in the Stakeholder Relationship Plans. In this way the increased ‘flexibility’ sought by Sydney Water and its regulators may be achieved without loss of accountability.

Each of the three authorities having MOUs with Sydney Water were asked to comment on the MOUs. Their responses are outlined below.

4.4.1 MOU with the NSW Department of Health

NSW Health advised by letter, 4 November 2002, that it “*enjoys an effective and open relationship with Sydney Water at officer and strategic level*”. “*It is satisfied that the requirements of the Operating Licence and MoU are adequate and provide a sound basis for a cooperative relationship between the organisations.*”

4.4.2 MOU with the NSW Environment Protection Authority

EPA advised by letter, 6 November 2002, that the EPA and SWC worked to revise and update the MoU, and “*The revised MoU now reflects current organisational structures and operating arrangements in the two organisations, and it more clearly articulates their environmental objectives and interactions.*” No comments were provided in respect to the relationship between the two agencies.

4.4.3 MOU with the Water Administration Ministerial Corporation

DLWC advised by letter that despite a delay in the finalisation of the MoU, “*the department is however satisfied with the recent progress and hopes the MoU will improve the understanding and cooperation between the two organisations.*”

4.5 FACTORS AFFECTING COMPLIANCE

As indicated the MOUs with the EPA and WAMC operating over the audit period were largely out of date and did not demonstrate a basis for a *cooperative relationship* to be maintained. However improvements are evident in the working relationship between SWC and both EPA and WAMC. Advancement has been made to update the 1996 MOUs.

Through the establishment of a new MOU (WAMC) and the recently advertised EPA MOU a foundation is laid to foster/improve relationships. The audit 2002-2003 will need to focus on the implementation of that improved relationship.

Whilst Sydney Water exhibited ‘Full compliance’ with its MOU with NSW Health, there is the opportunity to further improve the relationship in making the MOU more outcome oriented and incorporating specific agreements, for example, reflecting and reporting against the Strategic Work Plan annually. Such agreements and outcomes can demonstrate how the cooperative relationship is working without the need to be formally incorporated into the MOU.

4.6 RECOMMENDATIONS

4.6.1 Key Recommendations

It is recommended that Sydney Water

- R3.1 Complete and implement a revised MOU with EPA which provides a “*basis for a cooperative relationship*” in 2002/03.
- R3.2 Report annually to the Sydney Water Executive and IPART performance against the action plans developed through Sydney Water’s *Stakeholder Relationship Plans* so progress in improved relations is monitored, reported, and actioned.

5. CUSTOMER AND CONSUMER RIGHTS

5.1 SUMMARY OF FINDINGS

Sydney Water's revised Customer Contract has only been in effect since the 1 April 2002, and achieved **High compliance** with most clauses of the Contract. Some aspects of the review process did not meet the required time frames as stipulated in the Licence. However, given that the completion of the formal review process as specified in the Licence is now complete, future effort can be placed in ensuring successful compliance with the Customer Contract.

The key challenge in the future assessment of compliance with the Contract will be whether it is possible to undertake such assessment in absolute terms or relative terms. To encourage continual improvement it will be necessary to evaluate compliance based on either the previous year's performance or on benchmarks established with other water utilities. The difference between a "standards" approach (i.e. meeting a minimum set of standards) versus a continual improvements approach has important implications for the collection of information about performance measures which are used in compliance assessment.

To assist in the process, and as mentioned last year, key performance measures should be drawn from the regular customer and client surveys undertaken by Sydney Water. Customer Councils can be used more proactively in providing information to demonstrate Sydney Water's compliance with its Licence and Customer Contract.

Sydney Water obtained **Full compliance** with most aspects of the Customer Councils. However, there was an apparent lack of interest by the community in involvement in the Councils which resulted in some Council members being appointed outside the strict requirements of the Licence. Sydney Water should investigate mechanisms to generate greater interest in the Councils and identify any potential issues which may be preventing members of the community becoming involved.

Sydney Water obtained **Full compliance** with the Code of Practice and procedure on debt and disconnection.

5.2 SUMMARY OF REQUIREMENTS

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

Clause 5.1 - Customer contract: The clause specifies what needs to be covered in the contract, the process for review of the contract and the process necessary to communicate the contract to customers.

Clause 5.2 – Consumers: The need to deal with all complaints under the customer contract as if the complainants are consumers.

Clause 5.3 - Code of Practice and procedure on debt and disconnection: The need to establish a code which includes a number of specific features; the code is to be included in the customer contract; and information about the code is to be disseminated in specific ways.

Clause 5.4 - Customer Councils: That Customer Councils be established, consulted and operate under a specific set of protocols as defined in the Licence.

Section 10 of the Licence requires that the audit must investigate and prepare a report on:

10.2.1 (a) *on-going compliance by Sydney Water with its Customer Contract and specific areas of non-compliance* (this relates to Clause 5.1). While Section 10 does not refer directly to the requirement to report on Clause 5.4 (Customer Councils) it has been interpreted that as Customer Councils are referred to under the Customer Contract, that a review of the requirements for Customer Councils will be reported under this area.

10.2.1 (b) *Sydney Water's compliance with its Code of Practice and procedure on debt and disconnection under clause 5.3.2 and any similar initiatives developed by Sydney Water.*

5.3 DETAILS OF COMPLIANCE

Table 5.1: Customer and Consumer Rights – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2	The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:	No requirement	
10.2.1(a)	Ongoing compliance with Customer Contract and specific areas of non-compliance	High compliance	Detailed findings are presented for each of the key clauses of the Customer Contract in Appendix F .
10.2.1 (b)	Sydney Water's compliance with its code of practice and procedure of debt and disconnection under clause 5.3.2 and any similar initiatives developed by Sydney Water	Full compliance	The development of the code of practice and procedure on debt and disconnection had been completed at the previous audit. These policies have now been incorporated into the revised Customer Contract.

Table 5.2: Customer and Consumer Rights – Part 5 Licence Clauses

Clause	Requirement	Compliance	Findings
5.1	Customer contract		A detailed analysis of the revised Customer Contract is reported in Appendix F
5.1.1	The Customer Contract may only be varied in accordance with the Act	Full compliance	The Customer Contract has been varied according to the Act.
5.1.2	The Customer Contract automatically applies to persons specified in the Act	Full compliance	The Customer Contract applies to such persons.
5.1.3	The Customer Contract sets out the rights and obligations of Customers and Sydney Water	Full compliance	The Customer Contract sets out the rights and obligations of both the Customer and Sydney Water.
5.1.4	A copy of the Customer Contract, and any variations to it must	Full compliance	The Customer Contract is available and can be downloaded free of charge.

Table 5.2: Customer and Consumer Rights – Part 5 Licence Clauses

Clause	Requirement	Compliance	Findings
	be posted on Sydney Water's website		
5.1.5	Sydney Water must initiate an independent review of the Customer Contract to be carried out within 12 months of the Commencement Date.	Partial compliance	There was a delay in undertaking the review which took place outside the 12 month period. Sydney Water indicated a delay in obtaining Ministerial approval for IPART to be the independent review body, delaying the review of the contract.
5.1.6	The person undertaking the review must produce a report setting out its findings and recommendations.	Full compliance	IPART prepared an issues paper which was then followed by a period of consultation with various stakeholders.
5.1.7	Within 3 months of the completion of the review of the Customer Contract, Sydney Water must issue a new Customer Contract	High compliance	While an extension of one month was provided by the Minister to IPART to submit the review and report of the Customer Contract (it was submitted on 23 November 2001) the new contract did not come into effect until 1 April 2002. However, the Minister approved the Contract in a letter to the Managing Director of Sydney Water on 1 March 2002.
5.1.8	Within 3 months of the review Sydney Water must prepare a pamphlet.	Partial compliance	A pamphlet (<i>Our Customer Contract in brief</i>) was printed in June 2002 and while it covers the key areas identified in the Operating Licence it was available outside the three month deadline for its preparation.
5.1.9	The pamphlet must be updated and disseminated free of charge.	No requirement	As the pamphlet has just been prepared it does not require updating. It is also distributed free of charge. However because it was not available until the end of the audit period It could not be provided to customers or the Rental Bond Board until after the end of the audit period.
5.1.10	Sydney Water may enter into other contracts or arrangements for the supply of services.	Full compliance	Sydney Water has entered into other agreements such as those dealing with trade waste.

Table 5.3: Customer and Consumer Rights – Part 5 Licence Clauses

Clause	Requirement	Compliance	Findings
5.3	Code of Practice & Procedure on Debt & Disconnection		
5.3.1	The Code of Practice and procedure on debt and disconnection must be developed within 6 months of the commencement date (by 12 October 2000)	No requirement	The Code was developed and sighted for the previous Audit which noted a slightly amended policy had been approved on 10 July 2001. The code has now been incorporated into the revised Customer Contract.
5.3.2(a)	Provide for deferred payment or payment by instalment options for consumption bills	Full compliance	The code provides for deferment or payment by instalment. These components are described in section 5 in the revised Customer Contract.
5.3.2(b)	Provide for the payment options referred to in (a) to be advised in consumption bills	Full compliance	A sample of bills was reviewed and all included information about obtaining payment assistance, specifically deferred payment or payment by instalment. The schedule of bill inserts also indicate that the brochure titled " <i>Experiencing financial hardships (code on debt and disconnection)</i> " was included in the April 2002 bill run.
5.3.3	Sydney Water must include the code of practice and procedure on debt and disconnection in its Customer Contract.	Full compliance	The code is included in section 5 of the revised Customer Contract which came into effect on 1 April 2002.
5.3.4	Sydney Water must disseminate free of charge information on its code of practice and procedure on debt and disconnection:		
	(a) by placing sufficient copies with the Rental Bond Board for collection by interested persons;	Full compliance	Last year's audit indicated that the code was going to be placed with the Rental Bond Board in August 2001. Contact with Department of Fair Trading confirmed that the pamphlets describing the code had been given to the Department. The Auditor has also noted a letter from the Social Policy Officer of Sydney Water to the NSW Department of Fair Trading (20 August 2002) indicating that copies of the pamphlet describing the Customer Contract were being forwarded. While the pamphlets on the Customer Contract mention that customers will not be disconnected if they have not been provided with information on the Code of Practice on Debt and Disconnection, the code itself was not specifically described in the pamphlet.
	(b) to Customers at least once annually with their	Full compliance	Sydney Water provided the billing insert schedule which indicates that the code was inserted in the

Table 5.3: Customer and Consumer Rights – Part 5 Licence Clauses

Clause	Requirement	Compliance	Findings
	quarterly or other bills; and		April 2002 bill run.
	(c) to any other person on request.	Full compliance	Sydney Water confirmed that people were supplied upon request.
5.4	Customer Councils		
5.4.1	Sydney Water must establish and regularly consult with one or more Customer Councils	Full compliance	The Councils have been established and have had regular meetings. A brief survey was circulated to a small sample of members to obtain their perceptions concerning the level of consultation and whether it enabled community involvement in issues relevant to Sydney Water. All members responding indicated they believed Sydney Water met the intent of this clause.
5.4.2	A Customer Council may be utilised by Sydney Water to provide high quality advice	Full compliance	Sydney Water uses Customer Councils to obtain advice.
5.4.3	The first Customer Council must be established within 3 months of the commencement date	Full compliance	Customer Councils had been operating prior to the commencement of the Licence.
5.4.4	Members must be appointed consistent with the licence	High compliance	Members have generally been appointed in accordance with the Licence although some of the required service criteria may not be reflected in the membership. For example, some Councils do not have half their membership comprised of new members. In some cases there may be more and others less.
5.4.5	Membership must include the specified groups	Full compliance	All groups are represented as required by the Licence.
5.4.6	Sydney Water may require members to serve on multiple Councils	No requirement	Some members can serve on more than one Council, if they are willing.
5.4.7	Term of members is 2 years	Full compliance	Members are appointed for a term of two years.
5.4.8	Half the members of a Council must be new members	High compliance	In some cases there are more than half and in others there appear to be less.
5.4.9	No person may have more than 2 consecutive terms	Non compliance	Four members had their terms extended having already served more than two consecutive terms.
5.4.10	Appointments for the remaining term of the Council is possible	No requirement	This is an option for the management of the Councils which appears to have been taken up by Sydney

Table 5.3: Customer and Consumer Rights – Part 5 Licence Clauses

Clause	Requirement	Compliance	Findings
	if a position becomes vacant		Water.
5.4.11	If members of a Council are not individuals 5.4.8. and 5.4.9 do not apply	Full compliance	This clause is relevant to the Corporate Customer Council and the Industrial and Commercial Trade Waste Councils.
5.4.12	Development of a Customer Council Charter addressing the specified issues	Full compliance	Charters have been sighted and cover the issues specified.
5.4.13	Special compliance provisions	No requirement	Clause was prepared to clarify the positions relevant to clause 5.4.12.
5.4.14	A single Customer Council Charter may be applied to other Councils	Full compliance	Customer Council Charters are available
5.4.15	Sydney Water must provide the necessary information to enable the Council to discharge its tasks	Full compliance	Those members responding to the Auditor's questionnaire agreed that Sydney Water complied with this clause.
5.4.16	The Charters must be posted on Sydney Water's website	Full compliance	The Charters are available on Sydney Water's website.
5.4.17	As part of the end of term review the Licence Review Body must evaluate the effectiveness of the Councils	No requirement	Information was collected from members responding to the survey with suggestions concerning performance measures for the end of term review.

Table 5.4: Customer and Consumer Rights - Ministerial Directives

ID	Requirement	Compliance	Findings
M12	"While I am satisfied that negotiations between Sydney Water and the Tribunal have begun, I would like Sydney Water to commence collection of data on the customer service indicators in Attachment 3 from 1 July 2001."	Full compliance	The <i>Operating Licence Compliance Report 1 July 2001 – 30 June 2002</i> , which reports on the customer service indicators, was provided by Sydney Water. While the information is being collected some of the data is reported for six month periods while other information is reported for the full year. For completeness it would be appropriate to report information for the full 12 month audit period.

5.4 DISCUSSION

5.4.1 Customer Contract

As identified in Table 5.1 the revised Customer Contract did not come into effect until 1 April 2002. This meant that during the audit period two Contracts were applicable. For the most part, Sydney Water appears to comply with the clauses of the Contract, however it will be critical to have a consistent set of measures which can be applicable to each of the key clauses of the Contract in the future. Given the nature of some of these clauses, it is difficult to assess compliance in absolute terms but rather it appears more appropriate to measure compliance in relative terms, either using time series data of Sydney Water's performance or using benchmark data obtained from other water utilities.

To assess compliance with the Customer Contract, the Auditor relied on information available through the customer surveys and the emergency contact survey, together with the Operating Licence Compliance Report (OLCR) covering the audit period. These information sources serve as important mechanisms to evaluate Sydney Water's performance and it is critical that, even though they are overseen by Sydney Water, they remain at arms length to the operations of Sydney Water where possible.

As mentioned last year in relation to the Ministerial requirement on performance measures, it is important that the measures of customer service be aligned with the requirements of the Customer Contract and that they adequately capture the level of satisfaction experienced by the customers of Sydney Water.

5.4.2 Code of Practice and Procedure on debt and disconnection

The Code of Practice and procedures on debt and disconnection had been developed and adopted in time for last year's audit. The revised Customer Contract now includes the code, as part of the Contract, which had been missing in the previous Contract and, as such, now conforms with the Licence conditions. The Payment Assistance Scheme (PAS) is one measure of the outcomes related to the Code. Sydney Water reported that for the audit period there were 4,662 cases receiving 18,737 vouchers valued at a total of \$468,426. This was a decline from \$506,690 in the previous year.

The Auditor contacted the Rental Bond Board to confirm the availability of the Code and while there are not large numbers of the pamphlets in the office, the staff have been informed about the opportunity for clients to contact Sydney Water, as necessary.

5.4.3 Customer Councils

While Clause 10 of the Operating Licence does not specifically indicate that the audit should report on Customer Councils, it does indicate that the audit is to report on compliance with the Customer Contract, which itself refers to the need to consult and mentions the role of Customer Councils. The

appropriate clauses have therefore been reviewed considering their relevance to the Customer Contract.

The majority of the clauses relating to Customer Councils refer to the appointment and establishment process. However, two critical clauses relate to the operation of the Councils. These include Clause 5.4.1 and Clause 5.4.17. Clause 5.4.1 requires the establishment of the Councils and requires that the Councils enable community involvement in issues relevant to the performance of Sydney Water's obligations under the Licence. In other words, the Councils are a key mechanism for the community to be involved with Sydney Water and be partners in the development of policy for the Sydney area. It was for this reason, a brief survey of a small number of Council members was undertaken to assess how well they believe their views are being considered by Sydney Water.

Clause 5.4.17 also refers to the end of term review which evaluates the effectiveness of the Customer Councils. Information was provided by a small number of respondents on suggestions for performance measures which could be used for the end of term review. While it is understood that Sydney Water is presently undertaking its own internal review of the Councils' effectiveness some of this information may also be of value in guiding the end of term review by the Licence Regulator.

Key measures suggested by Council members included:

- Number of issues put forward for consultation
- Number of consultations on each issue
- Number of meetings against the Charter target
- Number of issues raised by customers
- Level of circulation of minutes (by members, Sydney Water)
- Representation in membership/composition
- Queries raised by community representatives fully answered
- Transparency in all actions taken by Sydney Water
- Administrators of Customer Councils have a full working knowledge of the operations and future plans of Sydney Water
- Attendance at meetings
- Review of minutes
- Perception of Council members about their value and contribution to Sydney Water
- Perception of Sydney Water management and Board that they are receiving value.

5.5 FACTORS AFFECTING COMPLIANCE

5.5.1 Customer Contract

Compliance for the Customer Contract covers two specific components. Firstly the compliance assessment against clause 5.1 which primarily covers procedural matters dealing with the review, preparation and dissemination of the revised Customer Contract. The second compliance assessment deals specifically with the clauses of the Customer Contract, itself.

The key issue affecting compliance with the clauses associated with 5.1 is related to timing. Because of specific delays in appointing the reviewers, it became difficult to meet the timelines stipulated in the Licence. Compliance has been assessed based on the apparent extent of the delay.

The assessment of compliance with the Customer Contract is more problematic. As previously mentioned the revised Customer Contract came into force on 1 April 2002 which meant that the previous nine months were regulated by the initial Customer Contract. While it was agreed with IPART to audit against the previous contract if there were instances of non-compliance with the new Contract, it is difficult to integrate the relevant clauses. Having noted this, there did not appear to be many areas in which it was necessary, given no clause was rated as completely “non complying”.

Clause 3 of the Customer Contract describes the services provided by Sydney Water. All subclauses were rated as “High compliance” based on the results of the customer surveys and the reporting of specific events. Given that events such as interruption to supply will always occur, it is difficult to give “Full compliance”. Benchmarking either through time or with other water utilities provides an opportunity to introduce relativities in determining the level of compliance. In a number of clauses any indication of dissatisfaction or complaint by a customer makes it difficult to assign “Full compliance”.

To provide greater guidance it may be necessary to provide further performance measures based upon the Contract. Such measures can assist Sydney Water direct its efforts as well as minimising individual interpretations based upon the Auditor’s background as to what should be regarded as compliance against the Customer Contract.

5.5.2 Code of practice and procedure on debt and disconnection

There did not appear to be any major issues impacting on compliance with regard to this section.

5.5.3 Customer Councils

Most clauses relating to Customer Councils were rated as “Full compliance”. The only three clauses rated at a lower level related to the appointment of members not strictly in accord with the Licence conditions. Specifically, some members who had already served two terms were reappointed while it appears that some Councils do not have the required 50% of new members. This is then reflected in the compliance rating for clause 5.4.4 which requires appointments to be consistent with the Licence.

Sydney Water indicated that because of the poor response to its advertisement for new members of the Councils, it was considered more desirable to appoint people looking to serve an extended term than to reduce the size and number of Councils. As a result, four members who had served two terms were reappointed, which technically is non complying with clause 5.4.9.

While the reappointment of willing members may appear an appropriate response it may also be worthwhile investigating why the response to the advertisement for new members was poor. In the limited survey conducted by the Auditor the issues of remuneration and length of the meetings were raised. Issues such as this may need to be addressed to encourage greater participation by the community in the Customer Councils. Sydney Water has indicated that it is currently undertaking a

review of customer councils to maximise their effectiveness. Recruitment procedures are being considered as part of the review.

5.6 RECOMMENDATIONS

5.6.1 Key Recommendations

Key recommendations for this year cover issues identified in the previous year and not acted upon. This was primarily due to the fact that the Customer Contract was not operating until late in the audit period.

It is recommended that Sydney Water:

- R5.1 Review the customer service and satisfaction measures to ensure consistency with the revised Customer Contract. These measures should cover the relevant clauses within the Contract and use customer perception/satisfaction research and complaint data together with other physical measures of performance, while developing a series of benchmarks to be used in the assessment of compliance based on benchmarks developed with other utilities and/or continual improvement of internal Sydney Water time series data.
- R5.2 Ensure the *Operating Licence Compliance Report* (OLCR) report contains a full year of results for the audit period, as a minimum.
- R5.3 Include Customer Council members in the evaluation of Sydney Water's performance against the Customer Contract each year at the end of June.
- R5.4 Investigate the potential for developing benchmarking information based on the Customer Contract in association with other water utilities.

5.6.2 Secondary Recommendations

- R5.5 Investigate and implement mechanisms to encourage greater interest and involvement of the community in Customer Councils following the completion of the Customer Council review presently being undertaken by Sydney Water.
- R5.6 Investigate procedures to reduce the number of customers who perceive a problem remains unfixed after Sydney Water has classified it as fixed.
- R5.7 Require contracted survey research firms to obtain higher response rates for the relevant surveys used to assess compliance with the Customer Contract.

6. WATER QUALITY

6.1 SUMMARY OF FINDINGS

Sydney Water obtained **Full compliance** with respect to the supplies of treated drinking water to its customers. The water quality supplied is generally of an excellent standard, and complies with the health related requirements of the Australian Drinking Water Guidelines and the aesthetic related requirements of NSW Health. A summary of results is shown in Table 6.1 and in Figure 6.1.

Sydney Water obtained **Full compliance** having regard to the concepts of risk minimisation in its management of the water supplies.

Sydney Water commissioned an independent study of the costs and benefits of complying with aesthetic guideline values. This study was completed on time and submitted to IPART.

Sydney Water has prepared an *Annual Drinking Water Quality Monitoring Plan* for the water supply systems to monitor health-related and aesthetic-related water quality parameters to demonstrate compliance with the Guidelines. The Plan has been prepared in accordance with the Licence requirements, and has been endorsed by NSW Health.

Sydney Water obtained **Full compliance** in respect to monitoring in accordance with the *Annual Drinking Water Quality Monitoring Plan*. An annual *Drinking Water Quality Report* which includes results of monitoring health-and aesthetic water quality characteristics has been prepared and made available to persons free of charge, including via the Sydney Water website. The report included an expanded summary of water quality incidents occurring over the year, consistent with suggestions made in the previous audit.

Sydney Water obtained **Full compliance** in respect to the preparation of a *Five-year Drinking Water Quality Management Plan*. This is an excellent, comprehensive document. The preparation of this Plan has included public consultation and strategies for the comprehensive management of drinking water quality to minimise risk to public health and to meet aesthetic guidelines. An audit program for potable water backflow prevention devices has been prepared as a separate document.

Sydney Water obtained **Full compliance** in respect to the preparation of a Drinking Water Quality Incident Management Plan in accordance with the Licence.

Sydney water obtained **High compliance** in respect to Environmental Water Quality.

Insufficient information was provided to assess Sydney Water's performance against the relevant guidelines for "other grades of water".

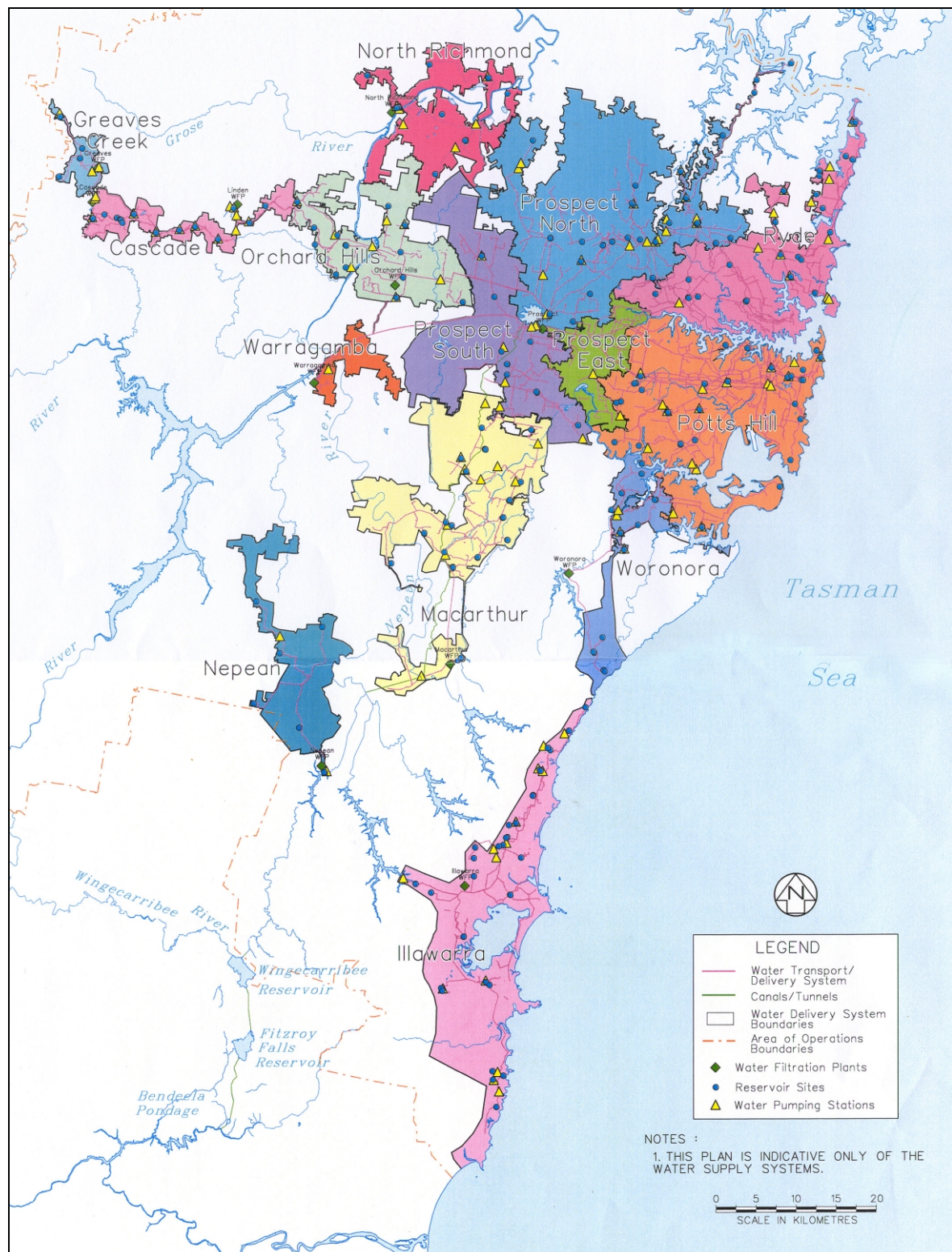
Table 6.1: Water Quality Performance: Water Supply Systems

Delivery System	Thermo-tolerant Coliforms		Total Coliforms	
	2000/2001	2001/2002	2000/2001	2001/2002
	At least 98% of samples shall contain no Thermo-tolerant Coliforms		At least 95% of samples shall contain no Total Coliforms	
Greaves Creek	100	100	100	100
North Richmond	100	99.5	97.6	99.5
Orchard Hills	100	100	99.5	99.8
Prospect South	100	100	99.2	99.2
Prospect North	100	99.8	99.0	98.4
Prospect East	99.5	100	98.0	98.4
Ryde	100	99.8	99.7	99.2
Potts Hill	99.9	99.8	99.2	99.4
Warragamba	100	100	97.2	99.1
Nepean	98.6	100	95.8	100
Macarthur	100	100	98.9	99.1
Illawarra	100	99.9	99.4	99.2
Woronora	100	100	99.2	99.7
Cascade	100	100	100	99.2
Combined Systems	99.9	99.9	99.1	99.2

Table 6.2: Water Quality Performance: Last Five Years

Year	Thermo-Tolerant Coliforms	Total Coliforms
	At least 98% of samples shall contain no Thermotolerant Coliforms	At least 95% of samples shall contain no Total Coliforms
2001/2002	99.9	99.2
2000/2001	99.9	99.1
1999/2000	99.8	98.4
1998/1999	99.8	97.8
1997/1998	99.9	97.9

Figure 6.1: Sydney Water's 14 Water Delivery Systems



Source: Sydney Water

6.2 SUMMARY OF REQUIREMENTS

The objectives of Part 6 of the Operating Licence are to ensure that Sydney Water:

1. Supplies drinking water that is safe and meets appropriate guidelines;
2. Supplies grades of water in a manner that is safe to the end users and meets appropriate guidelines;
3. Is abreast of emerging water quality issues and engages the community in the development of future water quality goals; and
4. Has in place appropriate strategies and management plans that minimise risks and ensure continual improvements in its operation.

To meet the requirements of Part 6, Sydney Water is required to undertake the following.

- Supply treated drinking water to customers that complies with the health related requirements of the Australian Drinking Water Guidelines and the aesthetic related requirements of NSW Health.
- Have regard to the concepts of risk minimisation in its management of the water supplies.
- Commission an independent study on the costs and benefits of complying with aesthetic guideline values; this is to involve community consultation and the report is to be completed prior to 31 January 2002.
- Prepare a comprehensive Annual Drinking Water Quality Monitoring Plan to monitor health-related and aesthetic-related water quality parameters to demonstrate compliance with the Guidelines. The sampling frequency and locations chosen for monitoring should be such that the results are representative of the water quality supplied to customers.
- Undertake monitoring in accordance with the Plan.
- Prepare an Annual Drinking Water Quality Report on the health-related and aesthetic-related monitoring results, and make the Report available free of charge, including via the Sydney Water website.
- Prepare a Five-year Drinking Water Quality Management Plan. The preparation of this Plan is to include public consultation and strategies for the comprehensive management of drinking water quality, minimise risk to public health and to meet aesthetic guidelines. The Plan is also to include an audit program for potable water backflow prevention devices.
- Prepare an Annual Drinking Water Quality Improvement Plan incorporating system and operational changes needed to address problems identified through monitoring and inspection, reduce risk to public health and to meet aesthetic guidelines.

- Prepare a Drinking Water Quality Incident Management Plan which coordinates management of drinking water incidents.
- Meet environmental water quality requirements for discharges or water releases that take place under licences issued by regulatory agencies.
- Supply other grades of water, such as water for reuse, in accordance with relevant guidelines and requirements of government agencies.
- Comply with the Ministerial Requirements M2 and M3 respectively.
 - *“...I require that Sydney Water include in future Annual Drinking Water Quality Monitoring Plans, submitted to NSW Health, reference to the selection and frequency of testing of the drinking water characteristics.”*
 - *“...I require Sydney Water to implement a system to track adherence by the SCA to the water quality aspects of the Bulk Water Supply Agreement by 1 September 2002.”*

6.3 DETAILS OF COMPLIANCE

Table 6.3: Water Quality – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2.1	The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:	No requirement	
(c)	Compliance by Sydney Water with its obligations under Part 6 of this Licence.	High compliance	Refer to Table 6.4

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.2	Drinking Water Quality – Standards		
6.2.1	Sydney Water must comply with the following relating to drinking water:	No requirement	In undertaking the audit of the Operating Licence, the Auditor has referred to an <i>Independent Audit of Drinking Water Quality for 2001/2002</i> undertaken on behalf of NSW Health to audit the current monitoring , measuring and reporting systems against the agreed requirements of the 1996 Guidelines and against the requirements of the Water Quality Monitoring Plan 2001/2002. In addition to referring to this audit, the Auditor has undertaken its own independent checks to confirm the findings of the audit.
6.2.1(a)	The NHMRC and ARMCANZ Australian Drinking Water Guidelines 1996 (“1996 Guidelines”) relating to health guideline values	Full compliance	<p>The monitoring results indicated the water supplied by Sydney Water to its customers is of a high quality and complies with the health guideline values outlined in the <i>Annual Drinking Water Quality Monitoring Plan 2001/2002</i> as approved by NSW Health.</p> <p>In particular, with respect to the reported monitoring results:</p> <ul style="list-style-type: none"> Results showed that there was full compliance with the microbiological criteria, disinfection by-products, Polycyclic aromatic hydrocarbons (PAHs), and inorganic compounds.

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Compliance with the guideline values is generally improving, and no characteristic has shown a significant decline in performance. Testing for epichlorohydrin reported results above the guideline value of 0.0005 mg/L in 3 of 11 samples, with a maximum reported value of 0.0017 mg/L. The Auditor notes that the 1996 Guidelines state that the limit of detection for epichlorohydrin is 0.05 mg/L, much higher than the concentrations reported by the laboratory hence the results are not indicative of non-compliance with the guideline. Epichlorohydrin is discussed further in Section 6.3.3. With respect to pesticides, Sydney Water monitors for pesticides only for the North Richmond water filtration plant, and relies on SCA monitoring for the other supplies. Because treatment may not remove pesticides effectively, this places reliance on the SCA monitoring and Sydney Water must ensure that SCA's pesticide monitoring program is adequate. <p>The parameters monitored and the basis for monitoring are outlined in the Annual Drinking Water Quality Monitoring Plan. This Plan is in general accordance with the 1996 Guidelines. The Auditor notes:</p> <ul style="list-style-type: none"> A number of the characteristics listed in the 1996 Guidelines were not monitored. The basis for this and conformance with the Guidelines has been explained in the most recent Plan (2002/2003) . Refer to discussion under Clause 6.3. In the 2000/2001 audit it was observed that the sampling and reporting basis adopted by Sydney Water is on a supply system basis rather than on a water quality zone basis as indicated in the 1996 Guidelines. Because NSW Health has confirmed its acceptance of the sampling and reporting basis, the Auditor concludes that this does not represent non-compliance. This discussed in greater detail in Section 6.4.4.
6.2.1(b)	Any amendments, updates or supplements to the 1996 Guidelines ("Updated Guidelines") relating to health guideline values specified by NSW Health	Full compliance	There have been no changes to the health guideline values which have resulted in more stringent requirements. There have been changes in some parameters which have been included in the 2002/2003 Monitoring Plan (eg radiological, boron, atrazine, microcystins).

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.2.1(c)	The aesthetic guideline values of the 1996 Guidelines specified by the NSW Minister for Health following consultation with the Minister	Full compliance	<p>The monitoring results indicated that the water supplied by Sydney Water to its customers complies with the aesthetic guideline values listed in the <i>Annual Drinking Water Quality Monitoring Plan 2001/2002</i> as approved by NSW Health. Similar comments regarding the size of water quality zones and the aggregation of results apply as for 6.2.1 (a).</p> <p>The results indicated that:</p> <ul style="list-style-type: none"> There was full compliance for aluminium and zinc, and very minor exceedences of the guideline value for iron. With respect to ammonia, overall compliance for the monitored chlorinated supplies was 97.2%, with generally high compliance for the various supplies (the lowest compliance for an individual supply was 91.7% for Prospect East). <p>With regard to taste and odour, only one sample per system was taken during the year. The sample taken from North Richmond failed, with a repeat sample passing. Sydney Water advised that the samples were taken during the summer period when taste and odour was most likely to be noticeable. The Auditor notes:</p> <ul style="list-style-type: none"> A single sample provides very limited information on taste and odour, and would not be expected to be reasonably characterise the water supplied to customers. However, measuring taste and odour of water supplied to customers can be a complex undertaking, and is not commonly carried out by water authorities. Instead, water authorities tend to rely more on customer complaints as the indicator of acceptability with respect to taste and odour. Reference to the Annual Drinking Water Plan 2002/2003 provides a breakdown of customer complaints relating to taste and odour by system, month and type for the 2000/2001 year. It indicates that generally the complaint levels were low (0.1 per 1000 population); complaints were highest for Prospect East (0.6 per 1000) and the Blue Mountain supplies, Greaves (0.5 per 1000), Cascade (0.4 per 1000); complaints occurred most frequently in June, September and November; and the most frequent categories were "high chlorine" (26%) and "foul taste" (18%).

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.2.1(d)	The aesthetic guideline values of the Updated Guidelines specified by the NSW Minister for Health following consultation with the Minister	Full compliance	There have been no changes required under this clause to the aesthetic guideline values.
6.2.2	In delivering the Services, Sydney Water must have regard to the concepts of risk minimisation practices and system management of public water supplies in the 1996 Guidelines (including in relation to <i>Cryptosporidium</i> and <i>Giardia</i>)	Full compliance	<p>Sydney Water has adopted the concepts of risk minimisation and system management of public water supplies outlined in the 1996 Guidelines, and is also taking a leadership role in the industry in adopting risk management principles which are being considered by the NHMRC for inclusion in a revision to the 1996 Guidelines. In particular, the comments made in the 2000/2001 audit are relevant, and it can be noted that Sydney Water has:</p> <ul style="list-style-type: none"> • Prepared a 5-year Drinking Water Quality Management Plan, which demonstrates a comprehensive risk-based approach to drinking water quality management. • Previously prepared a comprehensive risk study of the entire water supply system from "Catchment to tap". Each risk identified is subjected to control actions. Control actions are currently being reviewed. • Within the period, Sydney Water has updated its risk management program by undertaking a detailed hazard identification and risk assessment of the water filtration plants. • Coordinated with the Sydney Catchment Authority (SCA), and Build Own Operate (BOO) contractors to provide a multi-barrier approach to water quality control. The SCA has participated in the recent risk assessment of the water filtration plants and Sydney Water is participating in similar risk assessments being carried out by SCA. • Developed Standard Operating Procedures for assuring water quality. • Prepared annual drinking water quality monitoring plans and consumer satisfaction reports to verify water quality. • Prepared incident management plans. • Carried out employee training on water quality issues, with records of training maintained on

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>register.</p> <ul style="list-style-type: none"> Carried out community consultation, including communication of information relating to water quality, eg daily posting of test results on website, consumer confidence report.
6.2.3	<p>Sydney Water must commission an independent study of the costs and benefits of Sydney Water complying with the aesthetic guideline values of the NHMRC and ARMCANZ Australian Drinking Water Guidelines 1996 and must report to the Licence Review Body on the results of that study by no later than 31 January 2002, to enable the Licence Review Body to report on the matter as part of the Mid term review.</p> <p>Sydney Water must ensure that the process of conducting the independent study includes public consultation in accordance with clause 1.2.2 on a discussion paper before the study is finalised</p>	Full compliance	<p>An independent consultant was engaged by Sydney Water in May 2001 to report on the costs and benefits of Sydney Water complying with the aesthetic guideline values of the NHMRC and ARMCANZ Australian Drinking Water Guidelines (ADWG) 1996. Public consultation was underway during the audit. The report was completed on time and submitted to IPART in January 2002.</p> <p>The report found of the 33 aesthetic characteristics, all but chlorine and monochloramine consistently met the aesthetic guidelines, although of complaints received, 90% related to dirty water and only 10% related to taste and odour.</p> <p>An options study for improving aesthetic performance but not compromising health related performance levels was carried out and concluded that chlorinated systems practices should continue as at present, and that for chlorinated systems pre-oxidation and/or booster chlorination should be considered further.</p>
6.3	Drinking Water Quality – Monitoring		
6.3.1	Sydney Water must prepare, to the satisfaction of NSW Health, a comprehensive Annual Drinking Water Quality Monitoring Plan for the Water supply system by 30 June 2000 and then by 31 March in each subsequent year, for the duration of this Licence.	Full compliance	An Annual Drinking Water Quality Monitoring Plan 2002/2003 was prepared by Sydney Water and approved by NSW Health on 27 March 2002.
6.3.2	The Annual Drinking 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. The monitoring of Drinking water quality must include:	Full compliance	The Annual Drinking Water Quality Monitoring Plan includes system performance monitoring and regular sampling at a large number of sites (more than 500). In auditing this clause, the Auditor has considered the Plan for 2002/2003, prepared in the audit period. Sampling and analysis is undertaken by Sydney Water's Environment and Innovation (E&I). E&I is a division of Sydney Water responsible for corporate level environmental strategy and planning, and includes the Sydney Water laboratories

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>(previously AWT).</p> <p>A detailed review of compliance with this clause including quality control procedures had been carried out by Parsons Brinkerhoff (Independent Audit of Drinking Water Quality for 2001/2002) on behalf of NSW Health. The finding of the audit was full compliance.</p> <p>The Plan has been improved from the previous year, and includes some excellent features:</p> <ul style="list-style-type: none"> • A comprehensive listing of parameters, the requirements of the ADWG 1996, the past history of monitoring and the results reported, and the proposed monitoring for the years to 2007. This table provides an excellent basis for understanding the basis for inclusion of parameters from year to year. • Details on Quality Control procedures, including the basis for numbers of blanks, duplicates spikes per batch or collection run. In general, inter-laboratory testing is not carried out; instead, reliance is placed on NATA proficiency testing. <p>With regard to <i>Cryptosporidium</i> and <i>Giardia</i>, E&I was accredited by NATA in mid 2000 and must undertake six proficiency tests per year to maintain this accreditation. Sydney Water advised that:</p> <ul style="list-style-type: none"> • The required tests have been completed. • The March 2002 round of NATA proficiency testing produced results that were out of the normally acceptable range for E&I for two samples. All three remaining samples were satisfactory. In investigating the discrepancy, E&I reviewed the results of other accredited laboratories and found that one other had similarly failed on two samples. A case was put to NATA that both laboratories would have had perfect results if the samples had been reversed ie. inference that the two lots of samples may have been mislabelled in the preparation by NATA. • NATA has replied to the laboratory in a letter dated 28 June 2002 that their labelling process is

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>cross checked by two NATA staff and that there was no evidence to support the claim by E&I for reclassification of the results. Some discussion occurred between the laboratory and NATA thereafter but with no further resolution of the issue.</p> <ul style="list-style-type: none"> E&I has retained its accreditation but was put on notice that it had to perform perfectly at the next two rounds of proficiency testing. They have passed one more round and have completed the tests for the second but are awaiting the results. <p>Independent testing for <i>Cryptosporidium</i> and <i>Giardia</i> is carried out by NSW Health; the results of this program have been excellent and provide independent confirmation of the results of E&I.</p>
6.3.2(a)	The health guideline values for which compliance is required under clauses 6.2.1(a) and (b)	Full compliance	The <i>Annual Drinking Water Quality Monitoring Plan</i> includes all health guideline values for which compliance is required by NSW Health. Comments under 6.2.1(a) are relevant.
6.3.2(b)	The aesthetic guideline values for which compliance is required under clauses 6.2.1(c) and (d)	Full compliance	The Annual Drinking Water Quality Monitoring Plan includes all aesthetic guideline values for which compliance is required by NSW Health. Comments under Clause 6.2.1(c) are relevant.
6.3.3	Sydney Water must monitor Drinking water quality for the aesthetic guideline values of the 1996 Guideline that apply to the Physical characteristics of Drinking water	Full compliance	The Annual Drinking Water Quality Monitoring Plan includes all aesthetic guideline values that apply to physical characteristics of drinking water (not required for compliance purposes). These include, for example, pH, hardness, taste and odour, colour. Refer to the discussion under clause 6.2.1(c) for comments regarding the frequency of testing for taste and odour.
6.3.4	The Drinking water quality monitoring must assess the quality of Drinking water in Sydney Water's Water supply system. 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	Full compliance	The sampling frequencies and locations have been chosen with the objective of being representative of the quality of water supplied to customers and consumers. A detailed independent evaluation of the sampling basis has been carried out with the finding being full compliance. It was found that sampling frequency for each of the 14 water delivery system was equal to or greater than the minimum requirement suggested in the 1996 Guidelines for indicator microorganisms, and that sampling sites were selected on the basis of providing a reasonable spatial spread within each zone and being representative of both circulating and dead end pipelines.

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
			The comments under Clause 6.2.1(a) regarding monitoring frequencies and water quality zone size are also relevant. Because NSW Health has confirmed the sampling basis, full compliance has been assigned.
6.3.5	Sydney Water must undertake the Drinking water quality monitoring for the period from the Commencement Date to 30 June 2001 and after that for each subsequent financial year	Full compliance	Monitoring was implemented for the period 1 January 2000 to 30 June 2002.
6.4	Drinking Water Quality – Reporting		
6.4.1	Sydney Water's water quality monitoring test results must be placed on its website on the internet for downloading by the public, free of charge and made available at its offices for access or collection by any person, also free of charge	Full compliance	Quarterly and annual summaries of monitoring results and daily test results for <i>Cryptosporidium</i> and <i>Giardia</i> are placed on the Sydney Water's website for downloading. These are also printed on demand, free of charge, if a person requests for them at a Sydney Water office.
6.4.2	Sydney Water must produce an Annual Drinking Water Quality Report that reports on the Water supply system in relation to:	See Below	For the period of the audit, the annual report which covers the period 1 July 2000 to 30 June 2001 was available. This report was reviewed for the audit.
6.4.2(a)	The health guideline values for which compliance is required under clauses 6.2.1(a) and (b)	Full Compliance	<p>Tables in the annual report provide a summary of compliance with the health guideline values for which compliance is required.</p> <p>The Auditor notes that:</p> <ul style="list-style-type: none"> The results are reported on a water supply system basis, some of which can have a large population (eg Potts Hill with a population exceeding 1 million) rather than on a water quality zone or reservoir supply zone basis with a maximum population size of 100,000 as required under the Annual Drinking Water Guidelines. This reporting basis has been endorsed by NSW Health, and complies with that required under Clauses 6.2.1(a) and (b). The aggregation of results in the larger systems does not allow a customer to determine the water quality results for their specific water quality zone or suburb, although compliance with the health based results can be inferred from the larger body of aggregated results.

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.4.2(b)	The aesthetic guideline values for which compliance is required under clauses 6.2.1(c) and (d)	Full compliance	Table 2 of the <i>Annual Drinking Water Quality Report</i> provides a summary of compliance for the aesthetic characteristics for which compliance is required. The comments regarding aggregation under Clause 6.4.2(a) are relevant.
6.4.2(c)	The aesthetic guideline values of the 1996 Guidelines that apply to the Physical characteristics of drinking water	Full compliance	Table 3 of the annual report provides a comparison of the results with the aesthetic guideline values that apply to the physical characteristics of drinking water for which compliance is not required. The comments regarding system size under Clause 6.4.2(a) are relevant, particularly because there is a higher variation in the physical characteristics with area within the supply systems. In the case of pH, for example, there can be a significant variation by location.
6.4.3	The Annual Drinking Water Quality Report must also include a summary of monitoring information, indicating water quality trends and problems, and a summary of system failures (significant and major water quality incidents) over the previous year and action taken to resolve them and how public health was protected	Full compliance	A summary of water quality trends for key parameters is included in the <i>Annual Drinking Water Quality Report</i> posted on the website. In regard to summarising significant and major water quality incidents, the report has been expanded from the previous year in accordance with suggestions for improvement in the previous year's audit.
6.4.4	The Annual Drinking Water Quality Report must be prepared by 30 November each year and must be placed on Sydney Water's website on the internet for downloading by the public free of charge and made available at its offices for access or collection by any person, also free of charge	Full compliance	The <i>Annual Drinking Water Quality Report for 2000/2001</i> was approved by Sydney Water on 27 November and posted on the website on 30 November 2001. The due date for the Annual Report for 2001/2002 is outside the current audit period.

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.5	Drinking Water – Planning		
6.5.1	Sydney Water must prepare, to the satisfaction of NSW Health, a Five Year Drinking Water Quality Management Plan within 5 months after the Commencement Date. Sydney Water must release a discussion paper in relation to the Five Year Drinking Water Quality Management Plan within 2 months after the Commencement Date and must engage in a public consultation in accordance with clause 1.2.2 on the discussion paper	No requirement	<p>This requirement was complied with during the previous 2000/2001 audit period. The Commencement Date as defined in the Operating Licence is the 12 April 2000. The <i>Five Year Drinking Water Quality Management Plan</i> was prepared in March 2000 and finalised and endorsed by NSW Health on the 12 September 2000. This is within the five months period after the Commencement Date.</p> <p>Community consultation on the management plan was initiated on the 4 August 2000 and completed on the 1 September 2000. Although this occurred after the two month period required by this clause, it did not delay the finalisation of the management plan.</p>
6.5.2	The Five Year Drinking Water Quality Management Plan must include strategies for the comprehensive management of the quality of Drinking water in Sydney Water's Water supply system, the aim of which is to reduce risk to public health and meet any aesthetic guideline values extended to Sydney Water in or by this Licence. It must also include an audit program for Potable water backflow prevention devices	No requirement	<p>A <i>Five Year Drinking Water Quality Management Plan</i> has been prepared. This is an excellent and comprehensive document.</p> <p>The Management Plan sets out the current situation of the supply system, the emerging issues and performance gaps, and has action plans for maintaining high quality drinking water.</p> <p>The Management Plan encompasses catchment management and bulk water delivery, to water treatment and water distribution to consumers taps. It also addresses the areas of risk management, emerging water quality issues, monitoring and reporting, research and development, communication with stakeholders and incident management. Because the Management Plan is comprehensive and raises and seeks to address a great many issues, to address all of the issues can be expected to be challenging.</p> <p>Although no audit program for backflow prevention devices is included in the Management Plan, the Management Plan includes a discussion of the issues and refers to separate documents available within Sydney Water.</p>
6.5.3	Sydney Water must prepare, to the satisfaction of NSW Health, an Annual Drinking Water Quality Improvement Plan for the Water supply system within one month after the	Full compliance	The Annual Drinking Water Quality Improvement Plan 2002/2003 was prepared on 26 March 2002. Approval by NSW Health was confirmed by e-mail to Sydney Water dated 12 April 2002.

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
	Commencement and after that by 31 March in each year, unless otherwise specified following the review under clause 6.5.5		
6.5.4	The Annual Drinking 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 extending to Sydney Water in or by this Licence	Full compliance	<p>The Annual Drinking Water Quality Improvement Plan 2002/2003 is an excellent document which includes in concise form for each of the delivery systems:</p> <ul style="list-style-type: none"> a systematic consideration of the status of water quality in the various waste supply systems and incidents that have occurred; and for each water quality issue, proposed actions, the benefit and improvement, and the timeframe for implementation. <p>It was noted in the previous audit that the Plan has a focus on treated water quality, and does not, for example, refer to:</p> <ul style="list-style-type: none"> the bulk water quality, even though the bulk water quality did not comply with the requirements of the Bulk Water Supply Agreement for some of the supplies (particularly for algae); or the performance and reliability of treatment systems (eg whether there were periods in which treatment systems such as disinfection systems did not comply with essential performance targets). <p>This observation is still applicable in the case of the new Plan, and the analysis which leads to the improvements in the Plan are based largely on the achieved water quality, rather than looking at possible situations (ie risk) that may occur through variations in bulk raw water quality or plant failure. Notwithstanding this observation, the Plan does include proposed actions applicable for all systems to improve the water quality risk management and to prioritise and prepare action plans for gaps identified in the risk assessment for all water filtration plants and bulk water supply.</p> <p>It can be expected that the next Improvement Plan will include reference to actions which address such issues.</p>

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.5.5	The Annual Drinking Water Quality Improvement Plan must be reviewed as part of the Mid term review under clause 2.3.1 to assess its continued effectiveness and whether there is a continued need for the plan each year	Full Compliance	A mid term review of the Plan was carried out as part of the Mid-Term Review. The Review concluded that the Annual Drinking Water Quality Plan should remain as a Licence condition.
6.5.6	Sydney Water must prepare, to the satisfaction of NSW Health, a Drinking Water Quality Incident Management Plan, within 1 month after the Commencement Date which must remain in place until any new plan is developed in agreement with NSW Health	No requirement	A Drinking Water Quality Incident Management Plan was prepared and internally approved on the 2 July 1999. NSW Health made comments on the plan and their comments were incorporated into the plan. During 2001/2002 this Plan was included within an "Emergency Risk Manual" for the prevention, preparedness, response and recovery (debriefing only) of incidents; these revisions have been approved by NSW Health.
6.5.7	The Drinking Water 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	No requirement	The Emergency Risk Manual includes procedures and protocols to deal with drinking water quality incidents. Training has been conducted for Sydney Water staff in the Plan and in Emergency Risk Management. Exercises have been carried out involving both internal stakeholders and external stakeholders (such as NSW Health, EPA, SCA and Fire Brigades). Sydney Water advised that the Drinking Water Quality Management Plan will be revised to include the findings from these exercises.
6.6	Environmental Water Quality		
6.6	Sydney Water must meet the environmental water quality requirements for any discharges or water releases by licences issued to it by the EPA or the Department of Land and Water Conservation (DLWC).	High compliance	The EPA has issued 32 Environmental Protection Licences to Sydney Water, related to discharges. These Licences cover: <ul style="list-style-type: none"> • 28 licences are granted to regulate discharges from the sewage treatment plants and reticulation systems; • 2 licences are granted for discharges at water filtration plants at Cascades and North Richmond; and • 2 licences are granted for the application of herbicide spraying at Botany Wetlands and Rouse Hill.

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>Sydney Water reports compliance with the EPA licences to the EPA on an annual basis as a requirement of the licences. Sydney Water advised that it reported seven non-compliances to the EPA with water quality requirements set by the Clause L3 of the EPA licences, for this audit period. In accordance with the EPA reporting requirements, Sydney Water reported the reasons for non-compliance, actions taken to prevent, control or mitigate the non-compliance and the actions taken to prevent recurrence of the non-compliance. These are discussed further in Section 6.4.5 of this report.</p> <p>This low number of non-compliances against the number of environmental discharges demonstrates a high level of compliance with the requirements of this Clause.</p> <p>It is further noted that the Auditor sought clarification from IPART to determine whether non-compliances against Clause L1 (of the EPA Licence) should also be considered to determine compliance with this Clause. IPART advised that, following consultation with the EPA, Clause L1 (of the EPA Licence) is beyond the scope of this Clause.</p> <p>The DLWC has issued Water Management Licences to Sydney Water. The licences do not impose environmental water quality requirements for discharges or water releases. Therefore with respect to DLWC licences, there is no requirement under this Clause.</p>
6.7	Other Grades of Water		
6.7.1	Other Grades of water supplied by Sydney 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, other relevant government agencies and the NSW Recycled Water Coordination Committee	Insufficient Information	<p>Other grades of water supplied by Sydney Water include water for irrigation of parks, race course and golf courses, agricultural irrigation, industrial reuse and domestic reuse.</p> <p>Sydney Water provided the Auditor with Environment Protection Licence System Performance Reports (EPA Licence) for Penrith, Picton, Richmond and Rouse Hill Sewerage Treatment Systems. However these reports only presented 50%ile, 80%ile, and 90%ile data for some parameters listed in the relevant guidelines.</p> <p>To demonstrate compliance with the requirements of this clause, Sydney Water must present actual data directly related to the requirements of the relevant guidelines.</p>

Table 6.4: Water Quality - Part 6 Licence Clauses

Clause	Requirement	Compliance	Findings
6.7.2	Minimum standards and guidelines to regulate the supply of Other Grades of water must be identified in the Mid term review. Where the Minister is of the opinion that the minimum standards and guidelines for the supply of Other Grades of water identified in the Mid term review are appropriate, such standards and guidelines must be observed by Sydney Water as a condition of this Licence	No requirement	The Mid-Term Review is managed by IPART not Sydney Water. Sydney Water has contributed to IPART's consideration of this requirement by presenting it's position on "other grades of water" in the <i>Sydney Water's submission for the mid-term review of it's Operating Licence, April 2002</i> .
6.7.3	Where there is a conflict between any of the guidelines, requirements or standards applying to Sydney Water under clause 6.7 the Minister's decision will prevail	No requirement	Sydney Water advised that no conflict issues have arisen in the audit period.

Table 6.5: Water Quality - Minister's Requirements

ID	Requirement	Compliance	Findings
M2	"...I require that Sydney Water include in future Annual Drinking Water Quality Monitoring Plans, submitted to NSW Health, reference to the selection and frequency of testing of the drinking water characteristics."	Full compliance	An excellent summary of the basis has been included. Refer to discussion under Clause 6.3.2.
M3	"...I require Sydney Water to implement a system to track adherence by the SCA to the water quality aspects of the Bulk Water Supply Agreement by 1 September 2002."	Full compliance	Sydney Water has prepared a <i>Bulk Water Supply Agreement Management Framework (September 2002)</i> which outlines in detail the relationships between the SCA and Sydney Water, and the reporting basis. Sydney Water and SCA have also prepared a <i>Bulk Water Supply Protocol</i> which contain details of the actions and activities that will be undertaken by the SCA, Sydney Water and the Contractors of the BOO water filtration plants in the delivery of raw and treated bulk water. These Protocols also have the objective of providing an overarching document that demonstrates how these parties meet the requirements of the BWSA and other regulatory guidelines in delivering raw and treated bulk water.



			These documents and the various reports that are prepared provide Sydney Water with a good understanding to the bulk water quality provided by SCA, and it is considered that they meet the requirements of the Minister's Requirement.
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6.4 DISCUSSION

6.4.1 Water quality management

A central aspect of the Licence is to ensure that Sydney Water adopts management systems which will provide assurance that the water quality complies with requirements. In particular, the Licence requires:

- A *Five-year Drinking Water Quality Management Plan* that includes strategies for the comprehensive management of the quality of drinking water in Sydney Water's Water supply system, the aim of which is to reduce risk to public health and meet any aesthetic guideline values; and
- An *Annual Drinking Water Quality Improvement Plan* incorporating 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.

Towards this end, Sydney Water has taken an active role in the water industry in supporting the introduction of improved water quality management systems, and has decided to base its management systems on achieving certification under ISO 9002. This certification has been achieved. The debate in the industry has indicated that certification to ISO 9002 may not be sufficient to provide assurance on water quality and that risk management systems need to be included within the ISO 9002 framework.

Sydney Water has recognised this, and has been one of the first water authorities in Australia to undertake a systematic process of identifying risks to water quality, and the requirements for addressing these risks. The development of management systems is a continuing process, in which areas for improvement are identified and implemented. During the audit period, this work has continued and Sydney Water has carried out a further risk review of its water filtration plants, and has developed a series of action plans resulting from this review. SCA as the bulk water supplier, participated in this review, and there is good liaison between SCA, Sydney Water and NSW Health with regard to water quality management.

In the 2000/2001 audit the following areas of improvement were suggested with regard to water quality management:

- extension of the risk assessment process to provide clear linkages between the risks, their operational control, and verification that control has been achieved; and
- establishment of a process to confirm that SCA is carrying out the various actions and control measures necessary to achieve compliance with the BWSA.

Sydney Water has implemented a risk management process which identifies possible risks associated with the bulk water supply and, in particular, variations in bulk water quality. By way of example, the Auditor observed the results of risk assessments for each of the water filtration plants,

in which bulk water quality issues were identified, with the responsibility for action lying with SCA. This included consideration of issues such as algae, bushfires, and flood events. The loss of disinfection capability at Woronora was one such risk issue that had been identified, and occurred during the audit period. The risk management process identifies many such issues that present a risk with respect to the quality of the treated water and are not practically able to be dealt with in the short term, or are accepted as an acceptable business risk. It is recommended that Sydney Water prepare a report for its senior management on the items of greatest risk so that it is clear that management is appraised of these issues.

The Auditor concludes that the risk management processes that Sydney Water has implemented provide clear linkages between the risks and operational control requirements, even when these control requirements are the responsibility of SCA.

With regard to Sydney Water confirming that SCA is carrying out the various actions and controls, Sydney Water does receive and consider the water quality monitoring information from SCA. However, it is not clear to the Auditor that Sydney Water has implemented a process which monitors and confirms that SCA is carrying out the actions necessary for longer term water quality improvement and assurance, such as source pollution control. For example, Sydney Water could formally monitor (eg audit) and confirm that SCA's actions required under its risk management plan to protect bulk water quality are being carried out. Such monitoring would be consistent with the principles of risk management.

6.4.2 Monitoring and reporting

Sydney Water undertakes a major treated water quality monitoring program, and makes summaries of the monitoring information readily available to the public. Sydney Water advised that it also undertakes other monitoring for operational purposes, such as the day to day performance of the water treatment plants.

In terms of providing assurance that the water complies with requirements, Sydney Water relies on its management system and the proper operation of various controls. Towards this end, Sydney Water advised that it undertakes a large amount of day to day operational monitoring and reporting. This monitoring can be expected to provide Sydney Water with the most direct and immediate measure of performance, as it will include the monitoring of such items as operation of disinfection systems and the outlet turbidity of filters which is able to confirm that short term outages in critical control systems have not occurred. Because this information can provide valuable additional confirmation that compliance with the 1996 Guidelines has been achieved, it was suggested that the 2001/2002 audit consider the reliability of the disinfection systems.

With respect to the operation of these disinfection systems, information provided by Sydney Water indicates that the disinfection systems can be expected to have a high degree of reliability, and that there are appropriate management systems and monitoring processes in place. In particular:

- Sydney Water has in place equipment which provides primary disinfection by chlorination at each of its ten water filtration plants.

- The performance of each of these chlorination facilities is managed under a certified ISO-9002 Quality Assurance System.
- All primary disinfection systems have been designed for the maximum capacity of the plant, and generally there is 100% redundancy of critical equipment in each facility so that equipment failures or equipment off-line for maintenance will not impact the capacity or performance of the system.
- The performance of the disinfection system is monitored in real time by plant SCADA and by IICATS. Alarms are monitored and responded to on a 24 hour, 7 day per week basis.
- There is a specified target level of disinfectant concentration for each system. This level is set such that, in all season and flow rates, the C.t values required will be achieved.
- 'Out of specified range alarms' are generally set at +/- 0.2mg/l of the target level for a period of >15 minutes. Each month the plants report their exceptions to this range. These exceptions are analysed, trended and addressed at the monthly BWSA interface meeting.
- The plants have an automatic plant flow shutdown procedure built in; if disinfectant concentrations fall below a specified 'low low' level (a different level set at each plant) the whole facility is shutdown until the problem is identified and corrected. This situation is classified as an "event" for the plant under the plant's QA procedures. Plants are not restarted until the problem is fixed.
- The full, prolonged failure of key primary disinfection processes or equipment is defined within the DWQ Incident Management Plan (in the event SOP) as a trigger for the declaration of an "incident". Full Emergency Response Management response and notification to NSW Health then occurs. No undisinfected water will be put into the distribution system without clearance from the incident controller.

For the 2001/2002 year, one incident was declared where the failure of primary disinfection equipment was the trigger. This incident was associated with the Christmas bushfires at the end of 2001, where the destruction of power lines by the fires meant that no disinfection equipment could operate for a period at Woronora and Warragamba plants. In this instance temporary power equipment could not restore primary disinfection at Woronora in time and partially disinfected water was distributed. A boil water alert was issued because of this. Warragamba plant resumed full operation on temporary power reasonably quickly and only fully disinfected water was distributed.

6.4.3 Epichlorohydrin

Testing for epichlorohydrin reported results above the guideline value of 0.0005 mg/L in 3 of 11 samples, with a maximum reported value of 0.0017 mg/L. Epichlorohydrin is an organic chemical used in the manufacture of glycerine and certain epoxy resins, including some flocculants (polyelectrolytes) used for water treatment. The results were reported to NSW Health and an investigation was carried out and a report issued by NSW Health. Because the chemical can be associated with water treatment, Sydney Water confirmed that the flocculants used in the filtration plants did not contain epichlorohydrin at detectable levels. It was concluded that the very low

concentrations involved were at the limit of the analytical method, and that testing should not be carried out until there is confidence that a suitable, reliable sampling and testing method is available. The Auditor notes that the 1996 Guidelines state that the limit of detection for epichlorohydrin is 0.05 mg/L, and is much higher than the concentrations reported by the laboratory.

The Auditor concurs with the conclusion that the concentrations are likely to be below the level of reliable detection and concludes that the results are not indicative of non-compliance with the health guideline values. The Auditor suggests that, rather than not carrying out any further testing, Sydney Water give consideration to continuing testing the most likely sources of epichlorohydrin (eg flocculants used for water treatment or for recycling of backwash water) to confirm the absence of the chemical. This would be consistent with the risk management approach adopted by Sydney Water. Sydney Water could also consider continuing testing of the treated water to confirm that there are not unusually high concentrations present, but with a threshold for further consideration set on the basis of the reliable limit of the analytical method rather than the guideline limit.

6.4.4 Sampling and reporting on a supply system basis

In the 2000/2001 audit it was observed that the sampling and reporting adopted by Sydney Water is on a supply system basis rather than on a water quality zone basis as indicated in the 1996 Guidelines (ie Section 6.2.4 "Monitoring Zones" of the 1996 Guidelines indicates that for monitoring purposes monitoring zones should normally have a population of 100,000). For example, in the case of the Potts Hill Supply System the population is in the order of 1.3 million, and the monitoring results are reported in aggregate for the whole of the supply system. If a larger population basis is used, as for Potts Hill, the chance is increased that there could be portion of the zone which has a group of customers receiving water not in compliance with the requirements, and is not identified in the monitoring because it is averaged with many other results.

Sydney Water advised NSW Health that, when considered on a supply zone basis, of the 169 water quality zones that Sydney Water distinguishes, only 5 did not comply with the requirements, and that it is possible that this non-compliance resulted from a statistically small number of samples being taken for these zones. NSW Health has considered this information, and has confirmed in a letter to Sydney Water that the current aggregated sampling basis is adequate. The Auditor consulted with NSW Health on this matter, and a consideration in this was that the additional sampling cost that would be involved would not result in a significant improvement in health benefits to consumers. The Auditor notes that it would be possible, nevertheless, to report on a water quality zone basis as required under the guidelines, but only increase the number of samples to the levels required in the guidelines in those zones where non compliance was observed.

6.4.5 Non-Compliances reported to the EPA

Sydney Water reported to the EPA, seven non-compliances against Clause L3 of licences issued by the EPA, under the Protection of the Environment (Operations) Act 1997. These non-compliances and progress towards prevention of re-occurrence is briefly presented in **Table 6.6**.

Table 6.6: Non-Compliances with Clause L3 of the EPA Licence

Licence No.	Non-Compliance Recorded	Progress on Prevention of Re-occurrence
1712, 190 and 1778 (Blackheath, North Richmond and Warragamba STP's)	Sydney Water exceeded the allowable total residual chlorine (TRC) limit. Sydney Water advised that the cause of this exceedance is unknown and likely to be due to analytical error as the STP's do not dose chlorine or sodium hypochlorite.	<ul style="list-style-type: none"> Currently negotiating with the EPA for the removal of total residual chlorine limits from licenses of plants STP's which do not dose chlorine or sodium hypochlorite.
372 (Malabar)	On 28 July 2001, Sydney Water exceeded the Total suspended solids (TSS) limit for discharge point 9. Sydney Water advised that the cause of this exceedance was the scouring (due to wet weather flows) of accumulated sediment in the Liverpool STP oxidation pond and discharge to Georges River via a diversion valve overflow at Chipping Norton.	<ul style="list-style-type: none"> Pumping Station SPS 582 is regularly flushed Refurbishment of penstocks at SPS 582 proposed to be completed by September 2002 Desludging of the oxidation pond. Confirmed to be completed by <i>WWT Level 2 production Meeting minutes (27/08/02)</i>.
1726 (Richmond)	Sydney Water exceeded the 50 percentile TSS limit and the and the 3 day TSS Geometric mean limit. Sydney Water advised that the exceedance is attributable to new operating conditions at the plant which have the net effect of reducing phosphorus and residual chlorine in the effluent.	Sydney Water has written to the EPA seeking an increase in TSS Licence limits to enable the Sydney Water to continue to operate in a manner to reduce phosphorus and residual chlorine in the effluent, without breaching its Licence limits for TSS.
4965 (Rouse Hill)	Sydney Water exceeded the allowable TRC limit.	<ul style="list-style-type: none"> In June 2002, the Sydney Water commissioned a new disinfection facility for the dosing of sodium hypochlorite. Confirmed by Rouse Hill (Contract No. 20500), Site meeting No. 28 minutes (19 June 2002).

6.5 FACTORS AFFECTING COMPLIANCE

Overall, the treated water supplied to customers is of excellent quality with respect to the health-based parameters, and is clear and colourless entering the distribution system. This reflects a generally good raw water quality for the major portion of the supply and a high level of treatment in the water treatment plants.

In respect of bulk water supplied to Sydney Water by SCA, the water quality has not complied fully with the BWSA, but this has not caused difficulty to Sydney Water. However, with the drought conditions the extremes of water quality have been avoided, and with storms the bulk water quality could deteriorate.

Thus it is important that Sydney Water works actively with SCA to ensure that the catchment and bulk water quality is actively managed to avoid such problems that might arise in the future. Refer to comments under Section 6.4.1.

With respect to treated water supplied to customers, information provided by Sydney Water on the level of performance of individual supply systems and water quality zones indicates that most of the

systems and zones have good compliance and low levels of complaints. However, a few systems and zones did not comply with the Total Coliform guidance level (although this is not necessarily of health significance), and some had higher levels of complaints (eg associated with dirty water and taste and odour).

It can be concluded that some further improvement in water quality is possible. It is clear from the Drinking Water Quality Improvement Plan prepared by Sydney Water that it recognises and is actively considering these issues, and in its Plan has outlined action plans to improve the water quality. This can be expected to further improve water quality compliance at a local level.

6.6 RECOMMENDATIONS

6.6.1 Key Recommendations

It is recommended that Sydney Water:

- R6.1 Establish a system which allows it to confirm and report that the measures necessary for protection of bulk water quality are being carried out.
- R6.2 Consider possible variations in bulk water quality in the preparation of its Drinking Water Quality Improvement Plan.
- R6.3 Prepare a report for its senior management on risks to drinking water quality so that it is clear that management is appraised of these issues.
- R6.4 Prepare a summary report, in preparation for the 2002/03 and future audits, which presents the performance of Sydney water on Other Grades of water it supplies, according to relevant guidelines and requirements prescribed by EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture, other relevant government agencies and the NSW Recycled Water Coordination Committee.

7. SYSTEM PERFORMANCE

7.1 SUMMARY OF FINDINGS

- Sydney Water **fully complies** with each of the amended System Performance Standards of water pressure, water supply continuity (unplanned interruptions and “planned and warned” interruptions) and sewage overflows, over the reporting period. The reported numbers are well within the required standard, including an allowance for an accuracy range which was subjectively assessed by the Auditor.

There is **insufficient information** available to the Auditor to make an objective judgement on whether Sydney Water has met the accuracy and confidence limit requirements for the reported numbers for each of the System Performance Standards. Sydney Water’s systems for monitoring and reporting the standards are well structured and documented, but the systems and reported numbers were not analysed for accuracy and confidence limits during the year. Sydney Water has had consistent programs in place over a number of years to ensure the standards are met.

- There was **no requirement** for the specific standards for Designated Low Water Pressure Areas (DLWPA’s) during the reporting period. These areas were included in the amended standards for water pressure and were reported in the total number of properties affected.
- Sydney Water achieved **high compliance** with the proposed program of capital works to address water pressure in all urban Designated Low Water Pressure Areas, but Sydney Water did not meet the requirement to report on the program by 1 July 2002.
- Sydney Water achieved **high compliance** for incorporating IPART’s findings regarding repeat continuity and overflow events into it’s Asset Management Framework and providing the Framework to the Minister for Energy and Utilities for comment.
- Sydney Water **fully complies** with the requirement to update its Asset Management Framework by 1 January 2002. Some consideration could be given by IPART and other regulatory agencies to a single consolidated audit or audit program to address asset management requirements of Sydney Water.
- Sydney Water **fully complies** with the requirement to collect and report performance indicator data relating to the amended standards for drinking water pressure, drinking water continuity and sewage overflows on private land. Sydney Water **fully complies** with the requirement to report this performance indicator data by 1 September 2002.
- Sydney Water demonstrated **low compliance** with the Ministerial requirement to develop a monitoring and reporting protocol by 1 July 2002.

7.2 SUMMARY OF REQUIREMENTS

The requirements of Clauses 7.1, 7.2 and 7.3 of the Licence are that Sydney Water ensures its systems comply with the standards of service in Schedule 4 of the Licence or such other standards determined by the Minister. The Minister has amended the standards, which in summary are:

- *Water Pressure* - The number of properties connected to the water supply system not receiving water pressure at the main tap of at least 15 metres head will not exceed 15,000.
- *Water Continuity – Unplanned Interruptions*. The number of properties connected to the water supply system reported as affected by an unplanned shutoff of water supply exceeding 5 hours will not exceed 35,000.
- *Water Continuity – Planned and Warned Interruptions*. The number of properties connected to the water supply system reported as affected by a “planned and warned” shutoff exceeding 5 hours will not exceed 32,000.
- *Sewage Overflows* - The number of private properties reported as affected by dry weather uncontrolled sewage overflows will not exceed 25,000.

These standards include requirements for accuracy and confidence levels for the reported numbers.

In respect of Ministerial Requirements, Sydney Water is required to:

- Report on its program of capital works to bring Designated Low Water Pressure Areas (DLWPAs) in urban areas up to the amended pressure standard (M6);
- Incorporate the Tribunal’s findings regarding repeat continuity and overflow events into its Asset Management Framework and provide the Framework to the Minister for Energy and Utilities for comment (M8);
- Update its Asset Management Framework by 1 January 2002 (M9);
- Collect and report data on performance indicators relating to the amended standards for drinking water pressure, drinking water continuity and sewage overflows (M10)
- Report these indicators to the Tribunal by 1 September each year, commencing in 2002 (M11); and
- Finalise a Monitoring and Reporting Protocol for data collected from 1 July 2002 (M13).

7.3 DETAILS OF COMPLIANCE

Table 7.1: System Performance – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2	The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:	See below	
(d)	Compliance by Sydney Water with the performance standards under clauses 7.1 and 7.2.	Full compliance	Refer to Findings for Clause 7.1.1 in Table 7.2 for each amended System Performance Standard (SPS).

Table 7.2: System Performance – Part 7 Licence Clauses

Clause	Requirement	Compliance	Findings
7.1	Compliance with Performance Standards		
7.1.1	Sydney Water must ensure that its Systems comply with the standards for continuity, water pressure and sewage overflows in Schedule 4 or other such standards determined by the Minister under clause 7.3. <i>Amended standards were determined by the Minister to apply from 1 July 2001, as detailed below.</i>	See below	Refer to findings below for each amended System Performance Standard (SPS).
SPS 1	Water Supply Pressure – The number of properties connected to Sydney Water's system that are reported as not receiving continuous water pressure at the main tap of at least 15 metres should not exceed 15,000 properties in a report year. The number of reportable properties is to include designated low pressure areas.	Full compliance	Sydney Water reported 3,973 properties as not receiving continuous water pressure of at least 15 metres during the year, including properties in Designated Low Water Pressure Areas (DLWPAs). Most of these properties experienced more than one instance of low water pressure. The reported number is significantly below the requirement of 15,000 properties affected. The Auditor found that the measurement and reporting of the standard was generally reliable. Adequate systems appear to be in place to ensure that the amended standard is maintained.

Table 7.2: System Performance – Part 7 Licence Clauses

Clause	Requirement	Compliance	Findings
SPS 1 (cont).	Water Supply Pressure – Accuracy of the above standard to +/- 10% with 95% confidence limits.	Insufficient information	Sydney Water did not analyse or report the accuracy of performance against the water supply pressure standard. There was therefore insufficient information available to the Auditor to make an objective judgement on whether Sydney Water has met the accuracy and confidence limit requirements for the reported number. The Auditor has made a subjective assessment of accuracy, based on estimated measurement uncertainties in the number of properties reported as affected. The assessed accuracy does not reduce the above finding of full compliance with the standard.
SPS 2a	Water Supply Continuity – Unplanned Interruptions. Sydney Water must ensure that in any report year, the number of properties connected to its water supply system that are reported as affected by an unplanned shutoff of water supply exceeding 5 hours does not exceed 35,000.	Full compliance	Sydney Water reported 15,770 properties as being affected by an unplanned shutoff of water supply exceeding 5 hours, well below the standard of 35,000 properties. The Auditor found that the measurement and reporting of the standard was generally reliable, with some discrepancies. Adequate systems appear to be in place to ensure that the amended standard is maintained.
SPS 2a (cont).	Water Supply Continuity – Unplanned Interruptions. Accuracy of the above standard to +/- 5% with 95% confidence limits.	Insufficient information	Sydney Water did not analyse or report the accuracy of performance against the water supply continuity – unplanned interruptions standard. There was therefore insufficient information available to the Auditor to make an objective judgement on whether Sydney Water met the accuracy and confidence limit requirements for the reported number. The Auditor has made a subjective assessment of accuracy, based on estimated measurement uncertainties in the number of properties reported as affected. The assessed accuracy does not reduce the above finding of full compliance with the standard.
SPS 2b.	Water Supply Continuity – “Planned and Warned” Interruptions. Sydney Water must ensure that in any report year, the number of properties connected to its water supply system that are reported as affected by a “planned and warned” shutoff of water supply exceeding 5 hours does not exceed 32,000.	Full compliance	Sydney Water reported 19,342 properties as being affected by an unplanned shutoff of water supply exceeding 5 hours, well below the standard of 32,000 properties. The Auditor found that the measurement and reporting of the standard was generally reliable, with some discrepancies. Adequate systems appear to be in place to ensure that the amended standard is maintained.
SPS 2b (cont).	Water Supply Continuity – “Planned and Warned” Interruptions. Accuracy of the above standard to +/- 5% with	Insufficient information	Sydney Water did not analyse or report the accuracy of performance against the water supply continuity – “planned and warned” standard. There was therefore insufficient information available to the Auditor to make an objective judgement on whether Sydney Water has met the accuracy and

Table 7.2: System Performance – Part 7 Licence Clauses

Clause	Requirement	Compliance	Findings
	95% confidence limits.		confidence limit requirements for the reported number. The Auditor has made a subjective assessment of accuracy, based on estimated measurement uncertainties in the number of properties reported as affected. The assessed accuracy does not reduce the above finding of full compliance with the standard.
SPS 3.	Sewage Overflows – Sydney Water must ensure that in any report year, the number of private properties reported as affected by dry weather uncontrolled sewage overflow incidents does not exceed 25,000.	Full compliance	Sydney Water reported 18,486 private properties as being affected by a dry weather uncontrolled sewage overflow, which is below the standard of 25,000 properties. The Auditor found that the measurement and reporting of the standard was generally reliable, but subject to initial notification of instances of overflows, and recording of properties affected. Adequate systems appear to be in place to ensure that the amended standard is maintained, although improvements in service from Sydney Water's recent investments in overflow reduction were not evident.
SPS 3 (cont).	Sewage Overflows – Accuracy of the above standard to +/- 5% with 95% confidence limits.	Insufficient information	Sydney Water did not analyse or report the accuracy of performance against the sewage overflows standard. There was therefore insufficient information available to the Auditor to make an objective judgement on whether Sydney Water met the accuracy and confidence limit requirements for the reported number. The Auditor has made a subjective assessment of accuracy, based on estimated measurement uncertainties in the number of properties reported as affected. The assessed accuracy does not reduce the above finding of full compliance with the standard.
7.2	Standards in Respect of Low Pressure Areas		
7.2.1	Within 1 month after the Commencement Date, Sydney Water must develop standards that establish the minimum level of water pressure required for the low pressure areas in Schedule 4.	No requirement	Sydney Water complied with this requirement during the previous audit period.
7.2.2	Sydney Water must comply with the standards developed under clause 7.2. Sydney Water must comply with such other standards determined by the Minister under clause 7.3.	Full Compliance	Designated Low Water Pressure Areas (DLWPAs) are now included in the amended standard for Water Pressure. Refer to Clause 7.1 for details of compliance. The Minister specifically required Sydney Water to report on its capital works to bring DLWPAs up to the amended pressure standard (refer to M6 below).

Table 7.3: System Performance – Ministerial Directives

ID	Requirement	Compliance	Findings
M6	“...I require Sydney Water to report to me by 1 July 2002 on its program of capital works to bring the Designated Low Water Pressure Areas in urban areas up to the amended pressure standard. The program should also reflect any of Sydney Water’s existing arrangements with regard to the provision of water services to these areas.....”	High compliance	<p>Sydney Water provided a report to the Minister that described the proposed works program to address pressures in all of the urban DLWPAs. (Note that many of the properties in DLWPAs are in rural areas and were not subject to this directive.) The proposed program comprised the installation of a number of booster pumping stations and rezoning of some areas to higher level reservoirs. The Sydney Water Board approved funding for the program in August 2001 and by the end of 2004, all 294 properties in the six urban DLWPAs should meet the Licence minimum performance standard for pressure.</p> <p>The report fully satisfied the requirements of this directive. It is noted however that the report was provided to the Minister on 31 July 2002, which was outside the set milestone for this directive hence a high compliance was awarded.</p>
M8	“...I now require Sydney Water to incorporate the Tribunal’s findings regarding repeat continuity and repeat sewage overflow events into its Asset Management Framework and to provide the Framework to the Minister for Energy and Utilities for comment.”	High compliance	<p>Sydney Water has incorporated text into its Asset Management Framework relating to using records of repeat continuity and sewage overflow events to establish appropriate customer service levels and define adequate pro-active maintenance and renewals programs for water and sewer network assets.</p> <p>Sydney Water has not considered the proposed future standards in the context of their appropriateness or value. This could be the subject of a separate issues or discussion paper. The updated Framework was provided to the Ministry of Energy and Utilities.</p> <p>Further discussion on this Ministerial Requirement is provided in Section 7.4.5 of this report.</p>
M9	“Sydney Water is to update its Asset Management Framework by 1 January 2002”	Full compliance	<p>Sydney Water provided its updated Asset Management Framework to the Minister for Energy and Utilities on 24 December 2001.</p> <p>It is noted that this audit has not reviewed the Framework for content and adequacy, which was considered to be beyond the scope of the audit. It is recognised that the Ministry of Energy and Utilities has conducted a separate audit of the Framework, but the report has not yet been forwarded to Sydney Water. In addition, the Tribunal has separately engaged auditors to undertake a Capital Expenditure, Asset Management and Operating Expenditure Review in NSW metropolitan water agencies including Sydney Water.</p>

Table 7.3: System Performance – Ministerial Directives

ID	Requirement	Compliance	Findings
M10	"I support the use of performance indicators to provide further insight into performance against system performance standards. Accordingly, I require Sydney Water to collect and report data on those performance indicators that relate to the amended standards for drinking water pressure, drinking water continuity and sewerage overflows on private land."	Full compliance	<p>Sydney Water has collected and reported data on performance indicators for drinking water pressure, drinking water continuity and sewerage overflows on private land, in accordance with this requirement.</p> <p>The performance indicators are drawn from the same base data, and collated and reported using the same processes as the service performance standards. They will consequently have the same degree of validation and reporting accuracy as the performance standards. There are no accuracy requirements specified for performance indicators.</p>
M11	"Performance indicators are to be reported to the Tribunal by 1 September each year with the first report due to the Tribunal on 1 September 2002."	Full compliance	<p>The indicators were reported to the Tribunal as part of the Operating Licence Compliance Report for 1 July 2001 – 30 June 2002, which was forwarded on 30 August 2002.</p> <p>A copy of Sydney Water's report on performance with these indicators is presented in Appendix I. As this was the first year of reporting on performance with these indicators, there is insufficient information for the Auditor to identify trends in performance.</p>
M13	"I require Sydney Water to finalise this Protocol in consultation with the Tribunal as soon as possible, so that data collected during the audit period commencing 1 July 2002 is covered by the new arrangements"	Low compliance	<p>Sydney Water did not finalise the Monitoring and Reporting Protocol by 1 July 2002, to enable data collected in the 2002/03 period to be covered by a Monitoring and Reporting Protocol.</p> <p>Sydney Water presented a chronology of communications with IPART during the audit period however these communications did not result in the finalisation of an agreed protocol between the two parties. In brief:</p> <ul style="list-style-type: none"> January 2002 - Sydney Water presented a draft protocol to IPART for review. IPART did not consider this document provided sufficient detail to meet the requirements of the Ministerial Requirement; May 2002 – IPART developed a more detailed document. Sydney Water found this document too prescriptive; August 2002 - Sydney Water developed a second draft of the protocols based on the core and guiding principles of the IPART document. <p>Further consultation between the two parties is required to finalise the document.</p>

7.4 DISCUSSION

7.4.1 General Processes for Measurement, Reporting and ensuring Compliance

General comment on Sydney Water's relevant processes for measurement, reporting and ensuring compliance are set out in this section, as they are common to all the system performance standards. Specific issues for each standard are provided under subsequent sections. For system performance standards, the audit generally covered the aspects listed in **Table 7.4**.

Table 7.4 - Aspects covered by the Audit for the system performance standards

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| <ul style="list-style-type: none">• Analysis of performance compared to the standard and to historical performance where possible and relevant.• Existence of appropriate documented procedures, guidelines and/or checklists for the relevant amended standard.• Appropriateness of Sydney Water application of the amended standard and its interpretation and definition.• Methods and systems for data collection and recording.• Relevant staff training and understanding in recording and reporting the amended standards.• Accuracy and confidence limit analysis of reported information, including:<ul style="list-style-type: none">⇒ Accuracy and reliability of data recording systems.⇒ Assumptions made and their estimated reliability.⇒ Data collation and reporting reliability, including checking and validation of results.⇒ External and/or internal auditing of reported results, including sampling of data and the basis for sampling.• Strategies, plans and programs in place to ensure compliance with each standard is maintained in the future. |
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Documentation

Overall, SWC has maintained comprehensive documentation for collecting, collating and reporting of data for service standards under its Operating Licence Measurement and Reporting (M&R) System. The procedures and manuals were updated to reflect the amended system performance standards and performance indicators, following publication of the Notice of Amended System Performance Standards. The collection of raw data from the field has not changed, the system for selecting, analysing and reporting the data has been updated.

The system is certified to ISO 9002: 1994. Manuals and procedures have recently been updated to accord with ISO 9001: 2000, and the system is planned to be audited to the newer standard in December 2002. These updates do not apply to the reporting period, but this is not significant and does not affect the reported data.

Staff are allocated roles specifically or partially to manage compliance with the Licence, and are required to sign off each stage of reporting.

Data Collection and Reporting Systems

Data collection and reporting systems used by SWC for performance standards are unchanged from last year, and in summary are:

- Job Cards are used for each instance/job/service request attended by Sydney Water staff or contractors. The Job Card is the primary document for recording the type of job, details of properties affected, and times of response and activity.
- Pressure recording gauges, are used as the primary means for recording instances of low water pressure.
- Computer-based Works and Asset Management System (WAMS) which includes the HYDRA Geographical Information System and MAXIMO database, and provides for management and control of asset data, maintenance jobs, standards data, and customer rebates. This system is linked to the customer database, ACCESS.
- Various computer spreadsheets for collation and reporting of statistics.

No significant improvements to these data collection and reporting systems were noted during the reporting period.

There is a strong focus within Sydney Water to check and verify the reported data, and evidence of this was provided for all system performance standards.

Staff Training and Understanding

Management and compliance staff demonstrated a full understanding of the measurement and reporting process, relevant to their responsibility.

Senior staff indicated that internal training was conducted for all relevant office and field staff and provided evidence of individual staff training.

External audits observed that Sydney Water needs to ensure that verification of staff competency after training is documented.

Accuracy and Confidence Limits of Reported Numbers

The Minister published the *Notice of Amended System Performance Standards* in the NSW Government Gazette on 24 August 2001, to apply from 1 July 2001. Integral to these standards is the accuracy and confidence limit for the system performance standards.

Sydney Water has not reported accuracy and/or confidence limits for system performance standards for the period between 1 July and 30 June 2002 hence, Sydney Water has not provided the required information for the Auditor to assess if the accuracy and confidence limits for any of the system performance standards have been met.

Sydney Water indicated that the reporting of accuracy and confidence limits for the system performance standards required resolution as part of the development of the Monitoring and Reporting (M&R) Protocol and were thus not included in the reporting for the audit period ending 30 June 2002. The Auditor does not support this view as the commencement date for the amended System Performance Standards including the reporting of accuracy and confidence limits is unambiguous and independent of the development of the M&R Protocol. It is further noted that:

- no evidence was provided of any agreement between Sydney Water and IPART that the gazetted accuracy requirements for performance standards would be deferred and specifically included in the M&R Protocol;
- Sydney Water considers the M&R Protocol to apply at a higher level and provide an agreed framework for consistent and appropriate monitoring and reporting and not be prescriptive in its requirements; and
- Sydney Water has demonstrated low compliance with requirement to finalise the M&R Protocol by 1 July 2002 (Refer to **Table 7.3**, Ministerial Requirement M13).

The Auditor was advised that Sydney Water has given internal consideration to accuracy assessment, but this has not been conveyed to or agreed with IPART. The assessment of accuracy is considered by Sydney Water to require an agreed scope, methodology and assumptions in order to provide a platform for reporting. It is recommended that Sydney Water develop an approach for consultation with IPART.

In addition, the Auditor considered that reporting of performance indicators to the required accuracy standard incurs costs that may not be fully justified. This is particularly so for the water pressure standard, where an accuracy of +/- 10% with 95% confidence limits is considered to be difficult to achieve if all components of the measurement, monitoring and reporting process are included. While a level of accuracy is necessary to provide confidence in the reported numbers, the costs and benefits of reporting to the amended standard accuracy requires further evaluation.

The Auditor was advised that Sydney Water has considered interpretation of the accuracy requirements of the standard and conducted internal audits of accuracy on the reported information for the water continuity and sewage overflow standards. These audit results however, were not yet reported and hence not available to the Auditor. The audit of the water pressure standard was planned but not undertaken.

In order to have some confidence in the reported numbers, the Auditor gave some consideration to *subjective* assessments of the accuracy of the reported data. Accuracy aspects of a general nature include the accuracy and reliability of data systems, checking and validation of data, collation and compilation of reports, and internal and external audits. These have been discussed above. More specific aspects relating to assumptions and their estimated accuracy, detection and recording of instances, measurement systems and accuracy of recording the number of properties affected for each performance standard, are considered below.

Operating Licence Measurement and Reporting System

For the Operating Licence Measurement and Reporting System, an external re-certification audit was conducted in February 2002 and a further surveillance audit in September 2002, by QAS. No non-conformances were noted in either audit, and all areas audited were noted as displaying controlled processes and procedures. Some of the audit findings included concerns or opportunities for improvement such as:

- The earlier audit (QAS – February 2002) indicated there was no formal procedure for extracting and manipulating data for water continuity and to accurately reflect the standard, although the audit observed that the process was followed and data controlled during all stages. The later audit (QAS - September 2002) indicated procedures existed and were performed appropriately.
- An error in using data for sewage overflows from a different business area, which was corrected. Validation at source prior to reporting would ensure consistency (QAS – February 2002).
- Documentation of verification of staff competency after training (QAS – September 2002).
- Ensuring internal audits are undertaken, where delays were observed (QAS - September 2002). The 2001 Compliance Audit Report also made a similar observation, indicating that this aspect requires improvement.

In general the process of monitoring and reporting is considered to be highly reliable, and attention to the above quality system aspects will assist in providing confidence in the data recording and reporting system. Specific comments relating to each standard are presented in the following section.

Strategies, Plans and Programs to Ensure Compliance

With respect to Sydney Water “ensuring” that its systems comply with the standard, this was interpreted by the Auditor as Sydney Water having strategies, plans and programs in place to maintain or improve the level of service delivered. Sydney Water has developed such systems for each of the performance standards. These are discussed in the sub-sections below, to an extent to satisfy the Auditor that Sydney Water is at least maintaining service levels, is able to respond to changing circumstances (such as amended service standards, or climatic events that can cause increased water main breaks or more overflows), and has a continuous improvement process in place. The audit scope does not provide for a more detailed review of these strategies, and has not included assessment of the adequacy of risk management processes, the extent of understanding of long term asset performance, the basis for prioritisation of works, or the cost-effectiveness of repair/renewal decisions.

Summary

The overall systems, processes and procedures for measurement and reporting of compliance for system performance standards was found to be well documented, well structured and integrated, and complied with by staff, except for the absence of accuracy and confidence level assessment.

7.4.2 Drinking Water Pressure

Reported Compliance

Sydney Water reported the number of properties affected by a low pressure event as 3,973, which is significantly below the Licence standard of 15,000.

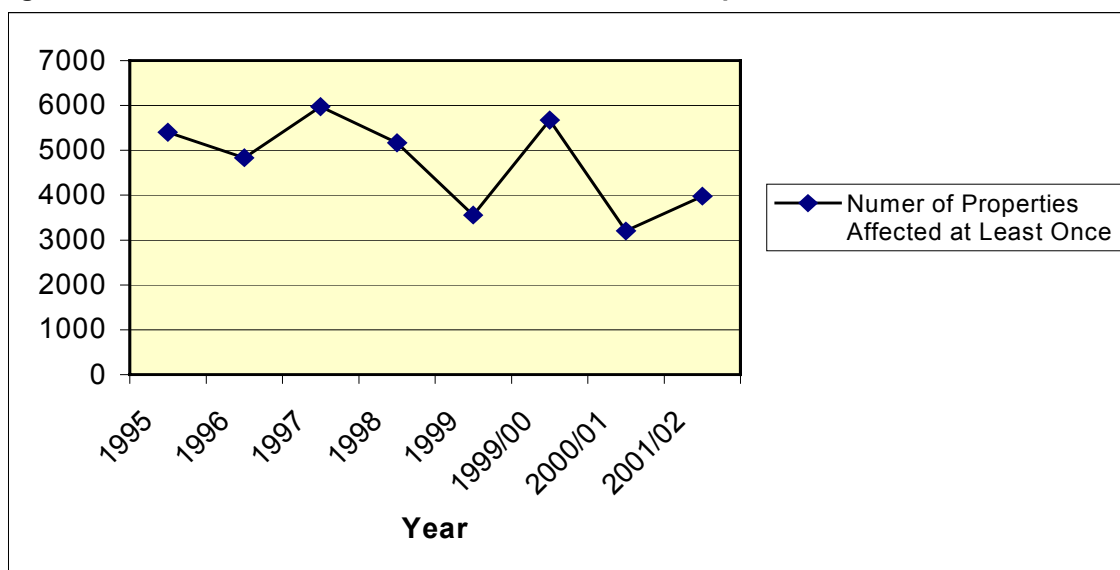
The Licence standard was changed for 2001/2002 from a requirement expressed as a percentage of connected properties, to an absolute number, so comparison with previous years data requires some caution. The standard was also changed to require reporting of low pressure as a result of operational problems that are not remedied within 4 consecutive days (rather than 7 days in previous years). A historical comparison of the number of properties affected at least once by a low pressure instance is provided in **Table 7.5** and Figure 7.1

Table 7.5: Water Pressure – Historical Performance Comparison

Year	Number of Properties Affected at Least Once
1995 (calendar)	5,400
1996 (calendar)	4,837
1997 (calendar)	5,974
1998 (calendar)	5,166
1999 (calendar)	3,553
1999/2000	5674
2000/2001	3,199
2001/2002	3,973

Sources: IPART Review of System Performance Standards in Sydney Water Corporation's Operating Licence, 11 April 2001 for 1995 to 1999 data; Sydney Water audit response dated 5 November 2002, for 1999/2000 data; Sydney Water Folio of Progress B16.1/B17.1/B17.2/BB1/BI1/BM1/CC3.1.3/CC3.1.4, 2000/2001 data; Sydney Water Operating Licence Compliance Report, 1 July 2001 to 30 June 2002.

Figure 7.1: Water Pressure – Historical Performance Compliance



Comparison of these numbers with previous years indicates a similar level of performance to 2000/2001 for this standard when consideration is given to the tightened definition. The amended standard includes the 2,818 properties in Designated Low Water Pressure Areas (DLWPAs), of which some 105 properties were reported as having at least one instance of low water pressure. Further, the tightening of the reporting threshold for low pressure events as a result of operational problems from those not remedied within 7 days to those not remedied within 4 days, added a further 633 properties. Hence, on a comparative definition basis with previous years, the adjusted number of properties affected was 3,235, which is of the same order or lower than previously.

During 2001/2002 a number of properties were affected by low water pressure as a result of water main shutdowns and other activities necessary to carry out new works which will improve pressures in areas with recurring problems. The expectation is that these works will begin to be reflected in improved systems performance in forthcoming years.

For further discussion related to Drinking Water Pressure, please refer to **Appendix J**.

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

Reported Compliance

Sydney Water reported the number of properties affected by an unplanned interruption as 15,770 compared to the Licence standard of 35,000, and the number of properties affected by a “planned and warned” interruption as 19,342 compared to the Licence standard of 32,000. The total number of properties affected by an interruption of water supply exceeding 5 hours was 35,112 including multiple interruptions.

Comparison of these numbers with previous years should be undertaken with care, as the Licence standard is expressed differently (i.e. as a number of properties affected compared with a percentage of all properties connected to the water supply system previously) and is tighter than

previously (i.e. the reporting threshold is interruptions exceeding 5 hours rather than 6 hours previously).

The number of properties affected by a water supply interruption exceeding 6 hours at least once in the reporting period, compared to previous years, is set out in **Table 7.6** and presented in Figure 7.2.

Table 7.6: Drinking Water Continuity – Historical Performance Comparison

Year	Number of Properties Affected by a Planned Interruption	Number of Properties Affected by an Unplanned Interruption	Number of Properties Affected (Planned and Unplanned)
1995 (calendar)	N/A	N/A	8,400*
1996 (calendar)	432	8,151	8,583
1997 (calendar)	5,335	4,961	10,296
1998 (calendar)	554	5,913	6,467
1999 (calendar)	2,561	8,583	11,144
1999/2000	Data not available	Data not available	14,704
2000/2001	6,431#	10,100#	16,531#
2001/2002	6,360	9,680	16,040
2001/2002 (5 hour)	19,342@	15,770@	35,112@

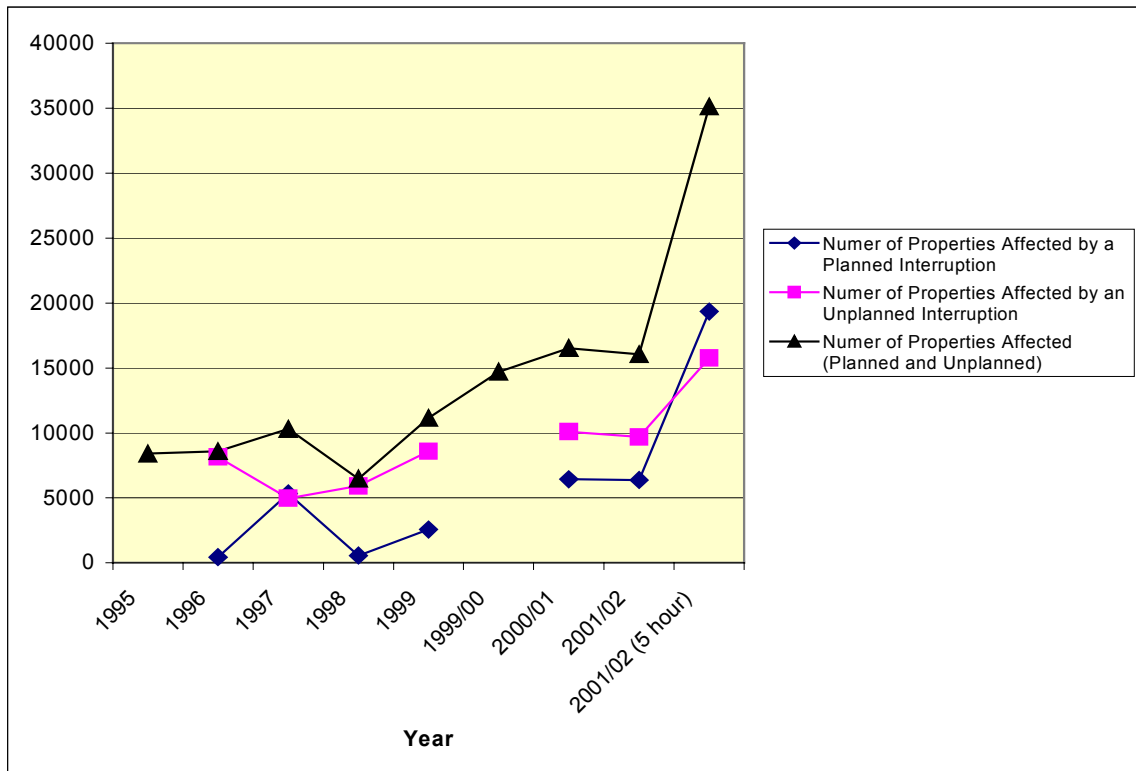
Sources: Folio of Progress – Water Systems Continuity, Sydney Water audit response dated 5 November 2002, data for 1999/2000, 2000/2001 and 2001/2002 (6 hour).

Note: * denotes number of properties affected at least once. Multiple events at any property not included.

18 month reporting period.

@ 5 hour interruption standard for comparison.

Figure 7.2: Figure Drinking Water Continuity - Historical Performance Comparison



It is difficult to draw firm conclusions from the above comparison without detailed analysis. Sydney Water has undertaken some analysis and provided supporting information which indicates:

- The number of water main breaks and leaks has reduced progressively from 49.10 per 100km in 1997/98, to 37.74 per 100km in 2000/01.
- The average duration of unplanned interruptions has remained relatively constant from 2.19 hours in 1997/98 to 2.20 hours in 2000/01, with a low of 1.93 hours in 1998/99.

No information was provided on variations in reported numbers due to climatic conditions.

Review of all the information indicates that:

- There are a significant number of interruptions (both planned and unplanned) which have a duration between 5 and 6 hours. Sydney Water advised it is focussing on modifying its work practices to ensure the more stringent 5 hour standard is met.
- There has been an upward trend in the number of unplanned interruptions exceeding 6 hours. Given that Sydney Water reports a reduction in the rate of bursts and leaks, the reason for this upward trend is unclear.

- There has been a significant increase in the number of planned interruptions over the past 6 years, presumably attributed to planned maintenance and water main replacement activity.

It is considered that Sydney Water should provide an analysis of trends in this performance standard, and an interpretation of the reasons for these trends, in order to improve the understanding of the standard and its value as a performance management tool.

For further discussion related to Drinking Water Continuity, please refer to **Appendix J**.

7.4.4 Sewage Overflows

Reported Compliance

Sydney Water reported the number of private properties affected by dry weather uncontrolled sewage overflows as 18,486 compared with a Licence standard of 25,000.

Comparison with previous performance for sewage overflows is provided in **Table 7.7** and presented in **Figure 7.3**.

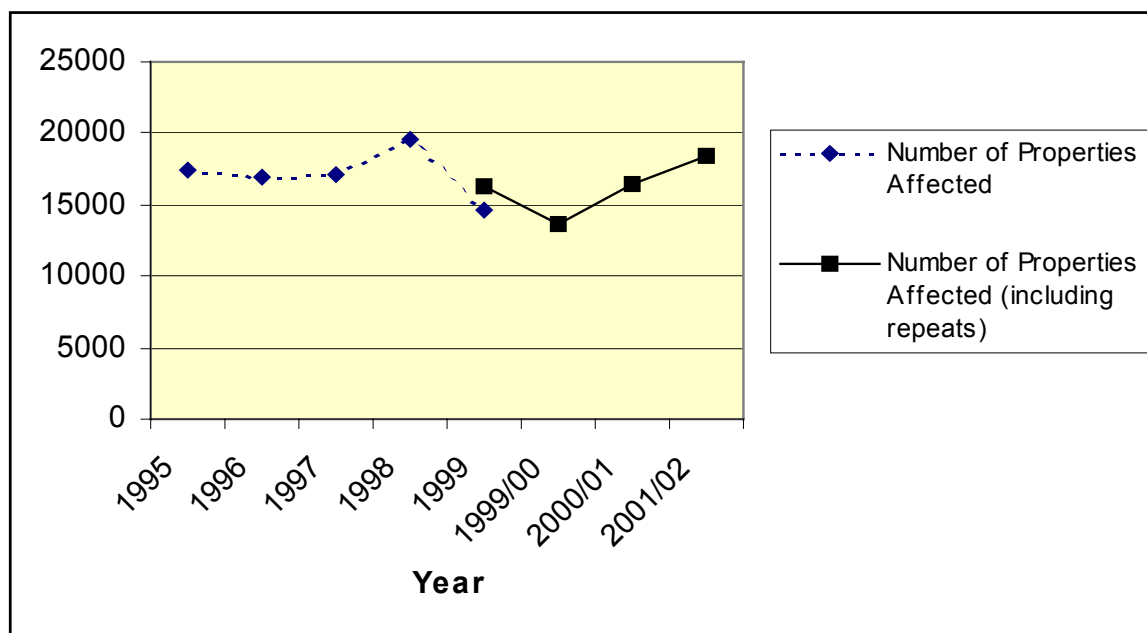
Table 7.7: Dry Weather Sewer Overflows – Historical Performance Comparison

Year	Number of Properties Affected
1995 (calendar)	17,500
1996 (calendar)	16,919
1997 (calendar)	17,056
1998 (calendar)	19,522
1999 (calendar)	14,586 (16,332*)
1999/2000	13,612*
2000/2001	16,440*
2001/2002	18,486*

Sources: IPART Review of System Performance Standards in Sydney Water Corporation's Operating Licence, 11 April 2001 for 1995 to 1999 data, Sydney Water Operating Licence Compliance Report, 1 July 2001 to 30 June 2002.

Note: * Includes repeats

Figure 7.3: Sewer Overflows – Historical Performance Comparison



The number of properties affected by an overflow has increased in the last three years, but remains within the range of values for the past six years.

Sydney Water advised that there has been a reduction in sewer chokes since the peak of 88 per 100km of sewer in 1997/98 to the current level of approximately 68 per 100km of sewer. Sydney Water further advised that *“The effectiveness of proactive maintenance and/or hydraulic improvements might be expected to result in further reductions in the chokeage rate but there may be a lag in seeing this reflected in the reported numbers.”* The Auditor does not concur with this view. Targeted preventive maintenance and hydraulic improvements should be reflected in reductions in dry weather overflows.

It is considered that Sydney Water should provide an analysis of trends in this performance standards, and an interpretation of the reasons for these trends, in order to improve the understanding of the standard and its value as a performance management tool.

For further discussion related to Dry Weather Sewage Overflows, please refer to **Appendix J**.

7.4.5 Further Discussion on Ministerial Requirement M8

The Minister required:

“...I now require Sydney Water to incorporate the Tribunal’s findings regarding repeat continuity and repeat sewage overflow events into its Asset Management Framework and to provide the Framework to the Ministry of Energy and Utilities for comment.”

The Tribunal’s findings comprised:

- Future standards for repeat continuity and repeat sewage overflow events are to be developed when sufficient data are available,
- Adoption of these standards be considered at the end of term review of the Operating Licence in January 2004, and
- Sydney Water is to collect data on repeat water continuity and repeat sewage overflow events, commencing on 1 July 2001. Recommended performance indicators to measure repeat events are provided.

In addition, the Minister clarifies his requirements with the statements:

“There will be no requirement at this time to collect and report data on the indicators associated with the proposed future standards. The proposed indicators for repeat water supply interruptions and sewage overflow events are to be considered in Sydney Water’s review of its Asset Management Framework, which is to be referred to the Ministry for Energy and Utilities for comment.”

Sydney Water has revised its Asset Management Framework to:

- Include the Tribunal’s recommendations for performance indicators for repeat water continuity and repeat sewage overflow events.
- Demonstrate how Sydney Water uses information on repeat service disruptions in making decisions on maintenance or renewals. For example: detailed investigations of repeat overflow events to identify remedial action and proactive maintenance programs to reduce their likelihood; considering multiple disruptions to water services as part of asset renewal assessment.
- Include consideration of repeat events with customer feedback as inputs to the planning process for system performance, in system planning as part of asset capability assessment, or identifying system improvement projects by monitoring and analysing repeat event data.

Detailed Area, Facility and Asset Plans under the Framework are being prepared by Sydney Water. A status report on these plans was not required.

There is no explicit reference in the Framework to the request in the Tribunal's findings to collect data on repeat events from 1 July 2001 for the purpose of developing new standards, although the Minister has specifically excluded this in his requirements. Sydney Water has commenced collection of the required data.

There is no discussion in the Framework on Sydney Water's consideration of the appropriateness or value of these proposed future standards, including such elements as: what reporting thresholds or compliance targets may be appropriate, what impact such standards may have as business drivers within Sydney Water, or any elaboration on the concerns referred to in the Review of System Performance Standards. This consideration is interpreted to be the essence of the Minister's requirements as clarified above. Consequently, it does not appear that Sydney Water has met this requirement in full. Conversely, the Asset Management Framework does not appear to be the most appropriate document to consider the matter of future performance standards. Rather, a discussion or issues paper is considered to be more appropriate, which is then circulated for discussion and comment prior to establishing indicators for initial monitoring and reporting.

The Framework was provided to the Minister for Energy and Utilities as evidenced by a letter dated 24 December 2001 to the Team Leader, Utilities, Policies and Programs, Ministry of Energy and Utilities.

Sydney Water is considered to have achieved high compliance with the Ministerial requirement to incorporate the Tribunal's findings regarding repeat continuity and repeat sewage overflow events into its Asset Management Framework and to provide the Framework to the Minister for Energy and Utilities for comment.

7.5 FACTORS AFFECTING COMPLIANCE

There are no external factors considered to have affected compliance during the year. Factors considered relevant to Sydney Water's internal systems, processes and actions are discussed in the relevant sections above, and appropriate recommendations made in the following section.

7.6 RECOMMENDATIONS

7.6.1 Key Recommendations

It is recommended that Sydney Water:

- R7.1 Develop, as part of the M&R Protocol with IPART, an agreed scope, methodology and assumptions in order to provide a platform for reporting on the Accuracy and Confidence Limits for each of the respective System Performance Standards.
- R7.2 Prepare a discussion paper on Future Performance Standards for Repeat Service Disruptions reference to IPART and Ministry of Energy and Utilities, to cover aspects such as:
- Reporting thresholds or compliance targets that may be appropriate;
 - The costs and benefits of reporting to a new standard;
 - The impact such standards may have as business drivers within Sydney Water; and
 - Recommended Performance Standards.

7.6.2 Secondary Recommendations

It is recommended that Sydney Water:

- R7.3 Provide appropriate analysis of performance standards as part of its report to IPART in order to improve the understanding of the standard and its value as a performance management tool. This aspect may be covered under the Monitoring and Reporting Protocol to be developed. It is considered that the following aspects should be included:
- Comparison of performance with previous years performance; and
 - Analysis of trends and reasons underlying these trends, (i.e. climatic factors, improved efficiency, capital works implementation, improved management and operations, external influences, changes to standards definitions).
- R7.4 Provide to IPART an Options Paper on a single consolidated audit or audit program to address asset management requirements of Sydney Water. Such an audit or audit program could incorporate the various requirements from relevant Government regulatory agencies to minimise the potential for duplication and additional cost of audits.

8. WATER CONSERVATION & DEMAND MANAGEMENT

8.1 SUMMARY OF FINDINGS

Sydney Water has attained a **Low compliance** rating for actions taken to reduce the quantity of water (other than re-use) it draws from all sources. It is highly unlikely that Sydney Water will meet the 2004/05 target. The 2010/11 target may be achievable but expansion of current demand management activities or greater than expected outcomes from existing programs may be required.

The Demand Management Strategy Implementation Report identified that Sydney Water has increased its demand management activity, particularly in the areas of leakage reduction, Every Drop Counts (EDC) Business and has expanded residential retrofit and out-door programs. However, the report did not provide details of the contributions of the various demand management and water conservation activities to demonstrate how either the 2003/04 or the 2010/11 targets are to be met. The reasonableness of assumptions in the programs is difficult to determine in the following areas:

- Details of the conservation measures which will deliver the required reductions in demand;
- Accuracy and sustainability of the leakage reduction estimates; and
- Validity of the increase in water reuse since the targets were gazetted in June 2000 in terms of climate adjusted results and details for individual plants.

A **Partial compliance** was awarded for reasonableness of progress for performance measures for reliability criteria because greater progress is required on, for example: model accuracy, analysis of options, and consideration of demand hardening impacts on restrictions. This is considered a significant issue as current demand (622,000 ML per annum) exceeds the current SCA estimate of safe supply (600,000 ML per annum) and given that the future estimate of safe yield which may reduce even further with increased allowances for environmental flow.

Sydney Water attained **Partial compliance** for action taken on reducing discharges as very few of over 50 potential recycling schemes have been implemented and there is no significance between the total reuse for 1998/99 and that for 2001/02. Also SWC did not provide climate adjusted and statistical evidence to verify their assertion of an improving trend.

Sydney Water attained a **high compliance** rating for its significant actions to implement the National Water Conservation labelling Scheme.

A **Partial compliance** for Sydney Water's contribution towards developing new performance measures for water reliability is awarded because, although meetings have occurred, and discussion documents have been produced, little progress is evident.

8.2 SUMMARY OF REQUIREMENTS

Section 8 of the Operating Licence requires Sydney Water to comply with specific water conservation and demand management objectives. This is to ensure that Sydney Water achieves appropriate water reduction targets and implements water re-use or interception strategies to minimise wastewater discharge and to delay or avoid the construction of another water supply dam.

Section 8 specifically addresses the following aspects of water conservation and demand management:

- **Water Conservation Targets**

Sydney Water must act to reduce water consumption to specified conservation target levels for the next 10 years. Assessment of compliance with these targets must consider effects of weather on water usage and annual averages. Progress in meeting these targets must be reported annually.

- **Demand Management Strategy**

Sydney Water must give priority consideration to demand side management in the provision of services. The Corporation must produce an annual Demand Management Strategy Implementation Report on activities over the last 12 months.

- **Reducing Discharges**

Sydney Water must take action to re-use, intercept or otherwise prevent wastewater from discharging to the ocean, waterways and other waters through non-potable reuse.

- **Water Conservation Rating and Labelling**

Sydney Water must encourage manufacturers of water appliances to improve the water use efficiency of these appliances. Achievements must be reported each year.

8.3 DETAILS OF COMPLIANCE

Table 8.1: Water Conservation & Demand Management – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2	The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:		
(e)	Compliance by Sydney Water with the water conservation targets under clause 8.1.1;	No requirement.	<p>There is no compliance requirement against this clause as it requires an assessment of 'performance' rather than 'compliance'.</p> <p>As these targets are defined only for 2004/05 and 2010/11 compliance by Sydney Water (under Clause 8.1.1) cannot be accurately determined in this Audit. However, Sydney Water representatives and support documents from the Institute for Sustainable Futures indicate that current proposed programs are unlikely to produce sufficient per capita demand reduction to achieve the water conservation target for 2004/05 without substantial expansion of the conservation/recycling programs. Achievement of the 2010/11 target is more likely but may still require expansion of demand management activities or a greater than expected outcome from existing programs.</p>
(f)	Sydney Water's performance in relation to implementation of the demand management strategy under clause 8.2;	No requirement.	<p>There is no Compliance requirement against this clause as it requires an assessment of 'performance' rather than 'compliance'.</p> <p>A long time scale is needed to establish a clear picture of the extent of the ultimate overall water savings. This is because there is a relatively large underlying variability in total annual demand. For example, climate introduces about +7% (28.9 litres/capita/day (lcd)) to -4%(16.5lcd). This compares with gains in conservation/recycling since 1999 of only 8.5lcd. Also, the modelling aimed at eliminating this climatic variability does not have sufficient accuracy.</p> <p>It is noted, however, that the program has been designed to meet the requirements of the Operating Licence and budgets have been allocated accordingly.</p>

Table 8.1: Water Conservation & Demand Management – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
			For improved accountability and reporting of performance in future audits, documentation of an annual timetable with key decision milestones and a statement of actual program expenditure versus original budgets is suggested in the report required under Clause 8.2.3. This is considered important as the strategy commitment does not mean the total budgeted funds will be spent or alternatively may mean more funds are required than forecast in original budgets.
(g)	Progress by Sydney Water in meeting the re-use targets required under clause 8.3.1;	No requirement	<p>There is no compliance requirement against this clause as it requires an assessment of 'performance' rather than 'compliance'.</p> <p>Clause 8.3.1 sets a target for the previous audit period. It is noted however, that Sydney Water did not meet the 1995-2000 target for non-potable reuse. Also, in 2001/02 only 39 ML/d was reused against a year 2000 target of 58 ML/d. This amount of reuse is similar to that achieved in 1998/99 when about 38.5 ML/d was recycled. Key issues have been problems with customer acceptance, treatment problems at Rouse Hill and operational and climatic factors which cause significant variability in the amount of STP effluent available for reuse.</p> <p>The Minister has not set a recycled water target since 2000. Sydney Water has developed additional recycling "projections" for the period 2000 to 2005 ranging between 4 to 67 ML/d. Sydney Water has not set specific market sector targets for non-potable reuse but has defined 'highly probable', 'probable' and 'possible' projections. Sydney Water has gazetted (June 2000) this recycling projection. Please also refer to Table 8.2, Clause 8.3.</p>
(h)	Progress by Sydney Water in relation to the implementation of the National Water Conservation Rating and Labelling Scheme under clause 8.4.1.	No Requirement	<p>There is no compliance requirement against this clause as it requires an assessment of 'performance' rather than 'compliance'.</p> <p>Sydney Water has demonstrated a commitment to the National Water Conservation Rating and Labelling Scheme. However, the implementation of regulatory standards for a mandatory appliance</p>

Table 8.1: Water Conservation & Demand Management – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
			labelling scheme is progressing significantly slower than expected. Details, such as year by year expenditure on this scheme, compared to automatic contributions as a WSAA member, proportion of manufacturers and distributors which are now in the scheme and proportion of local products rated, are needed to quantify progress. Please also refer to Table 8.2, Clause 8.4.1.

Table 8.2: Water Conservation & Demand Management - Part 8 Licence Clauses

Clause	Requirement	Compliance	Findings
8.1	Water Conservation Target		
8.1.1	<p>Sydney Water must take action to reduce the quantity of water (other than re-use water) it draws from all sources to the following target levels ("water conservation targets"):</p> <p>(a) 364 litres per capita per day by 2004/5 (being a reduction of 142 litres per capita per day or 28% from the 1990/1991 baseline)</p> <p>(b) 329 litres per capita per day by 2010/2011 (being a reduction of 177 litres per capita per day or 35% from the 1990/1991 baseline)</p> <p>(c) Such target level for 2014/2015 as determined as part of the Mid term review of this Licence conducted under clause 2.3.1</p>	Partial compliance	<p>A 'Partial compliance' rating has been awarded as although Sydney Water has taken actions to reduce the quantity of water (other than re-use water) it draws from all sources, it is unlikely that Sydney Water will meet the 2004/5 per capita reduction target with its existing water conservation programs. Montgomery Watson Harza (MWH), who reviewed the Sydney Water program in 2002, and noted that <i>"to achieve the 2005 target, demand reductions of approximately 12% better than current demand trends would be required in an extremely short timeframe"</i>.</p> <p>It is also difficult to discern from existing data and reference material (eg ISF report May 2002) whether the 2010/11 target can be achieved with the current programs.</p> <p>In response to the need for greater demand reduction, Sydney Water has increased its demand management activities particularly in the areas of leakage reduction, and EDC business and expanded residential retrofit and outdoor programs. These programs are discussed further under Clause 8.2 below.</p>
8.2	Demand Management Strategy		
8.2.1	In this clause: Demand Management Strategy means the 1995 Demand Management Strategy updated from time to time by Sydney Water or as required by the Minister	No requirement	
8.2.2	Sydney Water must give priority consideration to demand side management as the basis for planning the future provision of its services, including addressing unaccounted water losses.	Full compliance	<p>Sydney Water has committed \$42.695M to its Demand Management (DM) activities to the end of the 2002/03.</p> <p>However, the 2001/02 Water Conservation and Recycling Implementation Report (WC&RIR) does not provide a revised projection of costs to 2004/05 to match its DM program overview outlined in Table 1 of the WC&RIR. A paper to the Sydney Water Board on 19 June 2002 noted that "The total cost of delivering the Demand Management Program to June 2005 is estimated to be \$82M".</p> <p>It is anticipated that 4 000 km of pipe will be inspected over the next 12 months as part of the leakage reduction program, compared with 4027 km over the period 1998/2002.</p> <p>Accuracy and sustainability of the Leakage Reduction program is discussed further in Section 8.4.2 of</p>

Table 8.2: Water Conservation & Demand Management - Part 8 Licence Clauses

Clause	Requirement	Compliance	Findings
			this report.
8.2.3	By no later than 1 September each year, Sydney Water must provide a report ("the Demand Management Strategy Implementation Report") to the Licence Regulator on implementation of Sydney Water's Demand Management Strategy for the previous 12 months, to enable the Licence Regulator to consider and report on the matter as part of the Annual audit	Full compliance	A Water Conservation and Recycling Implementation Report (WC&RIR) which represents Sydney Water's obligation under this clause was delivered on 31 August 2001.
8.2.4	The Demand Management Strategy Implementation Report is to:		
(a)	Contain an estimate of past, current and projected water uses and distinguish between residential, industrial, commercial and government uses	High compliance	<p>Historical trends in demand for all sectors have been provided. The report indicates a rising per capita trend for residential houses (46% of total demand), flats and units (17% of total demand) and commercial businesses (11% of total demand). However, projected water uses for each sector was not provided in the WC&RIR. Additional documents submitted by Sydney Water show projected trends for these users but there is no discussion of the assumptions involved and hence their reasonableness could not be established. For this reason, a high compliance has been awarded.</p> <p>It is also noted, there appears to be a rising number of flats and units in Sydney where consumption per dwelling may be increasing. Although there is little outdoor water use at flats and units and hence demand per flat or unit is lower than for houses, there is growth in the proportion of all residences which are flats and units. Specific attention to flats and units may therefore be warranted to prevent future erosion of overall demand savings.</p>
(b)	Describe the frequency and magnitude of expected supply deficiencies, including those arising as a result of wastage or loss, drought or emergency	Partial compliance	Sydney Water has provided an overview of the many issues associated with supply deficiency. Wastage, loss and emergencies associated with supply of water at the storages are largely a responsibility of SCA. However, reliability of supply in this drought prone climate is a joint SCA/Sydney Water responsibility. That is, avoiding deficiencies due to inadequate management of streamflow, storage and inter basin transfers rests mainly with SCA. However, avoiding deficiencies and minimising public disruption through effective restrictions, correct demand projections and providing good Ministerial advice on what may be acceptable levels of service for Sydney Water customers in terms of frequency/severity of demand restrictions rests mainly with Sydney Water.

Table 8.2: Water Conservation & Demand Management - Part 8 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>Given this context and the requirements set out in Ministerial Directive M7, the WC&RIR does not address demand management activities which affect severity of restrictions (eg demand hardening). Also, SWC did not provide specific evidence of community views of what may be acceptable restriction frequency/severity arising from drought. However, it is understood that its customer research during the 1994/95 restrictions has been built into Sydney Water's current Drought Response Management Plan.</p> <p>Demand hardening means that because of existing demand management measures, extra constraints introduced with formal restrictions (eg restricted garden watering) will not generate as much reduction in demand as expected. This is especially important when average demand is greater than safe yield, as this means storage volumes are more often going to be low and hence restriction periods more likely.</p> <p>Further discussion of these issues is presented in Section 8.4.4 of this report.</p>
(c)	Identify conservation measures currently adopted and being practiced	Full compliance	The WC&RIR describes alternative measures and subsequent documents provided to the Auditor validate the reasonableness of the assumptions.
(d)	Describe, cost and evaluate additional conservation measures (In this context, additional conservation measures are taken to mean new measures not currently implemented or planned).	High compliance	<p>A comprehensive range of additional conservation measures are summarised in the Report.</p> <p>The Report did not include:</p> <ul style="list-style-type: none"> a description of each new measure and evaluation against factors involved in the decision to include any of these measures on the implementation program (other than levelised costs); and the post 2005 conservation measures that will enable the substantial reduction in demand to meet the 2010/11 Licence requirement. <p>For these reasons, only a high compliance has been awarded.</p>
(e)	Describe future plans for water reclamation and strategies to alter water use practices, including those relating to the installation of more efficient water appliances and devices by users	Full compliance	These plans are well advanced in implementation.
(f)	Evaluate these plans in terms of their cost and contrast with the	High compliance	Sydney Water has included levelised costs for alternative water supplies in terms of rainwater tanks,

Table 8.2: Water Conservation & Demand Management - Part 8 Licence Clauses

Clause	Requirement	Compliance	Findings
	cost of alternative water supplies		desalination and the Camellia reuse scheme. The WC&RIR did not include evidence that validates the desalination and Camellia reuse scheme in terms of total cost and feasibility (eg size, location, all capital and annual costs, waste disposal and community acceptance). This evidence is needed to establish the reasonableness of the assumptions used.
(g)	Prioritise and schedule the implementation of courses of action found to be cost effective	Partial compliance	A partial compliance has been awarded because there is still no well defined scoring process which shows how the Final Demand Management Program elements achieved the overall high priority needed to ensure inclusion in the final program. This is a due diligence issue as the overall expenditure levels are substantial. There is no systematic assessment of the “range of other factors (besides levelised cost) including practical ability to achieve reductions in a timely manner and ease of implementation”. The external review by Montgomery Watson Harza (MWH) does not appear to have considered this aspect. The range of other factors is discussed further in Section 8.4.5 of this report.
(h)	Identify strategies for reducing Unaccounted water losses	High compliance	A high compliance rating is given because although a comprehensive leak detection program is in place evidence substantiating reasonableness of assumptions for the following remains unclear: <ul style="list-style-type: none"> • how initial leakage rates at specific leak points are estimated and confirmed by change in Minimum Nightly Flowrate (MNF), or similarly, when leaks are eliminated and the proportion of all eliminated leaks confirmed by change in MNF or other means and the accuracy of the water savings; • evidence validating the assumed decay rate in leak reduction gains; and • details of methods, program, numbers of meters calibrated/installed and cost for MNF improvement which demonstrate it is keeping pace with the leak detection program. Accuracy and sustainability of the Leakage Reduction program is discussed further in Section 8.4.2 of this report.
8.2.5	Sydney Water must engage a suitably qualified third party to verify the accuracy and soundness of its mathematical models for water usage and report the results to the Licence Regulator	Full compliance	Completed in March 2000.

Table 8.2: Water Conservation & Demand Management - Part 8 Licence Clauses

Clause	Requirement	Compliance	Findings
	within 1 month after the commencement date.		
8.3	Reducing Discharges		
.	Sydney Water must take action to re-use, intercept or otherwise prevent from discharge into the ocean, waterways and other waters, sewage or effluent of customers and consumers by way of non-potable re-use. Sydney Water is to meet the targets set by the Minister from time to time.	Partial compliance	A partial compliance rating is given because although over 50 potential recycling schemes have been investigated since 1995 by Sydney Water only a few have progressed to implementation. Also, the increase in overall reuse since about 1998/99 appears to be very small. The Gazetted target is an additional 4 to 59 ML/d between 30 June 2000 and June 2005. Figure 22 in the WC&RIR shows water recycled in 2001/02 is about the same as in 1998/99. The recycled water metering program has been implemented to improve the accuracy of understanding of recycle volumes and Sydney Water states that flow meters have been installed on 95% of external recycled water applications (eg racecourse watering).
8.4	Water Conservation Rating and Labelling		
8.4.1	Sydney Water, through continuing support for the National Water Conservation Rating and Labelling Scheme, is to encourage manufacturers of water appliances to improve the water use efficiency of these appliances where consistent with Sydney Water's objectives	High compliance	Sydney Water has actively supported the National Water Conservation Rating and Labelling Scheme. A high compliance rating is given because SWC only provide "in kind" support for this project There is no financial support over and above the automatic SWC contribution to Water Services of Australia (WSAA). Also, mandatory standards for labelling are still not in place and the revision to the scheme from (AAA to 5A) has not been implemented.

Table 8.3 : Water Conservation & Demand Management – Ministerial Directives

ID	Requirement	Compliance	Findings
M1	"In the interim, and so that I remain informed of the Corporation's progress in terms of its water conservation and demand management programs, I expect a continuation of the six monthly Demand Management Strategy Progress reports."	Full compliance	A folio of progress is produced every six months.
M7	"...I require Sydney Water to work with the Sydney Catchment Authority with a view to develop performance measures for water reliability for further consideration at the end of term review of both Operating Licences."	Partial compliance	<p>This requirement arose from review of SWC system performance standards resulting in this Ministerial Requirement forwarded to SWC on 22 August 2001. IPART recommended Sydney Water begins collecting data towards this end commencing 1 July 2001.</p> <p>Sydney Water has participated in a number of meetings with the SCA and a number of discussion documents have been produced relating to the develop performance measures for water reliability. Work to-date in part, reflects new initiative by Government (Hawkesbury Nepean River Management Forum and Water CEO's) to consider further demand management and environmental flows. The timetable for output from these groups extends into 2003/04.</p> <p>A partial compliance is awarded because there is room to improve the extent of work done with the SCA. The reasonableness of existing reliability assumptions from the viewpoint of Sydney Water could not be assessed as part of this audit process.</p> <p>The importance of a cooperative and productive working relationship with the SCA is underscored by more accurate estimates of safe yield that have been developed in recent years (780Glpa in 1991, 720Glpa in 2000/01, 600Glpa in 2001/02). It is also noted that there is no justification for the change in reliability target (>95% in 1991, >97% in the 2002 WC&RIR).</p> <p>Some suggested joint work that would provide evidence of working towards performance measures for water reliability include:</p> <ul style="list-style-type: none"> Validating the inputs and outputs of the current water resource model used by SCA in terms of degree of "fit" to recent history 1994 to 2001 in which a drought occurred (1995/96) and restrictions policies in use by Sydney Water over this period. Assessing different scenarios of "demand hardening", environmental flow, Shoalhaven transfers and alternative demand projections (for various population growth rates and conservation/recycling outcomes) to determine the effects on the change in reliability with time

Table 8.3 : Water Conservation & Demand Management – Ministerial Directives

ID	Requirement	Compliance	Findings
			<p>and establish upper and lower limits for safe yields.</p> <ul style="list-style-type: none">• Consider alternative drought response options such as more severe Stage 1 restrictions or change in storage volume triggering various restriction levels.• Investigate how restrictions come on and off for individual streamflow/climate/demand scenarios over time to establish how restriction frequency, duration, severity and recovery changes and when a point in time is reached when the percentage of these sequences failing to achieve specified criteria is unacceptable (eg too frequent, long and/or severe or too slow a recovery rate to an acceptable storage volume).

8.4 DISCUSSION

8.4.1 Overview

This audit has considered information provided by Sydney Water in the Water Conservation and Recycling Implementation Report (WC&RIR), supplementary information documents arising from audit interviews and submissions from DLWC, EPA, NPWS, SCA and NSW Health.

The key issues arising from this Audit are:

- Accuracy of leak flowrate estimates and how, once leaks are eliminated, Sydney Water validate the estimated reduction in leakage (eg. by changes in Minimum Night Flowrate (MNF) and onsite leak measurement during repairs);
- Verifying for how long the past gains in leakage reduction are sustained;
- The degree to which the demand management program needs to be expanded to bring average annual demand below the “safe yield”. A key issue is how long can Sydney Water afford to have water demand exceed the SCA estimate of “safe yield”;
- Agreement on what is the reliability criteria and accuracy of the SCA model used to determine “safe yield”, as a low value for “safe yield” requires substantial focus on expensive demand management options and/or implementation of acceptable new supply options such as rain water tanks, desalination or elaborate reuse schemes and similarly a overly high “safe yield” representing inadequate value for money to SWC customers.
- Understanding the impact of demand management activities on “safe yield” and drought planning, for example: “demand hardening” impacts;
- How factors for assessing demand management/recycling options, including levelised cost, are taken into account in a systematic way to demonstrate that the final Demand Management Program represents the best options correctly prioritised and scheduled for implementation.
- How the effectiveness of the EDC outdoor program will be determined.
- Means to show the overall impact of Sydney Water’s water conservation and recycling activities on annual demand for water and progress towards Licence targets.

In addition, the mid-term review of Sydney Water’s Licence (Sept 2002) specified an alternative reporting approach. The comments and recommendations in this Audit are, where possible, framed with this alternative reporting procedure in mind.

8.4.2 Accuracy and Sustainability of Leakage Reduction

Leakage reduction represents a relatively high cost but is reported as making a significant contribution to the demand reduction program. The target is to reduce this source of unaccounted

for water down from 10.5%, or 176 Megalitres per day(MLD), to about 7.5%. This represents a total reduction in unaccounted for losses of about 50 MLD or 12 litres per capita per day (lcd).

Sydney Water has a well defined process to find leaks and repair them. However, in a number of areas use of Minimum Night Flow (MNF) to define the impact of leak elimination is not feasible due to:

- insufficient number of flow meters;
- inappropriate flow meter arrangement; and
- uncertainty about accuracy.

Sydney Water recognises the need for additional flowmeters but notes that it has a relatively high cost and will take several years to implement.

A procedure for calibration of flow meters and example of results has been sighted by the Auditor. However, it remains unclear what proportions of the cumulative leakage reduction has been determined by a change in MNF via calibrated meters and what the estimated accuracy (or confidence limits) is for the change in MNF. It is also unclear how Sydney Water has addressed the MWH report which indicated that leak detection was poor and that smaller zones were required to more effectively detect leaks. The size of individual leaks is determined by local experience based on noise characteristics and type of fitting, visual observation and findings of the UK Industry Group Water Research Council. Generally, the estimates used are believed to be conservative (low). However, estimates of individual leak size after exposing for repairs is mostly for large leaks (> 1 L/s). Similarly, procedures (and examples of their use) for updating a leak estimation knowledge database are not well developed or in wide use.

There is also significant uncertainty regarding the decay rate of leak reduction efforts. Sydney Water has assumed that the benefit remains unchanged for one year and then the effect decays at 25% per year. This figure is based on extrapolation from actual experience. It means that revisiting individual zones on a 3 to 4-year rotation is required to maintain leak reductions. Decay in leakage reduction is mainly attributed to a combination of new leaks caused by soil movement, corrosion, pressure transients (water hammer), inaccurate initial estimates and increased size of old leaks not detected in earlier passes. The decay phenomena is also observed in overseas experience.

Finally, no estimates of uncertainty have been provided. This could, for example, be gauged from the proportion of cumulative leak reduction validated by MNF measurements, the proportion estimated from on site measurements during repairs and the proportion which are only based on estimates at the time the leak was detected. Sydney Water has not, as yet, provided this data.

8.4.3 Overall Performance of Water Conservation and Recycling Activities

There are two methods of showing overall performance against Licence targets: These are

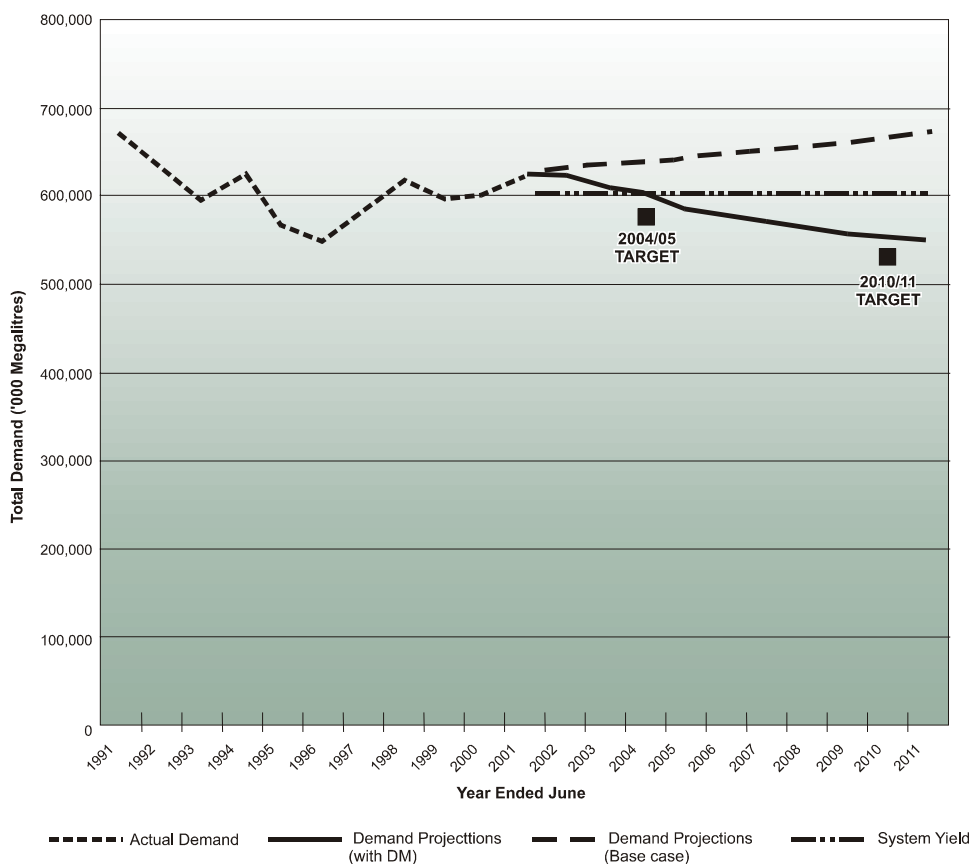
- *per capita demand trends* ; or
- *total annual demand trends*.

In the previous WC&RIR, the actual and projected *per capita demands* trends and Licence targets were shown on a summary figure.

In the August 2002 WC&RIR, the actual and projected *total annual demand* trends and SCA's safe yield were presented on a summary figure, however, the equivalent targets for 2004/05 and 2010/11 were not presented. **Figure 8.1** reproduces the *Total Demand and Safe Yield* figure from the WC&RIR and also presents the demand targets for compliance with Licence requirements. These targets are calculated by multiplying per capita targets by projected population estimates obtained from Sydney Water. The estimated total annual demand targets are about 565,000 ML per annum (2004/05) and about 540,000 ML per annum (2010/11). These compare with the projected demands of about 575,000 ML per annum (2004/05) and 540,000 ML per annum (2010/11).

Sydney Water indicated that achieving the 2005 target will be very challenging due to the level of reduction required in a short time frame. But the Demand Management (DM) program has been augmented and many assumptions appear to be conservative. However, uncertainty about sustainability and accuracy of leakage reduction due to lack of flow meters, difficulty in predicting new program uptake, (eg rainwater tanks and outdoor use reduction) and measurement of impact. There is a history of delays and low success in implementing water appliance standards and reuse projects. Finally there appears to be several mismatches between the financial budget in the reporting schedule arising from the Mid Term Review and the WC&RIR which also creates uncertainty. Based on these factors it is concluded that it is unlikely that SWC will achieve this climate adjusted target. Details of the 2005 to 2011 program to achieve this licence target are not defined in the WC&RIR.

Figure 8.1: Actual and Estimated Total Annual Demands



8.4.4 Water Reliability, Safe Yield and Demand Management

“Safe Yield” has been defined in the Mid Term Review of the SCA Operating Licence as *“the amount of water that can be withdrawn from a reservoir on an ongoing basis with an acceptably small risk of reducing the reservoir storage to zero”*.

A reduction in the assessed amount of water that can safely be withdrawn from storages can result from a poor understanding of streamflow variability and inadequate control of a storage producing losses due to spills in storm events and wastage due to leakage and excessive environmental/irrigation release. These activities are primarily the responsibility of the SCA.

However, the ‘acceptable risk’ component of the definition of safe yield is all about the frequency, severity and duration of restrictions in response to drought events. Understanding and control of these factors requires that both Sydney Water and SCA to agree and act on issues such as:

- demand projection and impacts of restrictions (Sydney Water);
- what is acceptable from a technical and customer viewpoint in terms of frequency, severity, duration and types (SCA/Sydney Water);

- the accuracy of the model used by SCA to predict when restrictions will occur, with respect to supply, transfer, demand and restrictions (SCA/Sydney Water).

An important statement by the SCA in regard to this risk issue is:

“in 2000-2001, the SCA supplied Sydney Water with 627,000 ML of water. That quantity was above the safe yield of 600,000 ML. In the short-term, the consequence of supplying a quantity of water greater than the safe yield is not particularly significant” (SCA Submission to IPART’s Mid-Term Review).

In the opinion of the Auditor, a situation where demand exceeds safe yield in the Australian climate is a significant risk. If the studies currently underway confirm that demand exceeds safe yield, further action will be required to address this situation.

It is important to quantify what constitutes the “short term” in the context of the SCA’s submission above. It is also relevant to understand whether SCA assumed the Sydney Water demand management targets would be met within the timeframe.

The scenario/sensitivity analysis carried out by SMEC/SKM in 1991 illustrates the type of assessment which would be of value in answering these questions. To complete this work, understanding of the long term impact of demand restrictions and ability to reduce environmental/irrigation releases during droughts would need to be considered. Also, evaluation of resilience (time to recover from droughts) would also be relevant to the current position.

A clear understanding of the potential impacts of changes in assumptions is important as past demand management gains can be rapidly eroded by change in customer attitude (eg, removal of shower head retrofits), system operation (eg, development of new leaks) and business closure (eg, loss of recycling gain). Whereas the ability to accelerate recycling, demand management, new supply or leakage elimination programs in response to errors in safe yield estimation and/or drought is quite limited.

Reports on customer acceptance of more frequent restrictions compared to new supply options such as rainwater tanks and desalination and on environmental/irrigation releases during droughts are expected in 2003.

It is also possible that this safe yield may be further reduced following the Expert Panel review of environmental flows.

8.4.5 Prioritising of Water Conservation, Demand Management Options and Cost Allocation

The current Demand Management Program outlines an implementation program to 2004/05. However, the prioritisation process is only clearly defined for levelised cost. Due Diligence is an issue for this program covering some \$40M in new works over the next 2 to 3 years. Other factors used to determine the program are not systematically defined and there is no overall scoring process. These “other factors” include:

- ability to provide reductions in a short timeframe;
- certainty about costs and benefits;
- balance of conservation measures in terms of type and equity considerations;
- preference to target high water usage areas; and
- ability to minimise costs due to distance between target Local Government Areas.

This is particularly important given the possibility of “demand hardening” and the possibility that environmental releases may further reduce “safe yield”.

8.4.6 Every Drop Counts (EDC) Outdoor Program

Sydney Water will be undertaking pilot work with up to 1,000 homes fitted with continuous water flowrate monitoring equipment to build up a picture of the effectiveness of this program. It is also targeting high outdoor water users based on detailed seasonal analysis and demographic profiling. Sydney Water also requires, as part of its rebate schemes, that the participating home owner permit Sydney Water to monitor water use at the relevant property.

8.5 FACTORS AFFECTING COMPLIANCE

The impact of programs such as EDC residential indoor and outdoor use; EDC business use, industrial reuse, and pricing are subject to community acceptance and Government policy and therefore it is difficult for Sydney Water to control or predict uptake rates and impacts.

The evaluation of performance measures for water reliability is subject to interpretation as to what they mean. Sydney Water should consider how it could participate with SCA in the evaluation work.

The National Water Conservation Rating and Labelling Scheme implementation is currently only voluntary and requires cooperation of the Water Industry to achieve a mandatory status. It may also be necessary to shift from Water Services Association of Australia (WSAA) which has a major urban water authority focus to Environment Australia, which has a national focus to progress to this objective.

Leak detection and estimation of flow rate from individual leaks remains difficult to accurately determine. This is due mainly to lack of sufficient flow meters suited to MNF measurement, limits on sensitivity of leak detection technology (by noise methods) and the complexity of the interconnected distribution network in Sydney Water’s large pressure-zones. There also seems to be difficulty in obtaining reliable estimates of leakage rates from repair crews after they have exposed a leak. Another cause is the error which can arise if valves around the boundary of a pressure zone are leaking or unintentionally open. Installation of additional flow meters and creation of smaller pressure zones is expensive and takes time to implement. Predicting decay of leak reduction gains remains uncertain due to the problem that zones can change in characteristics as additional development occurs.

Budgeting for the Demand Management and conservation programs is difficult as it depends on performance of existing programs. It takes several years to identify the expected long term outcomes of past works. The outcomes depend on factors such as continued household participation, whether effects on demand and the long term effects of previous demand restrictions, development, price determination and government policy (eg. economic incentives to industry). All these factors can change with time.

8.6 RECOMMENDATIONS

8.6.1 Key Recommendations

It is recommended that Sydney Water:

- R8.1 Commence detailed evaluation with SCA of the risk associated with the current situation where demand exceeds SCA estimates of “safe yield”.
- R8.2 Continue to install flow meters suitable for Minimum Night Flow (MNF) measurement so that estimated gains from leak detection and repair can be validated and monitored in the long term.
- R8.3 Establish a separate program aimed at reducing the apparent rising water use per dwelling trend in flats and units.
- R8.4 Clarify the scoring process for prioritising programs, include an estimated year by year budget and provide details of each program, which demonstrates how Sydney Water expects to meet the 2004/05 water conservation target and the 2010/11 target.
- R8.5 Explore further the option of incentives and/or discounted pricing arrangements for reuse water to make it an attractive option to potable water wherever possible.
- R8.6 Investigate the feasibility of offering greater incentives for implementation of water efficiency improvements amongst large industrial customers.

9. ENVIRONMENT - INDICATORS & PLANS

9.1 SUMMARY OF FINDINGS

Environmental Indicators

Sydney Water obtained an overall 'partial compliance' for requirements relating to environmental indicators. Sydney Water did not prepare a report that described its performance against all gazetted environmental indicators. It is further noted that numerous environmental indicators were not monitored or compiled during the audit period, apparently in accord with the recommendations of an internally commissioned review of its monitoring programs. As a consequence, the Auditor was not able to properly report on the performance of Sydney Water in relation to the environmental indicators. Sydney Water has put in place measures such as Effluent Knowledge and Management Systems (EKAMS) to address data reliability, quality control and minimise labour. Sydney Water demonstrated a concerted effort to address the matters raised in last years audit, but the reporting and monitoring of environmental indicators remains problematic.

Environmentally Sustainable Development (ESD) Indicators

Sydney Water obtained 'high compliance' for requirements relating to ESD indicators. Sydney Water prepared a clear report outlining performance against each indicator to IPART. The performance of Sydney Water in relation to the ESD indicators was diverse. Some indicators demonstrated exceptional performance while others indicated areas where performance should be improved.

Environment Plan

Sydney Water's Environment Plan was adopted at the end of September 2000 and includes objectives for the five-year period to 2005. Targets were set and for those targets due in the audit period Sydney Water obtained 'high compliance', having met most of the targets.

Botany Wetlands

Sydney Water obtained a 'high compliance'. Sydney Water demonstrated active implementation across a range of program areas, including proposals directed to the surveillance and monitoring of blue-green algae, weed management and revegetation in its sixth year and for the removal of European Carp from ponds 4 and 5. However compliance regarding the implementation "*in conjunction with other appropriate persons*" is a limiting factor.

9.2 SUMMARY OF REQUIREMENTS

This section of the audit report addresses the following clauses:

- 9.1 – Environmental Indicators;
- 9.2 – ESD Indicators;

- 9.3 – Environment Plan;
- 9.4 – Energy Management;
- 9.5 – Botany Wetlands; and
- 9.7 – Trade Waste.

In summary, Clauses 9.1 and 9.2 of the Operating Licence require Sydney Water to monitor and compile data on the ESD and Environmental Indicators, to report to the Licence Regulator by 1 September each year on its performance in relation to the indicators and to make the report available to the public within one month of its receipt by the Licence Regulator.

Clause 9.3 requires Sydney Water to prepare a five-year Environment Plan by 30 September 2000 involving public consultation. The Plan must contain environmental strategies, endorse ESD principles and be recognised in business plans. The Plan must set targets using the environmental and ESD indicators, timeframes for achieving the targets and be available to the public. Sydney Water must also produce an annual report detailing progress on meeting the Plan as well as compliance with the targets and timetables.

Clause 9.4 requires Sydney Water to adopt energy reduction targets for buildings, identified in the NSW Government Energy Management Policy, and to report by 1 September each year to the Licence Regulator on its performance in relation to the targets.

Clause 9.5 requires Sydney Water to implement the Botany Wetlands Plan of Management and to report on its compliance with the plan by 1 September each year.

Clause 9.7 requires Sydney Water to prepare a trade waste policy that contains objectives and performance indicators, and it must report no later than 1 September each year on its progress in satisfying the objectives and indicators.

This section of the audit also includes the reports by the person undertaking the Annual Audit on Sydney Water's performance and/or compliance in relation to the environmental indicators, the ESD indicators, the Environment Plan, energy conservation targets, Botany Wetlands Plan of Management and trade waste related objectives as required by Clause 10.2.1 of the Operating Licence.

9.3 DETAILS OF COMPLIANCE

Table 9.1: Environment: Indicators & Plans – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2.1	The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:		
(i)	Sydney Water's performance in relation to the environment indicators under clause 9.1	No requirement	<p><i>There is no compliance requirement against this clause as the clause requires an assessment of 'performance' by the Auditor rather than 'compliance'.</i></p> <p>Sydney Water's performance against the environmental indicators is presented in the Environmental Indicators Compliance Report (EICR) 2002 that also contains a CD containing compiled and statistically analysed monitoring data. Improvements in reporting have been made to clarify where the gazetted indicators are addressed in the report. This is required because the report is not written to solely report against the environmental indicators. It appears to be written to serve a number of purposes.</p> <p>A table at the beginning of the report under "Links Between Reports" and "Sydney Water's Legislative Framework for Environmental Reporting" outlines the Environmental Indicators and cross references to sections of the report where they are addressed. This is a significant improvement from last years report. However, a reporting format consistent with the format used for the ESD Indicators would considerably improve readability and comprehensibility of the Environmental Indicators report, that is the indicator is clearly defined, performance is clearly shown and the way forward indicates areas to be addressed in future for continuous improvement.</p> <p>Numerous environmental indicators were not monitored or compiled for the audit period (refer to Appendix K). Consequently Sydney Water has not reported environmental performance against these indicators, for example:</p> <ul style="list-style-type: none"> Schedule 10 chemicals (a suite of over 33 pollutants identified in the Act) for sewerage effluent discharges to rivers and streams and for sediment have not been monitored and data have not been compiled for the audit period.

Table 9.1: Environment: Indicators & Plans – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Oil and grease from sewage effluent discharges to rivers and streams was not monitored for eight sites. Therefore data were not compiled and performance not reported. For the Sewerage Reticulation System the Discharge Quality, Water Quality, Biota and Sediment environmental indicators have not been monitored and data have not been compiled for the audit period. <p>Sydney Water reported performance against some environmental indicators in Volume 1 of the Environmental Indicators Compliance Report.</p> <p>Some data were not presented for indicators for the previous 10 years as required by the Licence. Sydney Water suggested historical data is obtained from the PIPES database which commenced in 1994. The integrity of the data prior to 1994 is questioned. Therefore to ensure maximum accuracy of historical data, Sydney Water does not include information prior to 1994.</p> <p>The compiled and statistically analysed monitoring data presented in Volumes 2 and 3 show trends in the environmental indicators in a database format. Statistically significant trends are not readily apparent, and the presentation format is particularly not suited for ready interpretation by the general public or lay person. This reporting is seen as adequate by Sydney Water personnel. However, the difficulty in understanding performance against environmental indicators in Volume 1, means greater reliance is placed on Volumes 2 and 3.</p> <p>The Auditor acknowledges possible difficulties in reporting performance on all environmental indicators. In Section 9.6.1 of this report a recommendation has been made to improve reporting, for example by including in Volume 1 performance against each indicator.</p>
(j)	Sydney Water's performance in relation to the ESD Indicators compiled under clause 9.2.5	No requirement	<p><i>There is no Compliance Requirement against this clause as the clause requires an assessment of 'performance' by the Auditor rather than 'compliance'.</i></p> <p>Sydney Water obtained 'high compliance' for requirements in Part 9 relating to ESD indicators. Sydney Water compiled a comprehensive and clear report on its performance in relation to each ESD indicator in the <i>Towards Sustainability Report 2002</i>. Sydney Water reported on its overall</p>

Table 9.1: Environment: Indicators & Plans – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>performance against the 29 ESD indicators.</p> <ul style="list-style-type: none"> Performance is very high with little scope for improvement for some ESD indicators, such as 99.05% of biosolids recycled from treatment plants, 98.98% of Sydney Water customers not experiencing overflows on their property from Sydney Water sewerage systems and 100% of new developments paid a developer charge. Performance in relation to other ESD indicators shows improvement is being made, such as: a reduction in water use per person and a slight decrease in total system releases; slight improvements from the 2000/2001 audit period in the number of dry and wet weather overflows; the reduction of total suspended solids discharged from ocean STPs; and the reduction in phosphorus released from inland STPs to streams. Sydney Water's performance decreased against some key ESD indicators from previous years, for example, total energy consumption has increased (<i>due in part to population growth and infrastructure upgrades</i>) with an associated increase in greenhouse gases; Performance against some ESD indicators remained low. Only 5 of 59 items on the State Heritage Register managed in accordance with Conservation Management Plans, and unaccounted for water slightly increased to about 13.3%.
(k)	Compliance by Sydney Water with the Environment Plan under clause 9.3	No requirement	<p>The 2000-2005 Environment Plan identifies how Sydney Water will minimise adverse effects on the environment whilst performing its important environmental and social functions. The Environment Plan addresses the issues required under Clause 9.3 of the Operating Licence. Sydney Water achieved 'High compliance' for meeting these requirements.</p> <p>Sydney Water's progress in meeting the targets and timeframes of the Environment Plan is detailed in the <i>Towards Sustainability Report 2002</i>. The Report describes the progress against the 10 objectives in the Environment Plan.</p> <p>Many of the targets in the Environment Plan were developed without a specific deadline. It has been assumed that the timeframe for these targets would be the end of the plan's operating period, that is,</p>

Table 9.1: Environment: Indicators & Plans – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
			at the end of 2005. Therefore compliance with many of the targets was not determined in this reporting period. However, it is evident that Sydney Water has made progress in meeting the targets. For the targets that were to be achieved in the 2001/2002 reporting period, Sydney Water met most of these milestones. For targets with an achievement date in future audit periods and at the end of 2005, Sydney Water had predominantly established the frameworks for achieving the targets. Refer to Appendix L.
(l)	Compliance by Sydney Water with the targets in the Energy Management Policy for energy consumption of buildings in clause 9.4.2	No requirement	<p>The 2001 target of 15% reduction in energy use in buildings (based on 1995 levels) has been achieved and progress is being made towards the 2005 target of 25% overall reduction in energy use in buildings. Since most other avenues for significant energy reductions at reasonable cost have been exhausted, closure of the existing head office in Sydney and relocation of staff to a new energy efficient building at Parramatta is seen as contributing to achieve the 2005 target. Whether this relocation will achieve the required reduction in building energy use cannot be quantified at present.</p> <p>Sydney Water has recently entered into an energy partnering relationship with the <i>Burns and Roe Worley/Energetics</i> consortium, which aims to improve energy management and environmental objectives. It is expected that this will permit the energy savings from the Parramatta relocation to be better quantified.</p>
(m)	Compliance by Sydney Water with the Botany Wetlands Plan under clause 9.5	No requirement	<p>Sydney Water has demonstrated active implementation across a range of program areas, including: proposals directed to the surveillance and monitoring of blue-green algae; weed management and revegetation in its sixth year; and for the removal of European Carp from ponds 4 and 5.</p> <p>However, the Act requires implementation "<i>in conjunction with other appropriate persons</i>". A Botany Wetlands Environmental Management Steering Committee (BWEMSC) had been established to review the plan of management each 12 to 18 months or as needed and to discuss new programs and bids for the following financial year. It is stressed that Sydney Water has sought (on two occasions) to organise a Committee meeting, however, both meetings were cancelled. Thus whilst Sydney Water is effecting implementation of the Botany Wetlands Plan, it is largely doing so through its own resources and at this stage, is not "<i>in conjunction with other appropriate persons</i>".</p>

Table 9.1: Environment: Indicators & Plans – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
(n)	Compliance by Sydney Water with the trade waste objectives and performance indicators under clause 9.7	No requirement	Progress in achieving trade waste objectives and performance indicators was reported in Sydney Water's <i>Trade Waste Objectives and Indicators Report 2002</i> (TWOIR), produced in August 2002. These are detailed below.
(n) cont.	Objective 1: Protect receiving waters from toxic substances originating from trade waste discharges	Full compliance	On the basis of risk assessments, NSW EPA set numerical targets for total residual chlorine, unionised hydrogen sulphide and chlorpyrifos for each of the ocean, inland and Georges River sewage treatment plants. Sydney Water reported that numerical targets relating to total residual chlorine and unionised hydrogen sulphide were achieved by changes to treatment processes. Reductions in chlorpyrifos to below target levels were achieved by a combination of education of residential and commercial customers, and trade waste policies for industrial customers.
(n) cont.	Objective 2: Assist Sydney Water to meet relevant environmental, Public Health and other regulations and pollution reduction targets	Full compliance	<p>EPA has set threshold limits for substances at each sewerage treatment plant (STP) as part of the Pollution Reduction Targets. An ongoing monitoring program is conducted, where individual sample concentrations are compared with a value equal to 10 times the published threshold. Annual mean concentrations are compared with the threshold concentrations, and the annual load for organochlorine pesticides and metals is compared with a schedule of loads that will be included in future licences after a full year of monitoring data are collected.</p> <p>Sydney Water's STPs have had a number of exceedences of the 10 times threshold, for total cyanide, nitrate, diazinon, total chloramines, aluminium, ammonia and manganese. Cyanide problems are attributed to inter-laboratory problems with the analytical method, while most incidences of high metals are attributed to the recent introduction of iron or aluminium based process chemicals for nutrient, corrosion or odour control. Chloramines levels were related to disinfection processes. A number of significant median increases have also been reported during the 2001-2002 calendar year. Detailed reports are prepared on Sydney Water's source control program, the 2002 report was submitted to NSW EPA in August 2002.</p>
(n) cont.	Objective 3: Assist Sydney Water sewage processing operations to produce a guaranteed quality of water and biosolids	Full compliance	Performance indicator 1 is to meet agreed quality specifications for achievement of corporate targets for biosolids reuse (90%). During the 2001-2002 reporting period, 99% of biosolids were suitable for re-use. About 400 tonnes of biosolids were sent to landfill due to high contamination levels.

Table 9.1: Environment: Indicators & Plans – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
			Performance indicator 2 is to meet agreed quality requirements for implemented reuse water schemes. During this reporting period, only reused water distributed within the Rouse Hill catchment had quality specifications in relation to trade waste contaminants. The Rouse Hill effluent quality complies with all chemical quality requirements of the Guidelines that may be attributable to trade waste sources.
(n) cont.	Objective 4: Protect the health and safety of all people working in the sewerage system by applying strict standards for harmful substances	Full compliance	The performance indicator for this is the number of injuries or lost time for sewerage system workers due to substances attributable to trade waste sources. Although a few injuries occurred, none were attributable to trade waste sources.
(n) cont.	Objective 5: To protect the system and the plants from damage due to harmful substances from trade waste (TW) sources	Full compliance	The performance indicator is trade waste agreements in place restricting the discharge of substances that may damage sewerage system assets. These substances include: flammable/explosive substances; acids and sulphur compounds in combination with a source of oxygen demand, measured as BOD. The number of trade waste agreements has continued to fall during 2001-2002, with a number of smaller businesses converted from industrial to commercial agreements (one of the factors responsible for this decrease).
(n) cont.	Objective 6: Encourage waste minimisation and cleaner production in the commercial and industrial sectors	Full compliance	Incentive pricing is used to manage waste waters at source, with sample concentrations higher than the published 'Standards for Acceptance' attracting a penalty of a doubling of the dollar rate per kilogram. Customers are encouraged to adopt cleaner production processes in order to increase the margins between discharged concentrations and the 'Standards for Acceptance', and thereby avoid such penalties. Graphs, showing the invoiced mass of each substance indicated reductions in levels for most parameters in the period 2001 to 2002.
(n) cont.	Objective 7: Encourage and enable further water conservation	Full compliance	The performance indicator for this is Trade Waste Agreements in place, enabling reduction of total water consumption processes as a result of the mass based policy. Following observations by industry that the emphasis on tight concentration limits was a disincentive to water conservation, concentrations expressed in the 'Acceptance Standards' have been raised for some pollutants. It is concluded that the first year of the new trade waste policy resulted in a reduction of 3% in water usage, while an overall reduction of 7% has occurred if the data is adjusted for economic activity.

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
9.1	Environmental Indicators		
9.1.1	Sydney Water must monitor and compile data on indicators of the direct impact of its activities on the environment, whether such activities are carried out by or on behalf of Sydney Water, in accordance with section 14(1)(d) of the Act.	Partial compliance	<p>Sydney Water monitors and compiles data for 34 groups of environmental indicators. The majority of the information is presented in <i>the Environmental Indicators Compliance Report</i> (EICR) 2002. Volume 1 of the EICR 2002 contains interpretative data, Volumes 2 and 3 contain large amounts of data in tabular and graphical forms. The Sustainable Investment Research Institute (SIRIS) was commissioned to verify the data presented in the EICR. A high level of accuracy with only a few anomalies was awarded and data trails were easily identifiable, traceable and verifiable.</p> <p>Sydney Water has prepared an <i>Environmental Indicators Monitoring Program Methods Report</i> that outlines the “methodology for collection, analysis and storage of data collected for Sydney Water’s <i>Environmental Indicators Monitoring Program</i>”. This document contributes to the soundness of the data acquired.</p> <p>Sydney Water also produced the <i>Environmental Indicators Monitoring Plan</i> (EIMP), published on 31 December 1995. This document details the final list of indicators and Sydney Water’s interpretation of the monitoring to be undertaken. This document is the main tool used for guidance on monitoring environmental indicators.</p> <p>The <i>Process for Compiling the Environmental Indicators Compliance Report</i> also describes the system of reporting indicators. Examples of Performance Indicator Sheets were provided for water and waste water operations and sewage effluent discharges to receiving waters.</p> <p>Sydney Water provided a copy of the <i>Inland and Ocean Waste Water Pollution Reduction Targets Report 2001/20002</i>, an annual report produced by Sydney Water to meet requirements of the Environmental Protection Licences. This report also provides information on Schedule 10 chemicals which form part of the indicators to be measured.</p> <p>Sydney Water is changing the monitoring program to be toxicity based and less labour intensive.</p>

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
			<p>The <i>Effluent Knowledge and Management System</i> (EKAMS) will be the new application from 1 July 2002 for recording Effluent Monitoring Data replacing PIPES data. Some benefits of EKAMS include:</p> <ul style="list-style-type: none"> automation of manual data entry (replaces 22,000 faxes per year entered manually); increase in data quality for laboratory results and Sydney Water reference data; and increased quality control. <p>The reason for 'Partial Compliance' is presented in more detail below.</p>
9.1.2	The environmental indicators used are to accord with those published in the Governmental Gazette on 15 December 1995, except for those indicators solely applicable to the Sydney Catchment Authority (SCA).	High compliance	<p>A copy of the gazetted indicators was provided. Reporting of the indicators is based on the gazetted indicators (see clause 9.1.1).</p> <p>It is noted, however, that many of the indicators are not monitored and compiled. Sydney Water advised that many of the indicators were not monitored during this audit period as a consequence of the monitoring review processes guided by the 'Environmental Indicators Monitoring Program of Sydney Water' (EIMP). A review of the indicator program was undertaken by the CSIRO (1997/1998) and the outcomes of the review were accepted by the EPA in November 1999. The review recommended against monitoring all indicators each year. It is noted that these outcomes were not included in the current Operating Licence issued in April 2000 hence Sydney Water is in breach of its Licence.</p> <p>Indicators which have not been compiled and presented in the Volumes 1, 2 or 3 of the EICR are listed below:</p> <ul style="list-style-type: none"> Schedule 10 chemicals (a suite of over 33 pollutants identified in the Act) for sewerage effluent discharges to rivers and streams and for sediment have not been monitored and data have not been compiled for the audit period. Oil and grease from sewage effluent discharges to rivers and streams was not monitored for eight sites.

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> For the 'Sewerage Reticulation System' the Discharge Quality, Water Quality, Biota and Sediment environmental indicators have not been monitored and data have not been compiled for the audit period.
9.1.3	Sydney Water must report on its performance in relation to the indicators compiled under Clause 9.1.1 for the previous 12 months, to enable the Licence Regulator to consider and report on the matter as a part of the Annual audit, by no later than 1 September each year,	Partial compliance	<p>The '<i>Environmental Indicator Compliance Report</i>' (EICR) 2002 is the document presented by Sydney Water to the Licence Regulator to meet this requirement. Sustainable Investment Research Institute (SIRIS) has independently verified the validity of the data.</p> <p>A draft EICR 2002 report was provided by 30 August 2002.</p> <p>The final EICR 2002 was provided to the Licence Regulator on 23 September 2002. A copy of a letter from Sydney Water to IPART dated 23 September 2002 was provided to verify this. However, the final report was completed after the date of the Licence requirement (1 September 2002), therefore, a technical non-compliance is awarded.</p> <p>Sydney Water advised that the EICR contains Beachwatch data. Beachwatch data is released to the public after the 1 October each year. This is post the date of the Licence requirement. Therefore, Beachwatch and Sydney Water should negotiate earlier release of the data or Sydney Water will continue to receive a technical breach for this clause.</p> <p>The EICR 2002 does not provide a clear report on Sydney Water's performance with the gazetted environmental indicators, although, improvements have been made since the 2000/2001 report. Numerous gazetted indicators are reported to varying degrees in the key functional areas in Volume 1.</p> <p>The report is generally difficult to read and interpret, and the environmental indicators are not identified in the body of the report making it difficult to assess performance against the Licence requirements.</p> <p>Refer to Appendix K for performance in relation to the indicators in the previous 12 months.</p>
9.1.4	The yearly report provided by Sydney Water must provide information which enables year to year comparison in relation to Sydney Water's performance in this area. In particular,	Partial compliance	<p>Year to Year Comparison</p> <p>Sydney Water has provided data that enables a year to year comparison of the indicators that were monitored. This data is presented in Volumes 2 and 3 of the EICR 2002 and for some indicators is</p>

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
	Sydney Water is to use the indicators with historical annual values over at least the previous 10 years, where comparable data permits such a compilation.		<p>summarised in Volume 1. The aggregated data shows trends in the environmental indicators in a database format. Statistically significant trends are not readily apparent, although “standard errors” are presented.</p> <p>Volume 1 of the EICR presents the interpretation and discussion of the data, however, as previously noted, not all indicators are presented or discussed. There is only limited discussion of year to year comparisons and trends.</p> <p>Ten Years of Data, where comparable data permits such a compilation</p> <p>Ten years of data was reported for the annual STP discharge volumes at Sydney coastal STPs, nutrients, grease and suspended solids at coastal STPs and beach water quality at Sydney beaches. Data for many of the environmental indicators has been presented for 8-9 years, whereas for some environmental indicators only 1-2 years of data have been presented.</p> <p>According to Sydney Water, to maintain the integrity of monitoring data, the best comparable data is post 1994. Prior to this period, integrity of the data from the PIPES database is questionable or has not been verified.</p> <p>Refer to Appendix K for data for the previous 10 years has been provided.</p>
9.1.5	<p>The yearly report is to be made available to the public by Sydney Water within 1 month after receipt by the Licence Regulator.</p> <p>Copies are to be made available from Sydney Water’s offices on request free of charge and posted on Sydney Water’s website on the internet for downloading by any person free of charge. A reasonable number of copies are to be made available from Sydney Water offices and lodged with environmental centres and public libraries in the Area of Operations</p>	Full compliance	<p>The final EICR was submitted on 23 September 2002. As a result the report was required to be available to the public by the 23 October 2002 ie. one month after receipt by IPART. The EICR was posted to all Sydney Water Business Centres, numerous environment centres, public libraries and placed on the internet on 23 October 2002. The report is available free of charge to the public.</p>

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
9.1.6	The environmental indicators in clause 9.1.2 are to be reviewed as part of the End of term review	No requirement	Recommendations from third party reviews have suggested to cease monitoring a number of environment indicators. However, the monitoring of the environment indicators is required by the Licence and this can not be overridden by internal review. Formal amendments to the Licence are required. The monitoring of environmental indicators needs a thorough review together with the ESD Indicators, to rationalise monitoring, reporting and performance measurements for key performance indicators.
9.2	Ecologically Sustainable Development (ESD) Indicators		
9.2.1	Sydney Water must develop measures to indicate the degree to which its activities and services comply with the principles of ESD.	No requirement	Full compliance in 2000/2001 audit period
9.2.2	Sydney Water must develop a draft list of ESD Indicators within 1 month after the Commencement Date (12/4/00). The draft list must have regard to: a) Corporate management (including corporate policy and planning, and corporate asset management) b) Management of the system c) The planning, design & construction of: i) New Systems; ii) The upgrading of existing Systems; and iii) Depots.	No requirement	Full compliance in 2000/2001 audit period
9.2.3	The draft list developed by Sydney water must undergo public consultation where the public has at least 20 days to provide	No requirement	Full compliance in 2000/2001 audit period.

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
	<p>their comments.</p> <p>Specific comments must also be invited from the EPA, DLWC, NPWS, NSW Fisheries, SEDA and peak environment non-governmental organisations.</p>		
9.2.4	Sydney Water must present a final list of ESD Indicators to the Minister for approval, and if approved, for publication in the Gazette, within three months of the close of submissions, following public consultation under clause 9.2.3	No requirement	Full compliance in 2000/2001 audit period. Sydney Water provided a gazetted copy (NSW Government Gazette No. 81, 30 June 2000)
9.2.5	Sydney Water must commence monitoring and compiling data on the ESD Indicators from the later of the Commencement Date (12 April 2000) and 1 July 2000	No requirement	<p>Full compliance in 2000/2001 audit period for the commencement of monitoring and compiling data.</p> <p>The ESD findings are reported in the <i>Towards Sustainability Report 2002</i> (TSR) and the <i>Towards Sustainability Report 2002</i> Summary. Sydney Water commissioned the Sustainable Investment Research Institute (SIRIS) to independently verify the data and content of the TSR 2002.</p> <p>SIRIS essentially conducted two reviews. The first review identified issues of concern. Sydney Water stated 60 – 70% of representative data was verified and the inaccuracies were mostly transcription errors and rounding errors. These issues were addressed and the data was “cleaned up” for the second review by SIRIS.</p> <p>Following the audit period, measures for further improvements to data will be assessed and implemented by Sydney Water.</p> <p>The SIRIS report concluded that the data trails were easily identifiable and traceable and the majority of data and information reported were found to be accurate. However, a higher level of data inaccuracies were found in comparison to previous years. SIRIS confirmed that written statements in the reports accurately reflect the results and progress achieved during the reporting period.</p> <p>A draft TSR 2002 report was provided to IPART by 30 August 2002.</p>

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
9.2.6	Sydney Water must report to the Licence Regulator on its performance in relation to the ESD indicators compiled under clause 9.2.4 for the previous 12 months, by no later than 1 September each year, to enable the Licence Regulator to consider and report on the matter as a part of the Annual audit	High compliance	<p>The final TSR 2002 was provided to the Licence Regulator on 23 September 2002. A copy of a letter from Sydney Water to IPART dated 23 September 2002 was provided to verify this. However, the final report was completed after the date of the Licence requirement (1 September 2002).</p> <p>Reporting of the indicators has been presented in a logical and clear manner and is written in plain English. All twenty-nine ESD indicators have been reported. Data for the previous 12 months, in addition to results prior to the 2001/2002 audit period, are reported. Performance in relation to the indicators over the last 12 months has been clearly stated. Overall Sydney Water appears to be stabilising and improving targets and trends relating to ESD indicators as listed below:</p> <ul style="list-style-type: none"> • Performance is very high with little scope for improvement for some ESD indicators, such as 99.05% of biosolids recycled from treatment plants, 98.98% of Sydney Water customers not experiencing overflows on their property from Sydney Water sewerage systems and 100% of new developments paid a developer charge; • Performance in relation to other ESD indicators shows improvement is being made, such as a: reduction in water use per person and a slight decrease in total system releases; slight improvements from the 2000/2001 audit period in dry and wet weather overflows; the reduction of total suspended solids discharged from ocean STPs; and the reduction in phosphorus released from inland STPs to streams; • Performance against some ESD indicators remained low, for example: of the fifty-nine items listed on the State Heritage Register, only five Conservation Management Plans (CMP) have been developed. Sydney Water recently employed a Heritage Manager who will work together with the Asset Management team to improve this situation. Over the next three years, CMPs for other State Heritage Register items will be developed and implemented. Plans may be developed for a group of items such as reservoirs rather than individual plans for all reservoirs. Sydney Water aims to develop CMPs for all items listed on the State Heritage Register. Sydney Water provided documents detailing the proposed program and '<i>Guidelines for Protection of Aboriginal Heritage</i>';

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Sydney Water's performance decreased against some key ESD indicators from previous years, for example, total energy consumption has increased (due in part to population growth and infrastructure upgrades) with an associated increase in greenhouse gases; and 'unaccounted for water' slightly increased from 13.1% to 13.3%.
9.2.7	<p>The yearly report provided under Clause 9.2.6 is to be made available by Sydney Water to the public within 1 month after receipt by the Licence Regulator.</p> <p>Copies are to be made available from Sydney Water offices and lodged with environmental centres and public libraries in the Area of Operations</p>	Full compliance	The final TSR was completed on 23 September 2002. As a result the report was required to be available to the public by the 23 October 2002 ie. one month after receipt by IPART. The TSR was posted to all Sydney Water Business Centres, numerous environment centres, all public libraries and placed on the internet on 23 October 2002. The report is available free of charge to the public.
9.2.8	The ESD indicators in clause 9.2.4 are to be reviewed as part of the End of term review (1 January 2004)	No requirement	<p>Pilot indicators developed by Sydney Water are being trialed with potential for inclusion as ESD indicators, as part of the end of term review and following community consultation. The usefulness of the pilot indicators will be assessed and then may be proposed as ESD indicators in 2004. Pilot indicators included in the TSR 2002 relate to equity and diversity, employee relations and occupational health, safety and rehabilitation.</p> <p>ESD Indicators and environmental indicators need to be reviewed and rationalised to reflect key performance indicators and provide a sound measure of Sydney Water's environmental performance.</p>
9.3	Environment Plan		
9.3.1	Sydney Water must produce a five year Environment Plan by the later of the Commencement Date (12 April 2000) and 30 September 2000. After that Sydney Water must produce further five year Environment Plans every 5 years	No requirement	Audited in 2000/2001 audit period and received full compliance.
9.3.2	Sydney Water must engage in public consultation in developing the Environment Plan	No requirement	Audited in 2000/2001 audit period and received full compliance.

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
9.3.3	The Environment Plan must:	No requirement	Audited in 2000/2001 audit period and received full compliance.
9.3.3(a)	Contain details of Sydney Water's water, waste water and stormwater strategies, as well as the environmental aspects of its other activities such as waste minimisation and heritage	No requirement	Audited in 2000/2001 audit period and received full compliance.
9.3.3(b)	Endorse ESD principles	No requirement	Audited in 2000/2001 audit period and received full compliance.
9.3.3(c)	Be recognised in Sydney Water's business plans		
9.3.4	The Environment Plan must set targets and timetables for compliance by Sydney Water with those targets set over the term of the Environment Plan. These targets must utilise the environmental and ESD indicators in clauses 9.1 and 9.2 and also the targets and indicators in clauses 9.6 and 9.7	No requirement	Audited in 2000/2001 audit period and received full compliance.
9.3.5	The Environment Plan must be posted on Sydney Water's website on the internet for downloading free of charge, made available at its premises for access or collection by any member of the public and lodged with environmental centres and public libraries in the Area of Operations, in each case also free of charge	No requirement	Audited in 2000/2001 audit period and received full compliance.
9.3.6	The report detailing Sydney Water's progress in meeting the Environment Plan, and in particular, in complying with the targets and timetables in clause 9.3.4 are to be compiled on a yearly basis. Within 1 month of its completion, the report must be posted on Sydney Water's website on the internet for downloading free of	Full compliance	The 2000-2005 Environment Plan identifies how Sydney Water will minimise adverse effects on the environment whilst performing its important service delivery and social functions. The Environment Plan describes the progress against the 10 Environment Plan Objectives (Objectives 1 to 10 in the Towards Sustainability Report 2002). The report was submitted to IPART on 23 October 2002 and was made publicly available at SWC premises and on their website. Performance against the Objectives of the Environment Plan is detailed in Appendix L.

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
	charge, made available at its premises for access or collection by any member of the public and lodged with environmental centres and public libraries in the Area of Operation, in each case also free of charge		Objectives, actions and targets listed in the plan are to be completed by 2005 or sooner if a date is specified. The end of the Environment Plan period is the end of 2005. Therefore compliance with many of the targets was not determined in this reporting period. However, it is evident that Sydney Water has made progress in meeting the targets. For the targets that were to be achieved in the 2001/2002 reporting period, Sydney Water met most of these milestones. For targets with an achievement date in future audit periods and at the end of 2005, Sydney Water had predominantly established the frameworks for achieving the targets.
9.3.7	Amendments may only be made to the Environment Plan following public consultation	No requirement	No amendments to the Environment Plan were made within the audit period. The length of the Environment Plan's operating period (5 years) and the time consuming processes required to make amendments to the Environment Plan reduce the usefulness of the Plan. Sydney Water's Operating Licence sets the operating period for the Environment Plan at five years and requires that extensive community consultation be undertaken if changes to the plan are to be made. As environmental and operational issues have changed since the development of the Environment Plan, the cost and time required for the necessary community consultation to amend it, is a barrier to keeping it relevant and contemporary. As a result, the Environment Plan may not be adequately aligned with the corporations other business plans, nor may it adequately reflect changes to Sydney Water's priorities and achievements.
9.4	Energy Management		
9.4.1	In this clause: Energy Management Policy means the energy management policy of the NSW Government released by the NSW Department of Energy (now the Ministry of Energy and Utilities) in 1998 and updated from time to time.	No requirement	Definition
9.4.2	Sydney Water must adopt the following targets in the Energy Management Policy for energy consumption of buildings:	See Below	

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
9.4.2(a)	15% reduction from the 1995 level by 2001	Full compliance	An overall reduction of 16.1% was achieved by 2001, mainly through rationalisation of administrative services, including the sale of a number of sites and reorganisation of staff locations, to make better use of available building space.
9.4.2(b)	25% reduction from the 1995 level by 2005	No requirement	Between 2001/2002 a further reduction of 0.8% was achieved in relation to energy use in office buildings. Energy use in other facilities (eg depots, computer facilities) increased in comparison to 2000/01 - in total, building energy use has decreased by 15.3% in comparison to 1995 levels. Recognising that a major initiative is required to achieve an overall reduction of 25% from the 1995 level, Sydney Water proposes to close its current head office building, and move to an energy efficient building in Parramatta. In this way, it hopes to achieve the 25% target. The proposed building will be required to achieve a 4.5 (out of 5) star energy rating for the base building, under SEDA's Building Greenhouse Rating Scheme. As no calculations/numerical estimates were presented, it is not possible to verify whether such savings will be achieved by the proposed relocation.
9.4.2(c)	Any subsequent targets set by the Energy Management Policy	No requirement	No other targets have been set by the GEMP.
9.4.3	By no later than 1 September each year, Sydney Water must report to the Licence Regulator on its performance in relation to clause 9.4.2 for the previous 12 months, to enable the Licence Regulator to consider and report on the matter as part of the Annual audit.	Full compliance	Sydney Water's Operating Licence Compliance Report and covering letter were sent to IPART on 30 August 2002. A copy of covering letter was provided.
9.5	Botany Wetlands		
9.5.1	Botany Wetlands Plan means the plan of management (POM) for the area known as Botany Wetlands, issued by Sydney Water in December 1997.	No requirement	The POM (1997) outlined actions to be undertaken and delegated responsibilities to members of Botany Wetlands Environmental Steering Committee (BWESC). The POM was reviewed by Sydney Water in February 2000.
9.5.2	Sydney Water is to implement the Botany Wetlands Plan in conjunction with other appropriate persons	High compliance	1. Field inspection and review of implementation information (eg. <i>"Botany Wetlands Plan of Management Update on Works to Date 30 June 2002"</i> and Sydney Water's <i>"Implementation of</i>

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
			<p><i>Botany Wetlands Plan of Management 2001/2002 dated August 2002</i>) demonstrated an active program of implementation.</p> <ol style="list-style-type: none"> Sydney Water has demonstrated implementation across a range of program areas, including proposals directed to the surveillance and monitoring of blue-green algae, weed management and revegetation in its sixth year and for the removal of European Carp from ponds 4 and 5. The above indicated, in a budgetary and planning sense, the preparedness of Sydney Water to continue to resource the implementation programs. Sydney Water has been recognised internationally for its efforts in the Botany Wetlands as exemplified by a recent paper published at an international (Canadian) forum "<i>Environmental Restoration and Management of Significant Urban Wetland</i>" by Simms et. al. (2002) Preparation of detailed appraisals of Sydney Water activities including, for example, year 5 (2000/2001) Weed Management and Revegetation An active program of Weed Management and Revegetation (2001/2002) Detailed reporting of the level of blue-green algae through the surveillance program. Consideration of the feasibility of fish ways for Botany Wetlands Ecological assessment of selected fauna communities of Botany Wetlands (2001) Sydney Water provides an update on its works program on a six monthly basis which demonstrates a strategic approach has been taken to improve the management of the wetlands, in particular, control of both aquatic weeds (<i>Ludwigia</i>) and terrestrial weeds. <p>Reasons for a high rather than full compliance included the following:</p> <ol style="list-style-type: none"> The Act requires implementation "<i>in conjunction with other appropriate persons</i>". To this end, a Botany Wetlands Environmental Management Steering Committee (BWEMSC) had been established to review the plan of management each twelve to eighteen months or as needed and

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
			<p>to discuss new programs and bids for the following financial year. The 2000/2001 audit noted the committee had lost momentum, and despite Sydney Water's report to IPART to the contrary ("<i>that BWEMS Committee continues to meet</i>") the Committee did not meet during the year due to a lack of a quorum. Sydney Water has sought (on two occasions) to organise a Committee meeting however, both meetings were cancelled. Thus whilst Sydney Water is effecting implementation of the Botany Wetlands Plan of Management, it is largely doing so through it's own resources and at this stage, is not effectively "<i>in conjunction with other appropriate persons</i>".</p> <p>2. Achievement of actions under <i>Landscape and Visual</i> and <i>Land Management</i> programs had not been implemented over the life of the current plan of management.</p>
9.5.3	By no later than 1 September each year, Sydney Water must report to the Licence Regulator on its compliance with the Botany Wetlands Plan for the previous 12 months, to enable the Licence Regulator to consider and report on the matter as part of the Annual audit	Full compliance	<p>Sydney Water received full compliance reflecting:</p> <p>The provision of the "<i>Implementation of Botany Wetlands Plan of Management 2001/2002</i>" dated August 2002 of which was sighted, as was an internal memorandum (reference 051) conveying this report by 1 September to IPART. Internal Memorandum was dated 26 August 2001.</p>
9.5.4	Prior to the commencement of the End of term review, Sydney Water must review the Botany Wetlands Plan in consultation with EPA, the Department of Land and Water Conservation, National Parks and Wildlife, and peak environmental non-governmental organisations for the purpose of advising the Minister whether any amendments are required to the Plan	No requirement	<p>Sydney Water has a requirement to complete a review of the Plan prior to the commencement of the end of term review, nominally 2004. Clearly time is available to Sydney Water to undertake this review. Notwithstanding this timing and as indicated above and in section 9.4.2 Discussion "Botany Wetland" it is recommended this review commence earlier in recognition of the age of the Plan itself (with its roots reflecting community views of some 10 - 15 years ago).</p> <p>Also the inability to hold BWEMS committee meetings has meant that the proposed role of the steering committee in reviewing and redirecting implementation has not been effective (despite Sydney Water's efforts in this regard). The initiation of these 12 to 18 month reviews could provide the catalyst to facilitate the wider (end of term) review.</p>
9.7	Trade Waste		
9.7.1	Sydney Water must prepare a trade waste policy and	Full compliance	Sydney Water produced a comprehensive Trade Waste Policy and Action Plan in July 2001, which

TABLE 9.2: ENVIRONMENT: INDICATORS & PLANS – PART 9 LICENCE CLAUSES

Clause	Requirement	Compliance	Findings
	management plan, which must include trade waste water objectives and performance indicators. Sydney Water must ensure that the process of preparing the trade waste policy and management plan includes public consultation in accordance with clause 1.2.2 on a discussion paper before the plan is finalised		includes trade waste objectives and performance indicators, as well as management plans for commercial and industrial customers. The 2000 Licence compliance audit refers to the consultation process not being fully in accordance with Clause 1.2.2, but still being aligned with this clause to a high degree.
9.7.2	By no later than 1 September each year, Sydney Water must report to the Licence Regulator on its progress in satisfying the objectives and indicators under clause 9.7.1 for the previous 12 months, to enable the Licence Regulator to consider and report on the matter as part of the Annual audit	Full compliance	An annual report on Trade Waste Objectives and Performance Indicators (dated August 2002) prepared by Sydney Water was sighted. This report identifies progress against each of the seven trade waste objectives, and performance indicators, and is comprehensive and relatively concise.

9.4 DISCUSSION

9.4.1 Environmental Indicators

It is evident that the collation and reporting of data for environmental indicators involves extensive effort by Sydney Water. Sydney Water is required to monitor and report its performance against various indicators; including Environmental Indicators required by section 14(1)(d) of the Act, ESD Indicators by clause 9.2 of the Licence and chemicals in sewage discharges (Schedule 10 substances) required by section 23 of the Act.

In relation to ESD indicators, Sydney Water produced a comprehensive and clear report that addressed technical issues and is considered to be understandable by the lay reader.

Further attention is required to help ensure its reporting of performance against the Environmental Indicators can be clearly understood in a clear and meaningful manner. In specific, clearer interpretation or discussion on performance in relation to volumes 2 and 3 of the EICR would enable a lay reader to understand the environmental performance of Sydney Water and to understand the trends in environmental performance over the past decade.

9.4.2 Botany Wetlands

Sydney Water demonstrated a positive approach to adopting the management plan for the Botany Wetlands, particularly recognising the wetland's condition in the early 1990s compared to its current ecological state that reflects both ecological stability and water quality outcomes. Notwithstanding this improved condition, the Plan of Management itself was developed some five years ago and is in need of review and update. This update is a requirement during the current five year term though would clearly benefit from an early review. Sydney Water has achieved much particularly in regard to rehabilitation and water quality. However, a number of the other specific actions (viz:- Landscape and Land Management) have either not or only partially commenced. This situation reflects the reality of the need to address wetland rehabilitation and water quality so that the foundations for wetland management are established. Only with a high level of achievement in these areas can resources then be directed to the secondary, or supportive, actions such as those under Landscape and Land Management.

As such it is considered timely to review the Plan of Management so as to direct future resources. Last years (2000/2001) audit indicated it was Sydney Water's view that a major review of the Plan should be conducted early in 2002. This initiative should be implemented so that the plan is reviewed over the 2002/2003 year.

As demonstrated through field inspection, interview and a review of implementation and program reports, Sydney Water is being effective in implementing the Plan of Management.

The above achievements, while admirable, are largely being achieved by Sydney Water through its own resources and input. Notwithstanding that the Plan of Management has improved coordination of adjacent land managers (for example, the three neighbouring golf courses through

Environmental Management Plans), the implementation is almost solely resourced by and dependent on Sydney Water's resources and decision making.

The Botany Wetland Environmental Management Steering Committee (BWEMSC) has failed to function effectively over the year and this may well relate to the need to review the Plan of Management. This need does not emanate so much from the conditions of the wetlands which, as indicated, are vastly improved over the last five years, but rather the need to redirect the available resources to optimise the future ecological management of the wetlands. The Plan itself has its roots back to 1993 with the production of an Environmental Management Plan for Botany Wetlands. This, in turn, reflected the social and community attitudes of the taskforce that generated the Plan of Management, which commenced in 1988. Thus the Plan of Management has its roots that are some 10 - 15 years old. The performance of Sydney Water in the implementation of the Plan may have resulted in a degree of apathy from adjacent land holders in that Sydney Water is "doing a good job". Yet the operating licence requires Sydney Water to implement the Plan of Management "*in conjunction with other appropriate persons*" and it is this latter point that the greatest opportunities are available to Sydney Water. These opportunities include:

1. initiating a review of the Plan of Management during 2002/2003.
2. establishing a process, timetable and resources to undertake the review;
3. seeking to link the management of the lagoon with other water and land resource infrastructure (viz:- catchment management committee's and similar Council programs);
4. adopting and formally reporting on *Key Performance Indicators*; and to apply qualitative as well as quantitative assessment of rates of implementation and achievements; and
5. using the review to reinvigorate participation from adjacent land holders, participants on the current BWEMSC;
6. advertising for other groups to participate in the BWEMSC;
7. seeking to leverage Sydney Water inputs through broader programs of government (viz:- "whole of government" and Federal funding) to increase available funds for programs which have not received funding over the last five years, for example *Land Management, Landscape and Visual and Operation and Maintenance* categories;
8. advising the community through Sydney Water's website and advertisements of the opportunity for commenting and contributing on the Plan.

9.5 FACTORS AFFECTING COMPLIANCE

No unusual events or factors affected compliance for environmental indicators, ESD indicators and the Environment Plan.

As indicated the Botany Wetland Environmental Management Steering Committee, which was established to oversight the implementation of the Plan of Management, has not met over the last twelve months. Whilst this is not a reflection on the efforts that are being made by Sydney Water to organise committee meetings, it would appear the momentum of the Committee has waned. This is in part is outside the control of Sydney Water though it should be recognised the plan itself is now in its sixth year of operation from an operational as well as interest point of view. It is considered timely to review the Implementation Plan including the composition of the BWEMSC steering committee.

9.6 RECOMMENDATIONS

9.6.1 Key Recommendations

- R9.1 Sydney Water improve the format and presentation to more clearly demonstrate performance against each environmental indicator.
- R9.2 Implement programs in areas where environmental and ESD indicators show poor or decreasing performance, especially heritage and greenhouse gas emissions, or where progress indicates future targets are unlikely to be met, such as reduced water consumption.
- R9.3 Undertake a review of the Botany Wetland Implementation Plan recognising it is now in its sixth year of operation. In addition Sydney Water should call for participation of wider interests so as to reinvigorate and establish an active Botany Wetlands Management Steering Committee.

9.6.2 Secondary Recommendations

- R9.4 Sydney Water and IPART consider developing a more streamlined methodology for amendments to the Environment Plan.
- R9.5 The End of Term review of the licence should include a rationalisation of environmental and ESD indicators to better measure the performance of Sydney Water in key environmental areas.

10. DISPUTE RESOLUTION SCHEME

10.1 SUMMARY OF FINDINGS

While there are limited issues concerning the external complaint handling system and complaints to other bodies there are a number of issues associated with the internal complaint handling system.

The key area of underperformance (**Low compliance**) with respect to the internal complaint handling system, has been Sydney Water's performance in not reporting complaints by suburb. Specifically, Sydney Water continues to register its objection about the need and usefulness of reporting complaint data by suburb (which Sydney Water do not undertake as required by their Licence). Sydney Water has indicated that the time and cost required to comply with this part of the clause is unwarranted and has not provided the report. It has provided a report which classifies complaints by local government area and complaint type. This report does not provide the necessary detail to assess the spatial component of systemic problems. Discussions with Sydney Water personnel indicate complaint information is being used at an operational level, however the lack of appropriate reporting according to the Licence requirements is a matter of concern. While analysis of the complaint types provided can identify one component of the problem, the spatial component is inadequate.

The internal complaint reporting system exhibited a lack of detail about how well disputes were resolved or why disputes were not resolved. Suggestions have been made as to how Sydney Water might collect information to assist it to obtain a higher level of compliance in this area.

As a customer focused organisation, Sydney Water has the opportunity to use customer/complainant feedback to evaluate the effectiveness of the complaint handling process itself and its compliance with the elements of the Australian Standard AS4269-1995. With the termination of the development of the Customer Information and Billing System, Sydney Water will need to take a fresh look at different complaint handling systems and determine the appropriate way to obtain greater integration.

Performance covering external complaint handling (via the Electricity and Water Ombudsman NSW, EWON) and complaints to other bodies have been assessed as generally **High to Full compliance**. The EWON report could undertake some minor improvements such as reporting on all complaints received during the year which is the requirement of the licence (rather than reporting only those complaints resolved). The report could also provide a category for complaints deemed outside the jurisdiction of EWON.

Sydney Water was assessed as **Full and High compliance** on the Ministerial Requirements that it gains EWON's confirmation of its role and information on customer complaints where the costs of reparation are outside EWON's jurisdiction, respectively.

10.2 SUMMARY OF REQUIREMENTS

Part 10 (Clause 10.2.1) of the Licence specifically requires the Auditor to report on:

- (o) the effectiveness of Sydney Water's internal dispute resolution scheme;
- (p) the effectiveness of Sydney Water's external dispute resolution scheme; and
- (q) complaints made to a Court or Tribunal.

These clauses refer to Part 12 of the Licence that sets the requirements for the Dispute Resolution Scheme adopted by Sydney Water. Specifically Part 12 includes:

12.1 - Internal dispute resolution process: This clause covers the process used by Sydney Water to receive, respond to and resolve complaints made by customers against Sydney Water.

12.2 - External dispute resolution process: If customers are unable to resolve complaints made to Sydney Water then a further process is in place to assist customers. The external dispute resolution scheme is therefore to be at arms length to the operations of Sydney Water.

12.3 - Complaints to other bodies: Customers may also lodge complaints with other bodies and these also need to be reported to the Licence Regulator.

As well as the dispute resolution process, there are Ministerial requirements which are also covered in this section, and include:

Ministerial Requirement 4: "...I require Sydney Water to seek from EWON annual confirmation that it continues to meet the requirements of the Operating Licence clauses relevant to its role."

Ministerial Requirement 5: "...I also require that, for future reporting to IPART, Sydney Water include information it already receives from EWON on those contracts from customers where the costs for reparations place the matters outside EWON's jurisdiction."

10.3 DETAILS OF COMPLIANCE

Table 10.1: Dispute Resolution Scheme – Part 10 Licence Clauses

Clause	Requirement	Compliance	Findings
10.2.1	The Licence Regulator or the person undertaking the Annual Audit must investigate and prepare a report on the following:	No requirement	
(o)	The effectiveness of Sydney Water's internal dispute resolution scheme under clause 12.1	No requirement	<p>There is no compliance requirement against this clause as this clause requires an assessment of "effectiveness" rather than "compliance".</p> <p>The reporting system for the collection and analysis of internal complaints requires significant integration and resources. To improve compliance with the relevant clauses associated with internal dispute resolution Sydney Water should consider preparing a single report which meets the requirements of the Operating Licence. It appears that until Sydney Water is able to integrate its customer information systems and establish a reporting protocol which aligns with the Operating Licence it will have difficulty demonstrating the level of effectiveness of its scheme. This area was identified as an area of concern in last year's audit and it would appear little progress has been made in rectifying the situation. See more detailed comments relating to the appropriate sub clauses under clause 12.1.</p>
(p)	The effectiveness of Sydney Water's external dispute resolution scheme under clause 12.2	No requirement	<p>There is no compliance requirement against this clause as this clause requires an assessment of "effectiveness" rather than "compliance".</p> <p>The external dispute resolution scheme based upon EWON appears effective in dealing with complaints made by customers against Sydney Water. The report that to summarises the outcomes of the complaints provides a valuable overview and assessment of the scheme. Sydney Water has also provided a report with its assessment of the scheme together with a letter from EWON indicating that the scheme complies with the Operating Licence.</p>
(q)	Complaints made against Sydney Water to a court or tribunal under clause 12.3	Full compliance	Sydney Water provided information on two matters that were referred to the Fair Trading Tribunal in 2001/02. Both matters were withdrawn by the applicants following discussion between Sydney Water and the applicants.

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
12.1	Internal Dispute Resolution Process		
12.1.1	Sydney Water must establish internal complaints handling procedures for receiving, responding to and resolving complaints by Customers and Consumers against Sydney Water	Full compliance	Procedures for collecting complaints and resolving the same have been noted. The physical settings and processes were observed at the previous audit at the Liverpool call centre. The reports provided show that Sydney Water is receiving, responding to and resolving complaints.
12.1.2	The internal complaints handling procedures of Sydney Water must be based on the Australian Standard AS4269-1995 Complaint Handling	High compliance	<p>Sydney Water presented the June 2001 report titled "<i>Sydney Water Customer Complaints Policy and Procedure Review</i>" which had been previously presented for the 2000-01 audit. This report made a number of recommendations to which the previous audit referred. A customer complaint policy dated 11 December 2001 has been sighted together with the customer complaint procedure document dated November 2001. The 2002 Emergency Contacts Survey research report was also reviewed.</p> <p>The Auditor requested evidence that the recommendations from the 2001 report (above) had been adopted particularly in terms of training, customer feedback, analysis of data and reporting evidence. Information was received on a training package for staff on complaints handling. It appears that one program was delivered on 28 June 2002 and the other was not implemented until after the audit period. One of the recommendations of the report was for increased frequency of complaint awareness training. This should be clearly demonstrated for the next audit.</p> <p>Sydney Water provided a copy of its ISO9002:1994 certification to demonstrate compliance as a quality management system for the measurement and reporting functions required for the Licence and Customer Contract.</p> <p>One of the key measures concerning achievement of the standard for complaints handling are the perceptions of the complainants themselves. One mechanism that has been used to assess complainant satisfaction is the Emergency Contact Survey which is conducted on a sample of complaints made through WAMS as service complaints. While this provides valuable information it does not cover all complaints and it does not ask questions of each of the elements of AS4269-1995. The development of a more comprehensive survey of complainants together with the inclusion of specific questions which address each of the relevant elements of AS4269-1995 would assist in</p>

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
			<p>providing the information necessary to make an assessment that the complaint handling system fully complies with this clause.</p> <p>The Emergency Contact Survey obtained a 47% response rate which appears low given the fact that these people have had contact with Sydney Water and are expected to have had a problem fixed.</p> <p>It is also noted in the Emergency Contact Survey that the recording process and escalation process appear to use a yes/no code on satisfaction to determine if the complaint should be escalated to a more senior manager or if it can be closed. This code should allow a rating of satisfaction (Dissatisfied to Satisfied) together with a specific field if escalation is required. Customers should be asked to provide the rating.</p> <p>A key element of AS4269-1995 is the reporting of systemic and recurring problems. While acknowledging that numbers of complaints are reported through the customer services division and various internal stakeholder groups, the Auditor suggests that there should be a more comprehensive report which demonstrates appropriate analysis and assessment of systemic problems. This may include an assessment of key problem areas by relevant system units (geography) and category, with the identified causes reported and the relevant program identified to solve the problem.</p> <p>While it appears that the complaint handling system is recording and reporting this information, Sydney Water has been reluctant to provide the necessary integrated report because of time and cost issues and the belief that the management systems use this information on a day to day basis to make operational decisions. Sydney Water has indicated that it sees the production of further reports of no value.</p>
12.1.3	Sydney Water must make available to Customers and Consumers information concerning its internal complaints handling procedures which explains how to make a complaint and how the procedure works	Full compliance	Pamphlets have been produced and the procedures have been listed on the Sydney Water website.
12.1.4	Sydney Water must provide information of the nature described in clause 12.1.3 to Customers through their quarterly, or other, bills at least once annually	Full compliance	Pamphlets have been sighted and the schedule of bill inserts shows that the pamphlet " <i>Sharing your views (complaints and dispute resolution)</i> " was mailed in the January 2002 bill run.

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
12.1.5	The Customer complaint handling, complaint resolution process and Customer redress provided to Customers under the Customer Contract must be reviewed and amended where necessary by Sydney Water to ensure that it is based on the Australian Standard AS4269-1995 Complaint Handling	High compliance	This clause is related to Clause 12.1.2 so all the comments relevant to the level of compliance with Clause 12.1.2 are also relevant for Clause 12.1.5. As mentioned a review was published in June 2001 and a number of recommendations for improvement were made.
12.1.6	Sydney Water must report each year to the Licence Regulator as part of the Annual Audit on the following details concerning complaints made against Sydney Water which are handled by its internal complaints handling process:	See below	
12.1.6(a)	<p>The number and type of complaints received on a month by month basis, classified by Suburb into one or more of the following categories:</p> <ol style="list-style-type: none"> 1. Water quality including health and aesthetic parameters; 2. Continuity of water supply; 3. Water pressure; 4. Sewage odour; 5. Sewage overflow; 6. Stormwater and drainage services; and 7. Billing including availability charges payable under the Act. 	Low compliance	<p>The Auditor has received reports that classify complaints by local government area and for the appropriate categories. Most of the issues identified in the previous year relating to this clause remain unaddressed. It appears that the present IT systems of Sydney Water are unable to compile the information required without significant input by staff. It appears that information has to be taken from one system such as WAMS and then physically input by an operator into a spreadsheet program to provide the reports required by the Operating Licence. The issue of reporting unit (suburb) remains an area of debate between IPART and Sydney Water with Sydney Water contending that to produce such reports at a suburb level is a waste of time and money with the only value being to the Auditor.</p> <p>While Sydney Water reports on a local government area basis there is no evidence that such reports take into account population or dwelling density or the relationship of the infrastructure system with the designated borders of the local government areas. The ability to report by infrastructure system formed a significant part of the discussion with Sydney Water and while the systems staff are able to report by problem cause, this is not linked to the complaints. For example, complaints from one suburb may be related to the performance of an asset in another suburb. It would appear that the overall integration of the complaint data with the requirements of the Licence will continue to be an area of contention.</p> <p>While Sydney Water believes it should receive the same compliance rating as last year the Auditor had previously taken into account that the system was being reviewed and that Sydney Water had indicated that CIBS would assist with this integration. With the demise of CIBS it appears that further</p>

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
			discussion with IPART is required about the reporting requirements for this clause. Sydney Water has not provided the required report and appears adamant that it is unlikely to do so in the future. As a result the Auditor has rated the clause as Low compliance.
12.1.6(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 the Licence Regulator 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	Low compliance	<p>Numerous print outs were provided which report on the number of complaints resolved and unresolved on a month by month basis as well as for the audit period. While they have been identified according to the category of the complaint there is no assessment to explain why the complaints remained unresolved. This problem was identified in the previous audit. The fact that the number of unresolved complaints greater than 50 days is reported as 14,124 through the Sydney Water system while the Auditor believes it should actually be 289 suggests that the programming corrections indicated by the Auditor last year remains to be addressed. Sydney Water has indicated that the 14,124 figure is a “verifying number” and has no relevance to the number of unresolved complaints at the end of the year. In this case the presentation of the report needs to be modified so as to not present misleading information. The reports presented to the Auditor suggest at face value that the major category for unresolved complaints relates to meters. However it would also appear from conversations with staff of Sydney Water that this report may also be incorrect. This makes it difficult for the Auditor to have confidence in the veracity of the figures and is a key reason for reducing compliance from ‘partial’ last year to ‘low’.</p> <p>The complaint data also does not provide an assessment of how well the complaint was resolved. The data is recorded as resolved or not resolved without any assessment of the degree of resolution. The Emergency Contact Survey is the main data source able to provide this form of assessment and is based on complaints received through WAMS. There is no similar assessment done for complaints received through the Electronic Complaint System (ECS) or ACCESS.</p>
12.1.6(c)	Any problems of a systemic nature arising from the complaints	Partial compliance	While a two page report was provided it appeared to be generic in nature and did not show the level of analysis required to convince the Auditor that the complaint data were being used to assess issues of a systemic nature. The Auditor believes that the information is being used at an operational level however it appears that a more comprehensive report which focuses upon priority areas based upon complaint data and which demonstrates the processes used to address such problems would be appropriate. It is noted that in the Customer Services Division Business Report to the Sydney Water

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
			Board meeting of 17 April 2002 that the main reasons for complaints were identified and that “a workshop is planned with the General Manager to discuss reasons for complaints and actions to be implemented to reduce their occurrence”. The report provided by Sydney Water to address this clause is provided in Appendix G .
12.2	External Dispute Resolution Scheme		
12.2.1	Within 1 month after the Commencement Date, Sydney Water must establish a Dispute Resolution Scheme for the resolution by a Dispute Resolution Body of disputes between Sydney Water and its Customers and between Sydney Water and Consumers of the nature described in 12.2.3	No requirement	Sydney Water achieved full compliance in last year's audit and as the clause relates to the period after the Commencement Date and outside this audit period, the compliance rating is a no requirement. Sydney Water joined EION which then became EWON. Sydney Water has been a member of the EWON scheme since 1 January 2000.
12.2.2	The Dispute Resolution Scheme so established by Sydney Water is subject to the Minister's approval	No requirement	As reported last year the scheme and Sydney Water's participation in the scheme was launched by the Minister. No correspondence has been sighted which would suggest that the Minister no longer approves of the scheme.
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 odour; e) Sewage overflow; f) Stormwater and drainage services; and g) Billing, including availability charges payable under the Act	Full compliance	Sydney Water provided a report from data provided by EWON that describes the various disputes handled in the specific categories.

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
12.2.4	The Dispute Resolution Scheme must comply with the minimum standards, so far as applicable, specified in the Benchmarks for Industry-based Consumer Dispute Resolution Schemes released by the Commonwealth Minister for Customs and Consumer Affairs in August 1997	Full compliance	Sydney Water provided a copy of a letter from EWON indicating that EWON complies with this clause of Sydney Water's Licence. This statement was further supported by an independent report as part of a 3 year review (published 21 January 2002) and by an assessment prepared by Sydney Water based upon this report. The report suggested some minor areas for improvement and it would be expected that Sydney Water would pursue the implementation of such initiatives through its membership of EWON and its participation in the associated governance bodies.
12.2.5	The Dispute Resolution Scheme must have the following features:	No requirement	
12.2.5(a)	The decision making process of the Dispute Resolution Body and administration of the scheme is to be independent from Sydney Water and subsidiaries of Sydney Water	Full compliance	As reported in the previous audit the Articles/Constitution of EWON and the associated governance structure provide the necessary independence between Sydney Water and the scheme.
12.2.5(b)	Sydney Water agrees to abide by the decisions of the Dispute Resolution Body in relation to disputes referred to it for resolution	Full compliance	In becoming a member of EWON Ltd, Sydney Water has agreed "to be bound by and observe the terms of the Constitution" (Clause 11.8.2 (a)) and under Clause 6.2 of the Constitution of the scheme, "All decisions by the Ombudsman under paragraph 6.1 shall be automatically binding upon members."
12.2.5(c)	The Dispute Resolution Scheme must adopt informal proceedings which discourage a legalistic adversarial approach	Full compliance	The report prepared by Sydney Water describes the process followed to resolve complaints, however it does not specifically refer to whether the proceedings are informal or whether they specifically discourage a legalistic or adversarial approach. However an independent review (see Clause 12.2.4) discussed earlier concludes from the EWON customer survey " <i>most customers rate EWON's handling of their complaint highly, even in cases where the matter was not resolved in their favour</i> ". To maintain a full compliance rating in the future it would be valuable for future reports from Sydney Water on this issue to specifically show how the process meets the requirement of this clause.
12.2.5(d)	Decisions of the Dispute Resolution Body should be fair and seen to be fair, by observing the principles of procedural fairness, by making its decisions based upon the information before it and by having specific criteria upon which its decisions are based	Full compliance	The Auditor has used the outcome of the independent survey to assess compliance with this clause. The survey suggests that 83% of the customers/complainants agreed or strongly agreed with the statement " <i>My complaint was handled fairly and impartially by EWON</i> ", with 11% disagreeing. Similar information and results, at a minimum, would need to be provided in future years to maintain full compliance with this clause.

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
12.2.5(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	Full compliance	Details of finalised contacts are provided to Sydney Water on a quarterly basis. The resulting report indicates that EWON is able to track and report on the disputes referred to it. The report also demonstrates that EWON itself has been reviewed. The Auditor supports the suggestions that such external reviews need to be commissioned from time to time and that regular customer satisfaction surveys should be investigated. Such programs would need to be undertaken for Sydney Water to maintain full compliance with this clause.
12.2.5(f)	The Dispute Resolution Scheme is to be free of cost to Customers and Consumers and is to be funded by Sydney Water	Full compliance	Sydney Water contributes to the operation of EWON together with other members of the scheme. The contributions are based upon the number of complaints sourced from a particular member. Further evidence of the scheme being free of costs to consumers and customers is provided in the UKY report which states that the EWON scheme is readily available to customers as evidenced by <i>“the lack of any fees or costs charged to customers”</i> .
12.2.6	Sydney Water must prepare a pamphlet that explains how the Dispute Resolution Scheme operates and how it can be accessed	Full compliance	Sydney Water provided a copy of the pamphlet <i>“Sharing your views with Sydney Water”</i> which covers both internal and external complaint handling. Sydney Water also provided a copy of the EWON pamphlet produced although it was noted that the printing date on the brochure was July 2002, outside the audit period.
12.2.7	Sydney Water must provide the pamphlet to Customers through their quarterly or other bills, at least once annually	Full compliance	Evidence was available that the pamphlet <i>“Sharing your views with Sydney Water”</i> had been circulated to customers during the audit period (this included a section on reporting complaints to EWON) but there was no evidence that the specific EWON brochure had been circulated. The schedule of bill inserts did not refer to the EWON pamphlet, although the report provided on EWON contacts indicated on page 143 that <i>“a brochure with the issue of the first quarter 2002 accounts”</i> was circulated to advise customers. It would appear that this is the <i>“Sharing...”</i> brochure. The EWON pamphlet should also be circulated.
12.2.8	Sydney Water must provide the Licence Regulator with written reports of the determination made by the Dispute Resolution Body based on information reasonably obtained from the Dispute Resolution Body. Where considered appropriate by Sydney Water and the Dispute Resolution Body, confidentiality	No requirement	There appear to have been no complaints requiring determination by EWON and therefore no need for a report. (Note – the word <i>“determination”</i> has a very specific meaning for EWON and refers to complaints about which a negotiated outcome between Sydney Water and the complainant was not possible and therefore had to be <i>“determined”</i> by EWON. It does not refer to all the complaints referred to EWON and the specific outcomes of those complaints.)

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
	arrangements are to be made so as not to disclose the Customer or Consumer's identity in such reports.		
12.2.9	Sydney Water must produce a yearly report to the Licence Regulator based on information available to Sydney Water and information reasonably obtained from the Dispute Resolution Body. The report must contain the following information:	See below	Sydney Water has prepared a report with compliance ratings provided for each of the following sub clauses.
12.2.9(a)	How the scheme works	Full compliance	Included in the Report.
12.2.9(b)	<p>The number and types of complaints received by the Dispute Resolution Body, classified by Suburb into one or more of the following categories:</p> <ol style="list-style-type: none"> 1. Water quality including health and aesthetic parameters 2. Continuity of water supply 3. Water pressure 4. Sewage odour 5. Sewage overflow 6. Stormwater and drainage services 7. Customer billing, including availability charges payable under the Act 	High compliance	<p>The report provide by Sydney Water deals with complaints resolved by EWON rather than complaints received. In the previous audit, this report was given full compliance however it was noted in another clause in that audit (12.2.9(g)) that unresolved complaints had not been reported. This clause requires the reporting of complaints "received by the Dispute Resolution Body" rather than just complaints resolved. This will require EWON to provide Sydney Water, at a minimum, with the number of complaints that had been received but still remain unresolved at the end of the reporting period. The main reason for the complaint being unresolved and the length of time since EWON received the complaint should be reported. Future reports should make this distinction between those received and those resolved to obtain a higher level of compliance.</p> <p>The analysis of the resolved complaints indicate that the suburbs with the highest number of complaints are Sydney (8 complaints) and Bundeena (5 complaints) however, as mentioned last year, this could be impacted by population and/or property density. This is one of the reasons why reporting by local government areas may provide misleading information about the occurrence of problems. As with the reporting of internal complaints it would appear that a better unit of analysis may be the infrastructure systems which generate the complaints. Water systems or sewage subcatchments would be better reporting blocks to allow assessment of the underlying causes of problems, although such units are not specified in the licence. It is recognised that the relatively small number of complaints handled through the external complaint handling scheme (compared with internal complaints) makes the identification of trends and systemic problems difficult. This is why the analysis of the internal complaints is critical.</p>

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
			The two categories generating the majority of the complaints are customer billing and customer service which were the same complaint categories generating the majority of complaints in the previous year.
12.2.9(c)	The outcome of these complaints	Full compliance	Included in the report.
12.2.9(d)	The time taken to resolve complaints	Full compliance	Included in the report.
12.2.9(e)	The procedure for resolving complaints	Full compliance	Included in the report.
12.2.9(f)	Any problems of a systemic nature arising from the complaints	High compliance	<p>Sydney Water has provided an assessment of the key complaint generating categories and key complaint generating local government areas together with a general comment about Sydney Water's response to these concerns. As mentioned in the previous audit, systemic problems can be caused by functional issues associated with how Sydney Water operates or it could be related to infrastructure issues such as the age of pipes or location of STPs. While functional issues can be assessed to some degree through the complaint categories, the causes of other infrastructure related issues are more difficult to assess. To obtain Full compliance, as was rated last year, Sydney Water could provide more detail into its review to reduce complaints in specific areas.</p> <p>As EWON complaints/contacts are escalated complaints from Sydney Water's internal complaint handling system they do not provide the quantity of complaints to undertake as effective an analysis as that which could be undertaken when reviewing the internal complaints.</p>
12.2.9(g)	Any other relevant information required by the Licence Regulator to be included in the report	No requirement	<p>The report provided does not explicitly record any outstanding complaints or complaints referred to other bodies (not covered in clause 12.3). As was suggested in the previous audit, the report prepared by Sydney Water should also provide:</p> <ul style="list-style-type: none"> A listing of any complaints which are still outstanding at the end of the audit period; and A listing of any contacts/complaints which have been referred to other bodies during the year.
12.2.10	The report referred to in clause 12.2.9 is to be made available to the public free of charge	Full compliance	Sydney Water indicated that the report would be made available to the public free of charge.

Table 10.2: Dispute Resolution Scheme – Part 12 Licence Clauses

Clause	Requirement	Compliance	Findings
12.3	Complaints to Other Bodies		
12.3	Sydney Water must report to the Licence Regulator by no later than 1 September each year (for consideration and reporting by the Licence Regulator as part of the annual audit) on complaints made against Sydney Water to a court or tribunal, such as the Fair Trading Tribunal, (based on information available from these bodies and Sydney Water itself as a party to the complaint) containing the following details	Full compliance	Sydney Water presented a report indicating that only two matters had been referred to another body, specifically the Fair Trading Tribunal. After discussion with Sydney Water both applications were withdrawn from the Tribunal. The Auditor has not been advised of any other complaints made to other bodies.
12.3(a)	The number and types of complaints received by such other bodies	Full compliance	Included in the report.
12.3(b)	The outcome of complaints	Full compliance	Included in the report.
12.3(c)	How the complaints were resolved	Full compliance	Included in the report.
12.3(d)	Any problems of a systemic nature arising from the complaints	No requirement	As there are a limited number of complaints it would be difficult to make an assessment about issues of a systemic nature.
12.3(e)	Any other relevant information required by the Licence Regulator to be included in the annual report	No requirement	

Table 10.3: Dispute Resolution Scheme - Ministerial Directives

ID	Requirement	Compliance	Findings
M4	"...I require Sydney Water to seek from EWON annual confirmation that it continues to meet the requirements of the Operating Licence clauses relevant to its role."	Full compliance	Sydney Water received a letter from EWON indicating that it met the Commonwealth Benchmarks for Industry-based Consumer Dispute Resolution schemes. This was further supported by an independent consultant's report which reviewed the performance of EWON. Sydney Water also provided a further report to the Auditor indicating that it believed, after reviewing the independent report, that EWON was meeting the relevant clauses of Sydney Water's Operating Licence.
M5	"...I also require that, for future reporting to IPART, Sydney Water include information it already receives from EWON on those contracts from customers where the costs for reparations place the matters outside EWON's jurisdiction."	High compliance	Sydney Water received assurance that EWON's constitution only sets limits on binding determinations although EWON could be involved in negotiating higher amounts if it was in concurrence with the EWON member. While this may be the case it would be expected that the report prepared for the Auditor would specifically report on this issue even if there were no such matters considered or decided by EWON.

10.4 DISCUSSION

10.4.1 Internal Dispute Resolution Process

Sydney Water continues to maintain three systems for collecting complaint information. These are the Electronic Complaint System (ECS), Water Asset Management System (WAMS) and ACCESS (the account and billing system). In previous audits it had been mentioned that these systems would be integrated through the new system being developed referred to as Customer Information and Billing System (CIBS). With the expected development of this new system it was not seen as warranted to undertake any efforts to further integrate the present systems for complaint handling and reporting. With the termination of the development of the Customer Information and Billing System, this now becomes an area for further assessment and action.

WAMS has now been operating for a full audit period and collects all of the complaint information relating to system failure. This system records and reports the majority of the complaint information handled by Sydney Water, however the output of this system and the two other systems do not appear to be able to be easily integrated. Table 10.4 reports the number of complaints (as reported in the Operating Licence Compliance Report) received by Sydney Water together with the number of complaints that it deems to be Sydney Water's responsibility. Of the 50,056 complaints received, approximately 31% are deemed not to be Sydney Water's responsibility. Of the remainder, the major cause for complaint is sewer overflows.

Table 10.4 Number of Complaints Received and Deemed the Responsibility of Sydney Water

Complaint Type	Complaints Received 2001-2002	Complaints Deemed SWC Responsibility 2001-2002
Water quality		
- Dirty water	3,048	2,709
- Water health	124	123
- Other water quality	614	608
Water continuity	9,464	4,808
Water pressure	2,247	1,275
Sewer overflows	21,493	15,439
Odour	1,413	892
Stormwater	71	15
Account/rating/billing	6,628	6,628
Water other	708	249
Waste water other	1,030	499
Trade waste	12	12
Ancillary products	37	35
Developer services	16	16
Staff	91	83

Complaint Type	Complaints Received 2001-2002	Complaints Deemed SWC Responsibility 2001-2002
Contractors	125	109
Environmental issues	87	76
Pollution from STPs	5	4
Pollution from reticulation systems	25	5
Customer service	105	96
Drought	0	0
Meters	1,523	66
Allegations	2	2
Liability claims	10	4
Noise	112	107
Property	641	510
Trade Practices Act	0	0
EWON	231	0
Northside storage tunnel	1	0
Major capital projects	193	193
TOTAL	50,056	34,563

Source: Sydney Water: Operating Licence Compliance Report 2001-2002

The three systems also have different mechanisms for recording the resolution of complaints. For example the WAMS records a complaint which then generates a work order to enable crews to go into the field to deal with the problem. The complaint is recorded as resolved when the crews report back on the completed job. There is no further contact with the customer unless the customer calls back dissatisfied or the customer participates in one of the surveys used by Sydney Water to assess customer satisfaction. The ECS also records customer complaints, however before the complaint can be considered closed/resolved the customer has to be considered to be satisfied (yes/no). If they are not satisfied then the complaint needs to be referred to a more senior manager. With minor changes, such as including a rating system to allow the customer to rate their degree of satisfaction with the process and the addition of a field which asks if the customer would like their complaint escalated, this system could provide more detailed information and be more flexible for Sydney Water and the customer. However, this system only records a small number of the overall complaints made to Sydney Water compared to WAMS.

The Operating Licence requires that the dispute resolution scheme be based on the Australian standard for complaint handling – AS 4269-1995. While Sydney Water appears to have developed a procedure which covers the key elements of the complaint handling standard, the key judge of the system needs to be the customer or complainant. The policy developed by Sydney Water clearly states that “*the emphasis is on satisfying the customer*” which suggests that the customer is in the best position to assess their level of satisfaction. While the organisation may be able to show specific procedural steps which demonstrate compliance with the standard, if the complainant

is not satisfied with the process then the procedure is not producing one of the key outcomes required, a satisfied customer. While it would be possible to include fields to record levels of satisfaction at the point of customer contact/resolution in systems such as ECS and ACCESS, it would appear to add a further step in the WAMS complaint resolution process. This would require Sydney Water recontacting the complainant to assess their level of satisfaction with the job. This is the purpose of the annual Emergency Contacts Survey although it only takes a sample of jobs conducted during April and May which means that areas of dissatisfaction are only identified annually and could be impacted by seasonal and/or weather conditions. If it was not possible to assess the satisfaction of all complainants with the outcomes of their complaint then a rolling sample of complainants could be surveyed to assess their satisfaction with the complaint handling process and be asked to evaluate the key elements of the procedure. This could be done across all complaint receiving systems on an ongoing basis.

An area of concern which has been discussed at some length is the use of complaints to identify systemic problems within the system. While Sydney Water maintain that such assessment is being undertaken at an operational level the Auditor has not been able to access a report that puts this information together to validate the process. A copy of the report provided by Sydney Water to demonstrate its use of the complaint data is attached in **Appendix G**. As indicated in the compliance tables above Sydney Water's report to the Board meeting of 17 April 2002 indicated that *"A workshop is planned with the General Manager to discuss reasons for complaints and actions to be implemented to reduce their occurrence"*. A report as advocated by the Auditor and the Operating Licence would assist in presenting this information to the Board.

A key area of discontent within Sydney Water is the need to comply with the clause requiring reporting of complaints by suburb. This continues to generate a significant level of concern about wasting resources to produce reports which Sydney Water believes have no relevance to the provision of a quality water and wastewater system.

10.4.2 External Dispute Resolution Scheme

The Energy and Water Ombudsman NSW (EWON) scheme continues to be the mechanism adopted by Sydney Water through which customers can obtain an independent review of their complaint.

The Auditor continues to rely heavily on the material provided by Sydney Water from EWON to assess compliance. With the implementation of the suggestions from last year's audit there were few new areas of concern.

10.4.3 Complaints to Other Bodies

There were only two (2) complaints with other bodies and these were withdrawn by the complainants.

10.5 FACTORS AFFECTING COMPLIANCE

10.5.1 Internal Dispute Resolution Process

The key issues impacting the compliance rating for this section include:

- The need for greater use of customer/complainant feedback to assess the level of compliance with the elements of AS4269-1995,
- The lack of suburb detail in reporting complaints as required by the Licence,
- The lack of detail about *“how and how well those complaints were resolved or why complaints were not resolved”* as required by the Licence,
- The lack of a comprehensive report which integrates the system based complaints with the relevant spatial components to provide the necessary assurance that systemic problems are being identified and addressed in a strategic way.

10.5.2 External Dispute Resolution Scheme

The only factor impacting compliance was that of reporting of “resolved” complaints from EWON compared with reporting “received” complaints as required by the Licence. This was overlooked last year and results from the process used by EWON. While the majority of complaints received by EWON are resolved quickly there will always be a small number that will be unresolved at the end of the audit period. At present these complaints are not reported until the following year as long as they have been resolved. This would require EWON to include in their report to Sydney Water a listing of the complaints received but are still awaiting resolution at the end of the year.

10.5.3 Complaints to other Bodies

Only two (2) complaints were reported by Sydney Water as having been received from other bodies. The auditor did not do any further checks with other bodies to assess whether there are other disputes that have not been reported.

10.6 RECOMMENDATIONS

10.6.1 Key Recommendations

It is recommended that Sydney Water:

- R10.1 Following the termination of the development of the Customer Information and Billing System (CIBS) integrate the three complaint recording systems, namely Water Asset Management System (WAMS), Emergency Contacts Survey (ECS) and ACCESS.
- R10.2 Obtain resolution from IPART as to whether Sydney Water should report complaints by suburb.

- R10.3 Prepare a comprehensive report which demonstrates the use of complaint data to identify problems of a systemic nature in specific geographic areas and the strategies used to overcome these problems.

10.6.2 Secondary Recommendations

It is recommended that Sydney Water:

- R10.4 Request EWON to provide a report on all complaints received during the audit period, including those that had not been resolved.
- R10.5 Develop mechanisms to record the level of satisfaction of complainants with the process and outcomes of their complaint, with specific reference to the key elements of AS4269-1995.
- R10.6 Refine the reporting framework for unresolved complaints to provide information about why they are not resolved and ensure that the correct number of unresolved complaints for the audit period is reported.