

Sydney Water Corporation Operational Audit 2007/08

Report to the Minister

Water — Compliance Report
December 2008

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1 Introduction and Overview

The Independent Pricing and Regulatory Tribunal of New South Wales (IPART) has completed the audit of Sydney Water Corporation's (Sydney Water) compliance with the requirements of its 2005-2010 Operating Licence (the licence). This audit covers the period from 1 July 2007 to 30 June 2008. IPART engaged Cardno (Qld) Pty Ltd (Cardno) as a consultant to assist with the 2007/2008 Operational Audit (the audit) of Sydney Water.

The purpose of this report is to inform the Minister for Water of IPART's findings in relation to Sydney Water's performance against its licence obligations for the audit period and set out IPART's recommendations in response to these findings.

Sydney Water is a State Owned Corporation, wholly owned by the NSW Government. Its primary role is to manage potable water supply and sewage treatment to protect public health and the environment for the benefit of Sydney and surrounding urban areas. These roles and responsibilities are derived from the *Sydney Water Act 1994* (the Act) and the Operating Licence issued to Sydney Water pursuant to Part 5 of the Act.

Section 33 of the Act requires the Minister for Water Utilities to table the IPART audit report in both Houses of Parliament within one month of receiving the report.

The licence provides for a risk-based auditing regime. The risk-based auditing process provides that only clauses assessed as having high risks associated with non-compliance are included in the audit scope. High risk clauses include those relating to water quality, infrastructure and demand management. Cardno assessed Sydney Water's compliance with the high risk areas of the licence and submitted an audit report to IPART. Other clauses assessed as lower risk were subject to a review by IPART.

1.1 Overview of Audit Findings

IPART found that Sydney Water had managed its resources to achieve overall **Full Compliance** with the auditable requirements in the licence. Specifically, IPART found that Sydney Water:

- ▼ Continued to supply treated drinking water of an **excellent quality**.
- ▼ Achieved **Full Compliance** with requirements related to the *Australian Drinking Water Guidelines*.

- ▼ Implemented a Recycled Water Quality Management Plan based on the new *Australian Guidelines for Water Recycling*.
- ▼ Achieved **Full Compliance** with infrastructure performance requirements including water continuity, water pressure and sewer overflows and response times for leaks and breaks.
- ▼ Achieved **Full Compliance** with the Demand Management requirements, including water conservation, leakage management and water recycling.

In relation to Ministerial requirements arising from the 2005/06 audit, IPART found that the outstanding 2006/07 requirements for pressure zones had been implemented and the September 2008 target for bulk meter installation had been exceeded.

Sydney Water demonstrated that it had maintained compliance with those licence clauses not subject to a detailed audit. Sydney Water's compliance with each section of the licence is discussed further in subsequent sections of this report.

1.2 IPART's Recommendations

IPART's consultant has recommended that IPART discuss amendments to the Monitoring and Reporting Protocol with Sydney Water in relation to the measurement of response time for Priority 4 water main breaks/leaks (Clause 4.13.1c2) to avoid contradiction between compliance requirements. IPART notes that this matter was raised in the 2006/07 audit and is keen to settle it promptly. IPART therefore undertakes to resolve this matter with Sydney Water before 30 April 2009.

A number of opportunities for improvement were identified during the audit. Generally, these are not directed at materially improving compliance with the licence, but are suggestions to improve Sydney Water's practices and procedures.

IPART believes that Sydney Water should consider these suggestions and use them to guide its efforts to further enhance its future compliance. IPART has provided comments on these throughout the body of this report.

1.3 Structure of report

This report presents and discusses the findings and recommendations of the 2007/2008 audit of Sydney Water.

Chapter 2 explains the basis for and scope of the audit review, and the process followed in undertaking it.

Chapters 3 to 9 discuss Sydney Water's compliance with the obligations set out within each of the following sections of the licence:

- ▼ Water Quality (Chapter 3)
- ▼ Infrastructure Performance (Chapter 4)
- ▼ Customer and Consumer Rights (Chapter 5)
- ▼ Complaint and Dispute Handling (Chapter 6)
- ▼ Environment Indicators and Management (Chapter 7)
- ▼ Water Conservation and Demand Management (Chapter 8)
- ▼ Sydney Water's implementation of Memoranda of Understanding with other government agencies (Chapter 9).

Each chapter presents a summary of the audit findings and recommendations, where applicable, for each part of the licence. In addition, compliance with clauses not subject to a detailed audit is discussed. Finally, IPART has provided commentary and an overall assessment of Sydney Water's performance for the audit period.

Appendix A sets out which Licence clauses were independently audited and which clauses were subject to IPART review. A copy of the consultant's report is provided at Appendix B. Detailed findings of the IPART review of non-auditable clauses is provided at Appendix C and a copy of Sydney Water's 2007/08 Statement of Compliance is provided at Appendix D.

2 | Audit Scope and Process

Part 12 of the Operating Licence stipulates that IPART is to undertake an audit of Sydney Water's performance against the requirements of the licence each year and report its findings to the Minister. The 2007/08 audit is the third audit of the 2005-2010 licence.

2.1 Scope

The licence provides for a risk-based approach to the assessment of compliance with Licence requirements. The adoption of the risk-based approach improves the effectiveness and efficiency of the auditing process without increasing the risks to the community. It allows audit resources to be targeted to areas of higher risk while reducing the overall burden of compliance. Appendix A sets out the scope of the 2007/08 audit and identifies which licence requirements are subject to a comprehensive audit and which are subject to review by IPART.

2.2 Process

IPART engaged Cardno to assess Sydney Water's performance against licence requirements that were identified as being higher risk. As part of the audit process, IPART advertised for public submissions in the Sydney Morning Herald and the Daily Telegraph on 10 September 2008.

Cardno adopted a methodology consistent with ISO 14011 "Guidelines for Environmental Auditing" for this audit. These guidelines set out a systematic approach to defining the requirements of the audit, which ensure that it is conducted in accordance with an established and recognised audit protocol.

IPART held an inception meeting with Cardno, Sydney Water's Managing Director and other representatives on 15 September 2008. This meeting set out mutual understanding and expectations of the requirements of the audit and protocols for the conduct of the audit. All parties generally adhered to the agreed protocols throughout the audit. IPART attended all meetings between the consultant and Sydney Water.

IPART provided Sydney Water with drafts of the audit report, and gave it an opportunity to provide its comments on these documents. These comments were considered before the audit report was finalised. The technical audit report is attached as Appendix B.

Sydney Water's compliance with the relevant requirements of the Operating Licence was assessed according the following schedule:

Compliance Grade	Description detail
Full Compliance	All requirements of the condition have been met.
High Compliance	Most requirements of the condition have been met with some minor technical failures or breaches.
Moderate Compliance	The major requirements of the condition have been met.
Low Compliance	Key requirements of the condition have not been met but minor achievements regarding compliance was not available to the auditor.
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 the utility to meet.

2.3 IPART's review of obligations not subject to Audit

The IPART Secretariat consulted with Sydney Water officers for the purposes of its review of those clauses which were not subject to a formal audit by the consultant. The intention of this review was to verify compliance with the requirements of the Licence classed as low risk under the risk-based auditing framework, without imposing excessive regulatory burden on Sydney Water. Sydney Water cooperated with IPART throughout this review process. IPART's review of the performance of Sydney Water against the lower risk clauses of the Licence is attached as Appendix C.

Sydney Water provided IPART with a report setting out evidence of compliance with licence obligations during the 2007/08 audit period. This report was accompanied by a statement certifying compliance signed by the Managing Director of Sydney Water and the Chairman of the Sydney Water Board. This report and statement are attached as Appendix D.

3 | Water Quality

Part 3 of the licence deals with water quality. It includes requirements relating to planning, monitoring, reporting and incident management. Part 3 also includes requirements relating to the supply of other grades of water.

Under the risk-based auditing framework, IPART considers this section of the licence to be one that poses a higher risk in terms of the likelihood and consequence of non-compliance.

3.1 Audit Findings

Drinking Water Quality – Standards

Sydney Water obtained **Full Compliance** with respect to the quality of treated drinking water to supplied customers. The water quality supplied is generally of an excellent standard and complies with the health related requirements of the current *Australian Drinking Water Guidelines (2004)* and the *Fluoridation Code*.

Drinking Water Quality – Reporting

Sydney Water obtained **Full Compliance** with the requirement to provide quarterly reports that include water quality monitoring result to NSW Health and publish these reports on its website.

Drinking Water – Planning

Sydney Water achieved **Full Compliance** with the requirement to prepare an annual report on the implementation of the five-year Drinking Water Quality Management Plan.

Other Grades of Water

Sydney Water obtained **Full Compliance** with the requirements for “supply of other grades of water” for the Rouse Hill recycled water scheme, and other schemes. The most critical physical and chemical parameters were assessed as compliant with relevant Guidelines¹. Further, these schemes employed a risk based framework which was consistent with the requirements of the new Australian Guidelines for Water Recycling (AGWR). Sydney Water has incorporated the AGWR into its Environmental Management System.

3.2 IPART’s Recommendations

IPART has made no recommendation in relation to this section of the Licence.

3.3 IPART’s review of obligations not subject to audit

Drinking Water Quality – Standards

IPART found that Sydney Water monitored five water quality characteristics that have both a Health and an Aesthetic Guideline Value. For these characteristics, compliance was assessed against the Health Guideline values, as required by the Licence.

Drinking Water Quality – Monitoring

IPART assessed that Sydney Water complied with the requirement to prepare an annual Drinking Water Quality Monitoring Plan and submit this document to NSW Health by 31 March each year.

Drinking Water – Incident Management

Sydney Water’s Drinking Water Quality Incident Management Plan comprises the Emergency Response Handbook and the Water Quality Event Management Standard Operating Procedures. Sydney Water follows the 12 elements of the *Australian Drinking Water Guidelines 2004* which stipulate operational procedures and monitoring programs to manage drinking water quality.

¹ NSW Recycled Water Coordination Committee “NSW Guidelines for Urban and Residential Use of Reclaimed Water” 1st Edition, May 1993; National Water Quality Management Strategy (ARMCANZ, ANZECC, NHMRC) “Guidelines for Sewerage Systems – Use of Reclaimed Water”, November 2000; and DEC (NSW) Environmental Guidelines “Use of Effluent by Irrigation, October 2004.

3.4 IPART's comments

Sydney Water continued to supply consumers with water of excellent quality during 2007/08. It has complied with the health and aesthetic related guideline values of the current Australian Drinking Water Guidelines (ADWG 2004) as specified by NSW Health. Sydney Water also maintains a comprehensive five-year Drinking Water Quality Management Plan, which adopts the approach and framework for management of drinking water quality set out in the ADWG 2004.

In relation to other grades of water, Sydney Water fully complies with the licence requirements to adopt the relevant guidelines specified by NSW Health and DECC, including the new *Australian Guidelines for Water Recycling*. IPART considers that the cooperative approach with NSW Health to implement these Guidelines is commendable.

IPART does not recommend that additional requirements be imposed on Sydney Water by the Minister in relation to this part of the licence.

4 Infrastructure Performance

Part 4 of the licence requires Sydney Water to meet all system performance standards (water continuity, water pressure and sewage overflows), the response time for water main breaks, and requirements in relation to the “Priority Sewerage Program”.

Under the risk-based auditing framework, IPART considers this section of the licence to be one that poses a higher risk in terms of the likelihood and consequence of non-compliance.

4.1 Audit Findings

Sydney Water achieved **Full compliance** for meeting the Water Pressure Standard, Water Continuity Standard and Sewage Overflow Standard respectively.

Water Pressure Standard

There was a significant improvement from last year in relation to water pressure performance. 345 properties experienced a pressure less than 15 metres head in 2007/08 compared to 1,094 properties in 2006/07. The standard that no more than 15,000 properties experience low pressure was comfortably achieved. IPART is of the view that the high level of performance was a result of a combination of the largely completed “Poor Pressure Improvement Program” and the effect of water restrictions.

Water Continuity Standard

In 2007/08, there were 16,576 properties affected by planned interruptions. This represents a 4 per cent reduction from the 17,292 properties affected in 2006/07 and easily complied with the standard that no more than 32,000 properties experience a planned interruption.

On the other hand the number of properties that experienced an unplanned interruption was 31,982, an increase of 8 per cent over 29,592 properties recorded in 2006/07. This trend has been tracking up since 2004/05 and is approaching the upper limit of 35,000 properties required by the standard. Sydney Water reported that this year’s result was exacerbated by two major broken water main events and the need to comply with the response time requirement for water main breaks and leaks.

Sydney Water perceives a conflict between the requirement to simultaneously meet both the water continuity standard and the response time requirements in the licence. In order to manage its resources to meet these two requirements, Sydney Water has implemented a number of initiatives. These include:

- ▼ development of a Standard Operating Procedure to assist field staff to address the conflict between the Response Time Targets and the Water Continuity Standard
- ▼ introduction of a Field Resources Management (FRM) system to improve the efficiency of managing field service requests, and
- ▼ development of capacity to reallocate resources during high demand periods from planned maintenance activities to attend to emergency service requests.

IPART acknowledges Sydney Water's effort to balance these licence requirements.

Sewage Overflows on Private Property Standard

IPART notes the significant reduction in properties affected by dry weather sewer overflows compared to the results in 2006/07 (down to 18,148 from 24,924). This improvement confirms that Sydney Water is progressing well in its Sewer Choke Management Strategy and indicates that further reduction in affected properties is likely in future years. IPART supports this initiative.

Response Time for Water Main Breaks

Sydney Water achieved overall **Full Compliance** with the response time requirements. IPART is aware of the apparent anomaly within the requirement to meet the response time for the lowest category of leaks (priority 4). The licence requires that all priority 4 leaks and bursts be resolved within 5 days but provides that Sydney Water should provide an explanation for those priority 4 leaks that took longer than 5 days to resolve. IPART intends to address this matter with Sydney Water via the Monitoring and Reporting Protocol.

4.2 IPART's Recommendations

As mentioned above, IPART undertakes to resolve the apparent anomaly in requirements associated with Priority 4 leaks and breaks. IPART intends to address this matter prior to 30 April 2009.

4.3 IPART's review of obligations not subject to audit

Reporting on System Performance Standards

In 2007/08, Sydney Water made two changes to its record systems that have improved its performance against the system performance standards. These are to replace the paper based Job Cards for water and wastewater service requests with the new Field Resource Management (FRM) system, and to transfer the Integrated Instrumentation Control Automation and Telemetry System (IICATS) into the new Enterprise Data Warehouse. These changes have enabled Sydney Water to more efficiently manage service requests by improving response times, minimising data entry errors, and improving data management and reporting. IPART supports this initiative.

Service Quality and System Performance Indicators

The record systems described above are used to measure Sydney Water's performance in this area of the licence. IPART found that during 2007/08, Sydney Water fulfilled all reporting requirements in the licence with respect to Service Quality and System Performance Indicators.

Water Leakage

Sydney Water reported that the current level of water leakage is approximately 117ML/day. Sydney Water believes that further reduction is achievable through the Pressure Management Program and the Active Leak Detection Program.

Sydney Water has advised IPART that it has adopted a number of initiatives to meet the water leakage reduction target of 105ML/day by 30 June 2009. IPART has no reason to dispute the efficacy of these measures.

IPART accepts that the measurement of leakage is a complex task. To address the difficulties, Sydney Water has proposed a two-stage reporting schedule to achieve accurate measurement of the long term trend in leakage. Sydney Water has also suggested that a statistical range will need to be developed to report the target. IPART intends to address this matter with Sydney Water prior to the 2009 audit.

Priority Sewerage

Sydney Water reported that all projects in the Priority Sewage Program (PSP) Stage 1 are on track to meet the 30 June 2009 Target. It envisaged no planning delays of material significance that could impair its ability to meet licence targets for PSP delivery. The initial PSP Stage 2 projects are in the planning phase of execution. Subject to anticipated timeframes for planning and funding approvals, Sydney Water expects these initial schemes will meet licence timing requirements.

4.4 IPART's comments

Overall, Sydney Water achieved full compliance with the auditable requirements of the Infrastructure Performance Section of the Operating Licence in 2007/08.

IPART notes a rising trend in the number of properties recorded under the Water Continuity Standard. However, while the number of properties affected by unplanned water interruptions has increased, the number of events has decreased. Additionally, Sydney Water's performance against the Water Continuity Standards is complicated by the response time requirement. IPART notes Sydney Water's initiatives to manage its resources between the two requirements and will monitor Sydney Water's progress during 2008/09.

IPART recognises the ambiguity in clause 4.13 and will address this matter prior to 30 April 2009.

IPART does not recommend that additional requirements be imposed on Sydney Water by the Minister in relation to this part of the licence.

5 Customer and Consumer Rights

Part 5 of the Operating Licence deals with the Customer Contract, the Code of Practice on Debt and Disconnection, and the Customer Council. It also includes requirements for measuring and reporting of Customer Service Indicators.

IPART has assessed Part 5 of the Licence as mainly low risk for the purposes of risk-based auditing. This part is subject to review by IPART in the 2008 Audit.

5.1 IPART's Recommendations

IPART has made no recommendation in relation to this section of the Licence.

5.2 IPART's review of obligations not subject to audit

Overall, IPART has assessed that Sydney Water has complied with the requirements in relation to Customer Contract and Code of Practice for disconnection in the Operating Licence in 2007/08. It has also extended its obligations under the Customer Contract relating to complaint handling and dispute resolution procedures to consumers.

Sydney Water operates the Corporate Customer Council in accordance with the Operating Licence requirements. During 2007/08, Sydney Water consulted with the Corporate Customer Council and the Corporate Customer Council provided advice to Sydney Water on a number of projects and strategies, including pricing and major infrastructure projects. The Corporate Customer Council Annual Report 2007 is posted on the Sydney Water website.

Sydney Water has fulfilled the requirement to maintain record systems for the Customer Service Indicators set out in Schedule 2 of the Operating Licence, and has reported to IPART on its 2007/08 performance against the Customer Service Indicators.

5.3 IPART's comments

This section of the Operating Licence was subject to IPART's review for this audit. Based on the information provided, IPART found that Sydney Water has complied with the Customer and Consumer Rights requirements contained in the licence during the 2007/08 audit, with minor exceptions. Further details of IPART's review including details of the exceptions can be found in Appendix C.

6 Complaint and Dispute Handling

Part 6 of the Operating Licence requires Sydney Water to establish and maintain internal complaint handling procedures, and maintain membership of an industry based dispute resolution scheme. Additionally, Sydney Water must report to IPART annually on all external complaints brought against it that relate to its performance under the licence or the Customer Contract.

IPART has assessed Part 6 of the licence as mainly low risk for the purposes of risk-based auditing. This part is subject to review by IPART in the 2008 Audit.

6.1 IPART's Recommendations

IPART has made no recommendation in relation to this section of the Licence.

6.2 IPART's review of obligations not subject to audit

Sydney Water has fulfilled all requirements in the licence relating to its internal and external dispute resolution processes. Sydney Water is a member of the Energy and Water Ombudsman NSW (EWON), which was approved by the Minister as an industry based dispute resolution scheme.

Additionally, Sydney Water has fulfilled all the reporting requirements under the section entitled 'Complaints to other bodies' in the licence.

6.3 IPART's comments

IPART notes that Sydney Water's internal complaint handling procedure is based on the new Australian Standard for complaint handling (AS ISO 1002 2006). It contains a clear definition for complaints and sets objectives for complaint handling.

Sydney Water's 2007/08 report on customer complaints was concise and informative. It complies with all requirements of the licence, including analysis of systemic problems, and the implementation of strategies to resolve these issues.

IPART notes that the number of complaints has risen significantly in 2007/08 (details are included under clause 5.5.3 in Appendix C). Sydney Water reported that this was mainly due to an increase in billing complaints, related to the appointment of a new meter reading contractor. Sydney Water has assured IPART that remedial plans are in place, through revised training and competency program for meter reading. The performance of the contractor continues to be closely monitored.

7 Environment – Indicators and Management

Part 7 of the Operating Licence deals with the monitoring and reporting of Environmental Performance Indicators, environment management systems and plans, and targets for potable water use in sewage treatment plants.

Under the risk-based auditing framework, IPART considers this part of the Licence to be one that constitutes low to moderate risks on non-compliance. It is subject to review by IPART in the 2008 Audit.

7.1 IPART's Recommendations

IPART has made no recommendation in relation to this section of the Licence.

7.2 IPART's review of obligations not subject to audit

Environment Indicators

Sydney Water had fulfilled the requirements for monitoring, recording and reporting on the Environmental Performance Indicators in Schedule 3 of the licence for 2007/08. Comparable historical data has been included in the report, where this is available.

Environmental Management

Sydney Water held the certification of its Environmental Management System (EMS) to AS/NZS ISO 14001:2004 in 2007/08. The certification is valid for 3 years to 2011, and is subject to a surveillance audit every 6 months. Sydney Water also complied with the requirements to annually review and update its Environment Plan in accordance with its EMS, and to make the Plan available to the public.

Potable Water Use

Sydney Water had fulfilled the requirements in 2007/08 to report to IPART on its progress in 2007/08 in regard to potable water use at its sewage treatment plants.

7.3 IPART's comments

Sydney Water had provided IPART with an Environmental Performance Indicators Report and a progress report against its 2007-2012 Environment Plan.

The reports are concise and informative. The Environmental performance Indicators Report includes a summary of Sydney Water's performance in 2007/08 and its overall performance over the period where historical data was available.

Although there is no requirement in 2007/08 to achieve any potable water use targets, Sydney Water has demonstrated positive progress towards the June 2009 targets in respect to:

- ▼ Reducing potable water use by 80 per cent for Malabar, North Head and Bondi sewage treatment plants.
- ▼ Ensuring all sewage treatment plants use at least 85 per cent recycled water for treatment processes.
- ▼ Undertaking potable water efficiency audits at its sewage treatment plants.

8 Water Conservation and Demand Management

Part 9 of the Operating Licence deals with water conservation and demand management. It includes requirements relating to a water conservation target, demand management strategy, reducing discharges, water conservation rating and labelling.

Under the risk-based auditing framework, IPART considers this section of the licence to be one that poses a moderate to high risk in terms of the likelihood and consequence of non-compliance.

8.1 Audit Findings

Sydney Water achieved **Full compliance** with the auditable requirements of this section of the Licence. This performance is consistent with last year, where overall full compliance was achieved for the demand management requirements in the licence.

Demand Management Strategy

Sydney Water achieved **Full Compliance** for giving due consideration to demand management when planning the future provision of services, and for providing the Water Conservation and Recycling Implementation Report 2007/08 to IPART in accordance with the licence requirements. IPART found that Sydney Water continued to demonstrate a high level of commitment towards water conservation and demand management, evidenced through the range of documentation from individual Performance Development Plans through to the Corporate Plan, including relevant quality procedures.

Sydney Water has measures in place to ensure that planning at the strategic level is implemented at the area level planning. This is evidenced through the 'Product and Servicing Strategy' and a work plan for the key activities necessary to achieve the long-term sustainable provision of water services. Sydney Water has a sound process for identifying (through internal and external research), investigating (through pilot trials) and evaluating (by applying the End Use Model and a Multi-Criteria Analysis Model) potential water conservation measures.

IPART's consultant suggested that the reporting format and content for the schedule of planned and actual water savings and expenditure and the actual measures of the outcomes for performance indicators be reviewed to better reflect the current number

of programs and the current level of savings achieved. IPART supports this suggestion.

Ministerial Requirements

There was a Ministerial Requirement in the 2006/07 audit year in relation to installation of pressure zones. The two remaining pressure zones outstanding from 2006/07 were installed by the end of September 2007.

In the 2005/06 audit, there was a Ministerial Requirement in relation to installation of bulk flowmeters. 68 flowmeters were required to be installed before 30 September 2008 (40 for 2006/07 and the remaining 28 before 30 September 2008). IPART reviewed Sydney Water's progress towards the second part of this target and notes that Sydney Water had installed 90 flowmeters in total by 30 June 2008, which exceeds the requirement.

8.2 IPART's Recommendations

IPART has no recommendation in respect of water conservation and demand management.

8.3 IPART's review of obligations not subject to audit

Water Conservation Target

In 2007/08, an estimated consumption of 308 litres per person per day (LCD) was achieved. This figure takes account of corrections for climate and the effects of water restrictions. The comparable figure for 2006/07 was 328 LCD. If the effects of water restrictions were removed, the estimated consumption would have been 378 LCD in 2007/08 and 389 LCD in 2006/07. This reduction in estimated consumption demonstrates improved performance against the Water Conservation Target of 329 LCD by 2010/11. Meeting this target will depend on a variety of assumptions, as explained under section 9.1 in Appendix C.

The 2007/08 Water Conservation and Recycling Implementation Report provides information relating to Sydney Water's progress towards the Water Conservation Target, together with details of water conservation activities, initiatives and strategy. Further details relating to Sydney Water's progress towards the Water Conservation Target can be found in Appendix C (under clauses 9.1.2 and 9.1.3).

Reducing Discharges

Recycling and water conservation measures reduce discharge to waterways. The 2006 Metropolitan Water Plan includes a target for recycling 70GL of water by 2015. Sydney Water currently recycles 41ML/day from existing sewage treatment plants. Sydney Water expects that in 2015, 126GL/year of treated wastewater will be

prevented from entering the waterways. Sydney Water projections suggest that recycling will contribute 70GL/year to this total and water conservation programs will contribute a further 56GL/year.

Water Conservation Rating and Labelling

Sydney Water supports the National Water Conservation Rating & Labelling Scheme. In addition, efficient washing machines are promoted through the washing machine rebate offered by Sydney Water and efficient fixtures through the WaterFix, DIY and Business Retrofits programs.

8.4 IPART's comments

Sydney Water achieved full compliance with the audited demand management requirements in 2007/08, and demonstrated that it is progressing towards meeting the water conservation target of 329 litres per capita per day by 2010/11. Although there is no requirement in the licence to exclude the effects of water restrictions in estimating water consumption, Sydney Water assumes that water restrictions will be lifted in the summer of 2009/2010, and water consumption can be expected to track to higher levels. Sydney Water has a strategy in place to implement a range of water conservation initiatives to ensure that it meets the Water Conservation Target by 2010/2011.

IPART acknowledges that Sydney Water has shown commitment to addressing the water conservation and demand management requirements of the licence and continues to improve its performance through its adaptive management approach.

IPART assessed that the Water Conservation and Recycling Implementation Report 2007/08 provided by Sydney Water fulfilled the reporting requirements contained in these sections of the Licence.

9 Sydney Water's Implementation of Memoranda of Understanding with Other Government Agencies

9.1 IPART's Recommendations

IPART has made no recommendation in relation to this section of the Licence.

9.2 IPART's review of obligations not subject to audit

Memorandum of Understanding (MoU) with WAMC

The current Memorandum of Understanding (MoU) with the Water Administrative Ministerial Council (WAMC) has been in place since 13 March 2007 and replaced a MoU made in June 2002. The current MoU states that WAMC is represented by the Department of Natural Resources, which was abolished soon after the MoU was signed. The sections of the Department responsible for WAMC were transferred to the newly created Department of Water and Energy (DWE).

Sydney Water recently wrote to DWE to propose that the MoU be reviewed. The review is necessary to update references to the Department of Natural Resources and to ensure that the MoU accurately reflects the nature of the current relationship between WAMC and Sydney Water, particularly in relation to consultation between the two organisations. DWE has informally agreed to the review and supports its proposed objectives.

IPART understands that Sydney Water and WAMC have been working together on a range of issues in a manner that embodies the cooperative relationship espoused by the MoU and recognises the respective roles of WAMC and Sydney Water.

MoU with NSW Health

Sydney Water prepared and signed a revised MoU with NSW Health on 15 February 2006 for the term of the current licence.

Sydney Water has maintained a cooperative working relationship with NSW Health through the Strategic Liaison Group and Joint Operational Group. These work groups routinely meet to discuss drinking water quality issues. They involve the Sydney Catchment Authority in health and drinking water quality management issues.

Sydney Water prepares a Drinking Water Quality Monitoring Plan each year and forwards this to NSW Health for endorsement. Additionally, Sydney Water has developed Incident/Event management policies, plans and procedures and forwarded these to NSW Health for their input, comments and endorsement.

MoU with EPA (DECC)

The current MoU signed on 30 June 2006.

In April 2007 the Department of Environment and Conservation (DEC) took on a range of new responsibilities and changed its name to the Department of Environment and Climate Change (DECC).

Cooperative relationship with DECC is evidenced through formal interactions between the two agencies via the Strategic Liaison Group and the Operational Policy Committee and more informal officer level meetings.

9.3 IPART's comments

IPART is satisfied that Sydney Water has demonstrated that it had exercised its best endeavours to maintain the Memorandum of Understanding with the WAMC (DWE), NSW Health and the EPA (DECC) in 2007/08, thereby fulfilling its licence obligations.



Appendices

A Audit Scope for Sydney Water Corporation's Operational Audit in 2008

Note that clauses not mentioned in the following table are generally not auditable, unless reference has been made from one of the auditable clauses.

Sydney Water Corporation Operating Licence		2007/08 audit scope
3	Water Quality	
3.1	Drinking Water Quality – Standards	Audit (clauses 3.1.1 and 3.1.3) IPART Desktop Review (clause 3.1.2)
3.2	Drinking Water Quality – Monitoring	IPART Desktop Review
3.3	Drinking Water Quality – Reporting	Audit
3.4	Drinking Water – Planning	Audit (clause 3.4.4) IPART Desktop Review (clauses 3.4.1 to 3.4.3)
3.5	Drinking Water - Incident Management	IPART Desktop Review
3.6	Other Grades of Water	Audit (clause 3.6.1) IPART Desktop Review (clause 3.6.3)
4	Infrastructure Performance	
4.4	Compliance with Performance Standards	Audit
4.5	Reporting on system performance standards	IPART Desktop Review
4.6	Review of system performance standards	IPART Desktop Review (clause 4.6.4)
4.7	Service quality and system performance indicators	IPART Desktop Review (clauses 4.7.1, 4.7.3 & 4.7.4)
4.11	Water Leakage	IPART Desktop Review (clauses 4.11.2 & 4.11.3)
4.12	Reports Related to Water Leakage	IPART Desktop Review
4.13	Response time for water mains breaks	Audit (clauses 4.13.1 & 4.13.4) IPART Desktop Review (clauses 4.13.2 & 4.13.3)

Sydney Water Corporation Operating Licence		2007/08 audit scope
4.14	Priority Sewerage	IPART Desktop Review (clauses 4.14.1 to 4.14.3)
5	Customers and Consumers Rights	
5.1	Customer contract	IPART Desktop Review (clauses 5.1.4, 5.1.8, & 5.1.9)
5.2	Consumers	IPART Desktop Review
5.3	Code of Practice and Procedure on Debt and Disconnection	IPART Desktop Review
5.4	Customer Councils	IPART Desktop Review
5.5	Customer Service Indicators	IPART Desktop Review
6	Complaint and Dispute Handling	
6.1	Internal Dispute Resolution Process	IPART Desktop Review
6.2	External Dispute Resolution Scheme	IPART Desktop Review
6.3	Complaints to other bodies	IPART Desktop Review
7	Environment – Indicators and Management	
7.1	Environmental Indicators	IPART Desktop Review
7.2	Environmental Management	IPART Desktop Review (clauses 7.2.1, 7.2.2, 7.2.4 to 7.2.7)
7.3	Potable Water Use	IPART Desktop Review (clause 7.3.4)
8	Pricing	
8	Pricing	IPART Desktop Review
9	Water Conservation and Demand Management	
9.1	Water Conservation Target	IPART Desktop Review (clauses 9.1.2 & 9.1.3)
9.2	Demand Management Strategy	Audit (clauses 9.2.1 to 9.2.3)
9.3	Reducing Discharges	IPART Desktop Review
9.4	Water Conservation Rating and Labelling	IPART Desktop Review
10	Licence authorisation and Area of operations	
10.4	Connection of Services	IPART Desktop Review
10.5	Non-exclusive Licence	IPART Desktop Review
11	Liability issues	
11.1	Contracting out	IPART Desktop Review

Sydney Water Corporation Operating Licence		2007/08 audit scope
11.2	Damage and compensation to persons	IPART Desktop Review
11.3	Competitive neutrality	IPART Desktop Review
12	Operational Audits of this Licence	
12.2.1(b)	Sydney Water's implementation of any Memorandum of Understanding	IPART Desktop Review
	Ministerial Requirements from the 2005/06 Operational Audit	
	Sydney Water to achieve creation of 14 larger pressure zones instead of the originally forecast 21 zones by June 2007 (with no reduction to water saving benefits or designated properties).	<p>Audit</p> <p>(The auditor is to assess the outstanding requirement to complete the remaining two pressure zones in 2007/08)</p>
	Sydney Water had completed installation of 12 of the 14 pressure zones in 2006/07.	
	Sydney Water to achieve the revised flowmeters installation program which entails installation of 40 flowmeters before 30 June 2007 and installation of the remaining 28 flowmeters before 30 September 2008.	<p>Audit</p> <p>(The auditor is to assess Sydney Water's progress against the second part of this requirement in 2007/08)</p>

B Cardno Final Report – 2008 Operational Audit of Sydney Water Corporation

**Sydney Water Corporation
Operational Audit
October 2008**

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Glossary/Definitions

Abbreviations

Acronym	Description
ADWG (1996)	Australian Drinking Water Guidelines (1996), National Health and Medical Research Council and Agriculture and Resource Management Council
ADWG (2004)	Australian Drinking Water Guidelines (2004), National Health and Medical Research Council and Agriculture and Resource Management Council
ANZECC	Australia and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
BASIX	Building Sustainability Index
DEC	Department of Environment and Conservation
DECC	Department of Environment and Climate Change
DIPNR	Department of Infrastructure, Planning and Natural Resources (now Department of Planning)
DMS	Demand Management System
DNR	Department of Natural Resources
DWE	Department of Water & Energy (formerly Department of Natural Resources)
ELL	Economic Level of leakage
EMS	Environmental Management System
EPA	Environment Protection Authority
EPI	Environmental Performance Indicator
ESD	Ecologically Sustainable Development
EWON	Energy and Water Ombudsman NSW
FRM	Field Resource Management
HACCP	Hazard Analysis and Critical Control Points
IICATS	Integrated Instrumentation Control and Telemetry System
ILI	Infrastructure Leakage Index
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISO	International Organisation for Standardisation
IWA	International Water Association
LCD	Litres per capita per day water consumption
KPI	Key Performance Indicator
MCA	Multi-Criteria Analysis
MOD	Modified – Modified from ISO 10002:2004, Quality management—Customer satisfaction—Guidelines for complaints handling

Acronym	Description
MOU	Memorandum of Understanding
NATA	National Analytical Testing Authority
NHMRC	National Health and Medical Research Council
NSW Health	NSW Department of Health
NWI	National Water Initiative
R&D	Research & Development
RWQMP	Recycled Water Quality Management Plan
SCA	Sydney Catchment Authority
SOP	Standing Operating Procedure
STP	Sewage Treatment Plant
SWC	Sydney Water Corporation
WAMC	Water Administration Ministerial Corporation
WAMS	Works & Asset Management System
WCRIR	Water Conservation and Recycling Implementation Report
WELS	Water Efficiency Labelling Standards
WES	Water Efficiency Standards
WSAA	Water Services Association of Australia

Glossary/Definitions

General Terms and Definitions	
Term	Meaning
Act	Sydney Water Act, 1994
Area of Operations	As specified in section 10(1) of the Act and described in Part 10 of the Operating Licence.
Audit period	1 July 2007 to 30 June 2008
Auditor	Cardno in association with Atkins
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 Corporation signed on 13 April 2006.
Commencement Date (of operating licence)	1 July 2005
End of Term Review	A review of the Operating Licence is to be undertaken on or about 1 January 2009.
Function	Means a power, authority or duty.
Minister	The Minister responsible for administering the provisions of the <i>Sydney Water Act 1994</i> .
Operating Licence	The Licence between 1 July 2005 and 30 June 2010.
Other Grades of Water	'Other Grades of Water' includes raw water, residential recycled water; industrial recycled water, irrigation water, and the use of reclaimed water for agriculture, but excludes water recycling for on-site uses at STPs.
Water Management Licence	A Water Management Licence granted under the Water Act, 1912 and issued by the DNR on 26 August 2005.

Compliance Table Assessment

Term	Meaning
Grading of Compliance	The following ratings are used to grade achievement of compliance with a Licence condition.
Full compliance	All requirements of the condition have been met.
High compliance	Most requirements of the condition have been met with some minor technical failures or breaches.
Moderate compliance	The major requirements of the condition have been met.
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 Corporation to meet, such as a definition, a requirement placed upon another agency or the requirement was met in an earlier audit period.

Executive Summary

Cardno, in association with Atkins, undertook a detailed assessment and interview of Sydney Water Corporation's (Sydney Water) representatives for a number of operating licence clauses, as required under the risk-based approach adopted by IPART for the 2007/08 Operational Audit.

Sydney Water has managed its resources to achieve full compliance with the Operating Licence. Compliance with the auditable parts of the Operating Licence for the 2007/08 audit period is summarised below.

Summary of Key Findings

Sydney Water was assigned full compliance with respect to the requirements for the supply 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 (ADWG) and the aesthetic related requirements of NSW Health and the Minister.

In terms of Other Grades of Water, SWC was assigned full compliance, in compliance with relevant guidelines. In this Audit, 2007/08, there was a particular focus on the new Australian Guidelines for Water Recycling (Phase 1): Managing Health and Environmental Risks (the new Guidelines). The RWQMP for Wollongong is thorough, and meets the requirements of the new Guidelines. The co-operative approach with NSW Health to the implementation of these new Guidelines is commendable.

Sydney Water achieved full compliance for the audited infrastructure performance requirements, such as water pressure, water continuity, sewerage overflows, achievement of specified response times for breaks and leaks.

Overall, Sydney Water demonstrated a high level of commitment to water conservation and demand management, and achieved full compliance for the demand management components of the Operating Licence, including water conservation, leakage management and water recycling.

Clarification of the influence of supply side initiatives in sub clause 9.2.3(f) and (g) relating to the demand management implementation report and the extent to which Sydney Water has inputs to these initiatives will assist in assessing Sydney Water's compliance with these clauses in future audits.

While there are no Ministerial requirements in relation to the 2007/08 Audit, we found that outstanding 2006/07 requirements for pressure zones had been implemented and the September 2008 target for bulk meter installation had already been exceeded.

Summary of Key Recommendations

The *key recommendations* of the 2007/08 Operational Audit are presented below and grouped by the audited parts of the Operating Licence.

Licence Part 3 - Water Quality

There are no key recommendations.

Licence Part 4 - Infrastructure Performance

It is recommended that Sydney Water and IPART discuss amendments to the Monitoring and Reporting Protocol in relation to the measurement of Clause 4.13.1c2 (response time for Priority 4 water main breaks/leaks).

Licence Part 9 - Water Conservation and Demand Management

There are no key recommendations.

Introduction

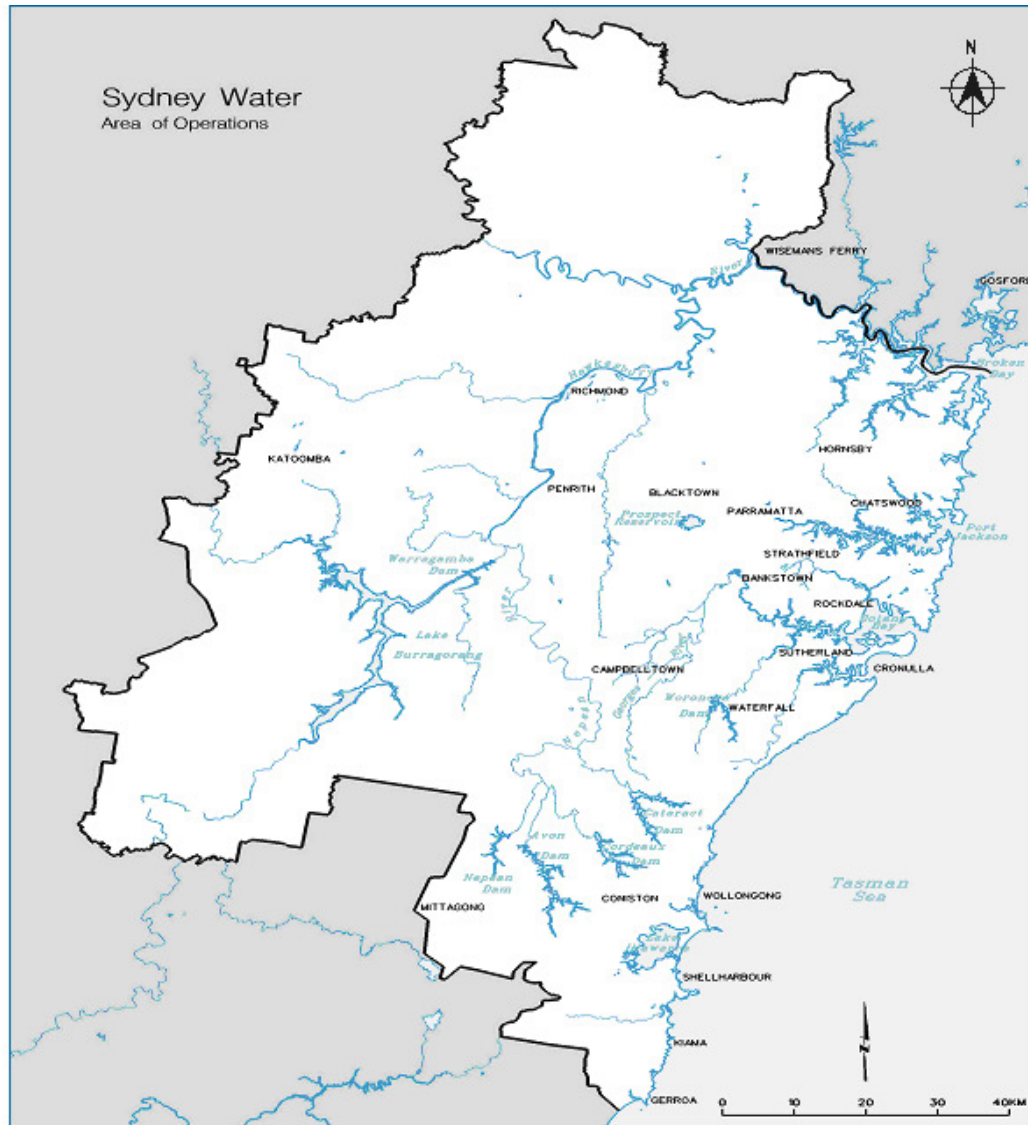
3.1 Background

Cardno, in association with Atkins (Cardno), was engaged by the Independent Pricing and Regulatory Tribunal (IPART) to undertake the 2007/08 Operational Audit of 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 the first Operating Licence to Sydney Water in 1995. Sydney Water is currently operating under its third Operating Licence, effective 1 July 2005 to 30 June 2010.

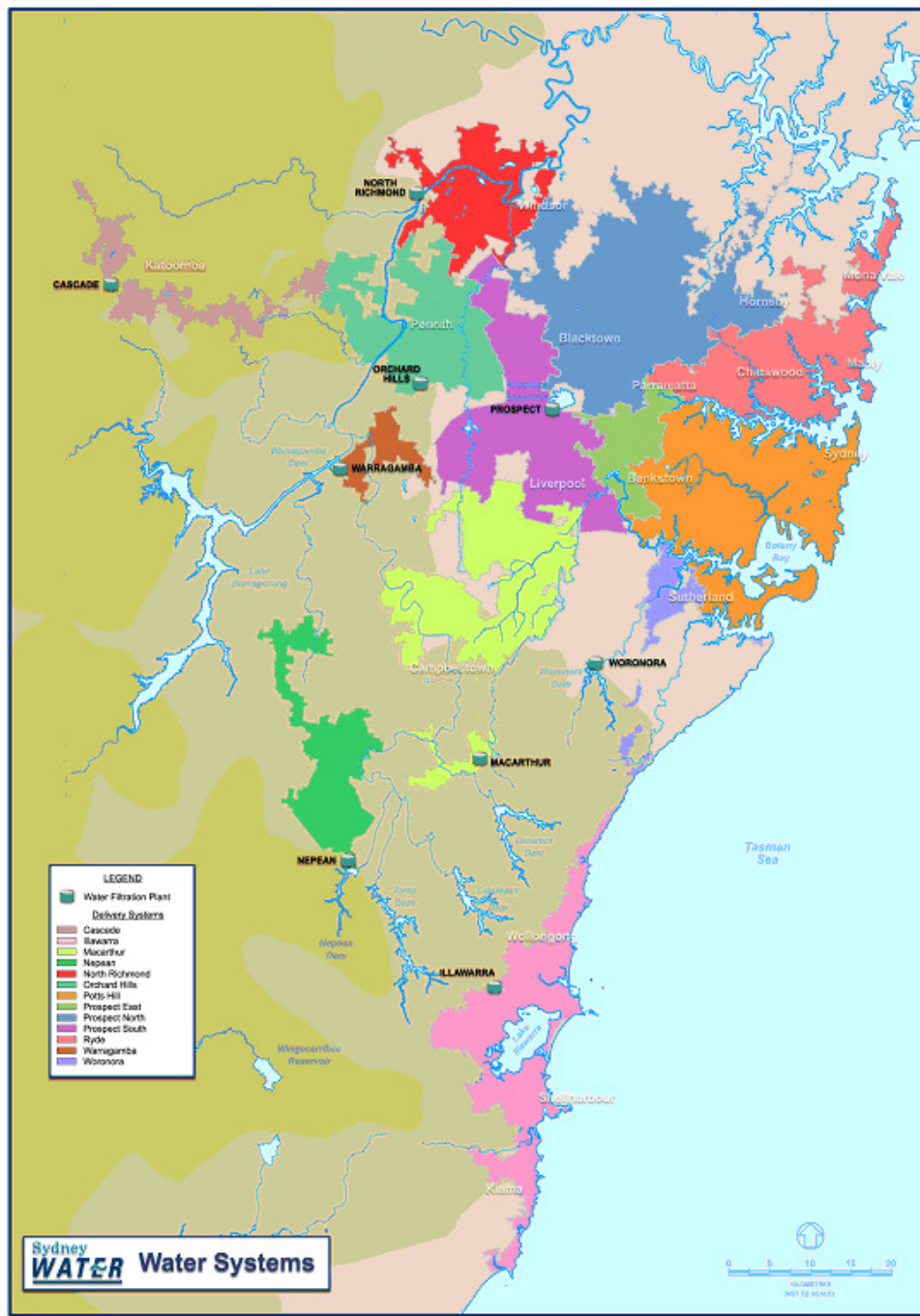
Throughout its area of operations, being Sydney, the Blue Mountains and Illawarra regions (as shown in Figure 3-1), Sydney Water provides services to a population of approximately 4.3 million. Schematic representations of the major water and sewerage infrastructure, under the control of Sydney Water are shown in Figure 3-2 and Figure 3-3, respectively.

Figure 3-1 Sydney Water Corporation's Area of Operations



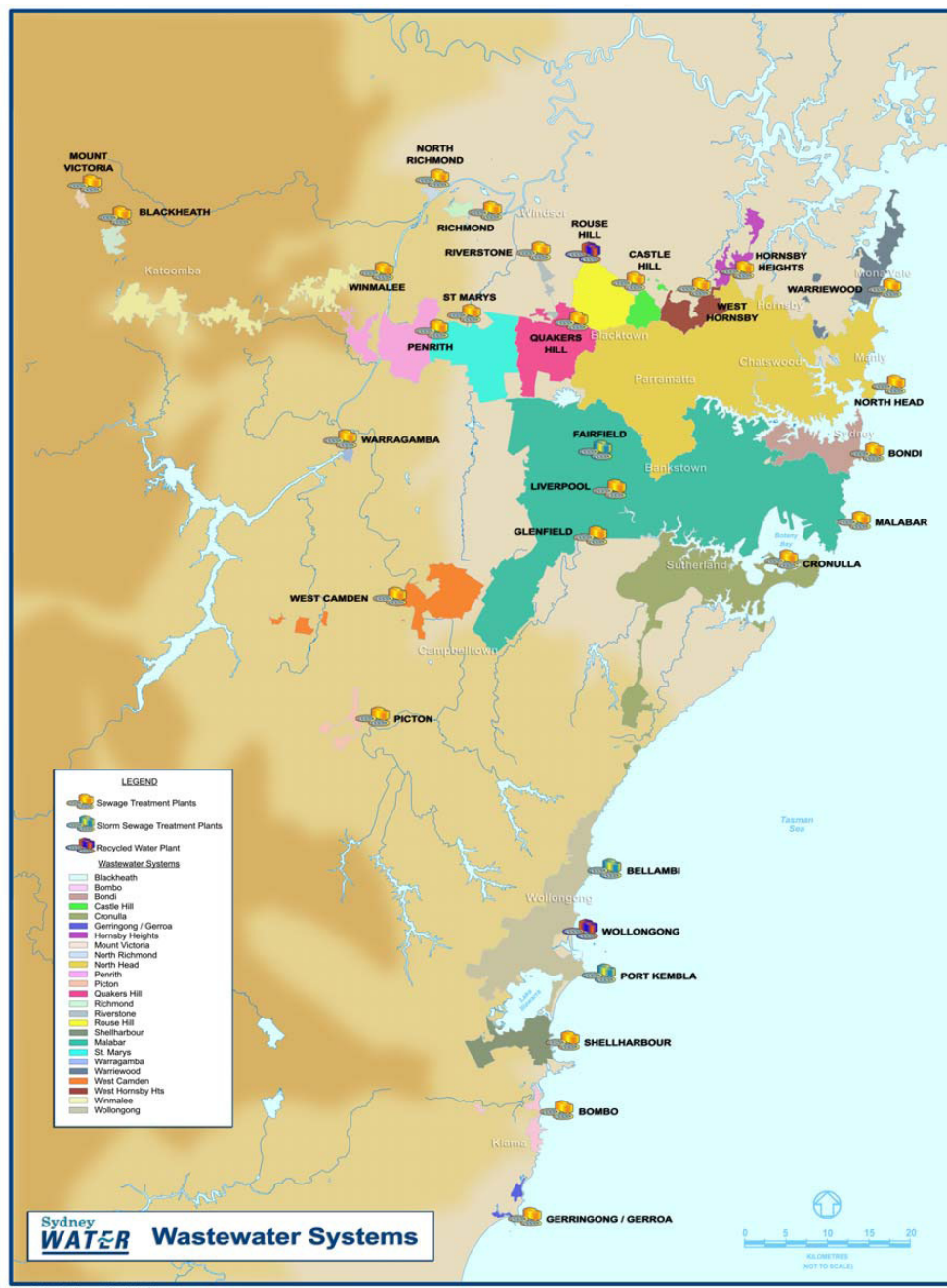
Source: Sydney Water Corporation

Figure 3-2 Sydney Water Corporation's Water Infrastructure



Source: Sydney Water Corporation

Figure 3-3 Sydney Water Corporation's Sewerage Infrastructure



Source: Sydney Water Corporation

Part 12.1 of the Operating Licence requires that IPART (or its appointee) is to undertake an Operational Audit of Sydney Water's performance against the requirements of its Licence each year, and report its findings to the Minister.

IPART commissioned Cardno to undertake the 2007/08 Operational Audit of Sydney Water, covering the period 1 July 2007 to 30 June 2008. This will be the eighth audit of Sydney Water undertaken by IPART. For the purposes of this audit, compliance has been assessed against the 2005-2010 Operating Licence for Sydney Water Corporation.

IPART has identified a number of key issues for consideration arising out of previous audits and the requirements of the previous Operating Licence. These key issues include:

Water Quality

- Compliance with:
 - Drinking Water Quality Standards
 - Drinking Water Quality Reporting;
 - Drinking Water Planning;
 - Other grades of water;
- Water quality risk analysis; and
- Compliance with Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1).

Infrastructure Performance

- Compliance with the standards for:
 - Water pressure standard;
 - Water continuity standard;
 - Sewage overflows on private property standard;
 - Response time targets for water main breaks; and
- Progress on the Choke Management Strategy in relation to sewer overflows

Water Conservation and Demand Management

- Demand Management Strategy; and
- The Annual Demand Management Strategy Implementation Report.

IPART has adopted a risk based approach to auditing. As a result, the Audit of Sydney Water was undertaken in two parts, as follows:

- Operating Licence requirements requiring detailed assessment and interview of Sydney Water's representatives – audited by Cardno; and
- Operating Licence requirements requiring desktop assessment – reviewed by the IPART Secretariat.

This report addresses the Operating Licence requirements that have been audited by Cardno

3.2 Operating Licence

The performance of Sydney Water was assessed against the requirements of its Operating Licence (2005-2010). A copy of the Licence is available from Sydney Water's website.

<http://www.sydneywater.com.au/Publications/LegislationActs/OperatingLicence.pdf>

3.3 Audit Scope

The audit scope has been based on the IPART risk-based audit methodology and is included in Appendix A of the IPART report to the Minister in relation to the 2007/08 Operational Audit of Sydney Water Corporation.

3.4 Summary of Compliance

In general, Cardno found that Sydney Water performed well against the audited clauses of the Operating Licence. A summary of compliance is presented in Table 3-1.

Table 3-1 Summary of Compliance

Section	Compliance - Overall
Water Quality	
3.1 Drinking Water Quality – Standards (CI 3.1.1 and 3.1.3)	Full compliance
3.3 Drinking Water quality – Reporting	Full compliance
3.4 Drinking Water Planning (CI 3.4.4)	Full compliance
3.6 Other Grades of Water	Full compliance
Infrastructure Performance	
4.4 Compliance with Performance Standards as listed below	
4.1.1 Water Pressure Standard	Full compliance
4.2.1 Water Continuity Standard	Full compliance
4.3.1 Sewage Overflow Standard	Full compliance
4.13.1 Response time for Water Main Breaks and Leaks	Full compliance
4.13.4 Response time exception reporting	Full compliance
Water Conservation and Demand Management	
9.2.1 to 9.2.3 Demand Management Strategy (except parts (b), (f), (g))	Full compliance

4 The Approach

4.1 The Approach

To ensure that the Audit was conducted in accordance with an established and recognised audit protocol, a systematic approach was taken 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. This methodology was consistent with *ISO 14011 "Guidelines for Environmental Auditing"*.

4.2 Draft Audit Plan

To ensure that the audit requirements outlined in the Operating Licence and the brief were addressed, the scope of the audit was confirmed with IPART at an inception meeting and a draft audit plan revised as a result of IPART feedback. The draft audit plan was forwarded to Sydney Water and the schedule modified to meet Sydney Water and IPART staff availability.

4.3 Documentation

Sydney Water provided relevant documentation for review by the auditors. This included documents such as the Operating Licence Compliance Report, and relevant Folios of Progress 2007-08. A full list of information provided is in Appendix A.

4.4 Audit Questionnaires

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

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

Audit questionnaires were provided to Sydney Water one week prior to the audit interviews to allow Sydney Water the opportunity to prepare for the interviews and collate the necessary documentary evidence.

Sydney Water responded to requests for additional documents resulting from a review of the initial documents it had provided. These additional documents are listed in Appendix A.

4.5 Conduct of the Audit

To ensure a positive relationship, audit protocols were established at the inception meeting between the auditor and Sydney Water Corporation 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 agreed protocols.

4.6 Audit Interviews

Specialist auditors conducted interviews during September 2008. The interviews were generally guided, but not limited, by the pre-prepared questionnaires and Sydney Water was provided the opportunity to present evidence towards demonstrating compliance with the Licence requirements.

Interviews were supplemented by visits to the following Sydney Water centres:

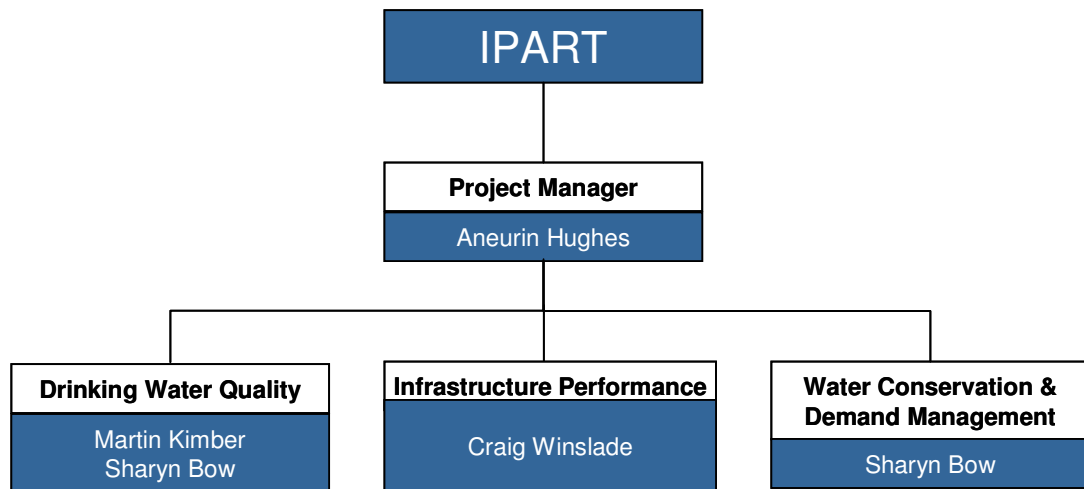
- Laboratory at West Ryde to view laboratory facilities and processes;
- Liverpool Call Centre to view the call centre processes;
- Centralised Schedulers Office, Birrong/Potts Hill to view work dispatch processes;
- Inner West Depot, Birrong/Potts Hill to view processes for accessing and managing data in the field; and
- Civil Maintenance Headquarters, Birrong/ Potts Hill to view data validation processes

IPART representatives attended most of the interviews as observers.

4.7 Audit Team

The audit team consisted of specialist auditors. The audit was coordinated by the Project Manager calling on the expertise of the team members for the auditing of key areas as shown in Figure 4-1.

Figure 4-1 Audit Team



Audit Findings by Section

5.1 Licence Section 3 – Water Quality

5.1.1 Summary of Requirements

For the purpose of the Risk Based Audit of drinking water quality, Licence Clauses 3.1.1, 3.1.3, 3.3, and 3.4.4 were to be subject to a detailed audit by Cardno. Under Section 3.1.1 (a) of its Operating Licence, Sydney Water must comply with the Australian Drinking Water Guidelines relating to Health guideline values and the Aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc. The detail of Sydney Water's approach to water quality and sampling are detailed in the 'Annual Drinking Water Quality Monitoring Plan' of 30 March 2007, supported by Sydney Water's 'Five Year Drinking Water Quality Management Plan 2005-2010'. Another important document is the Drinking Water Quality Folio of Progress for the period ending 30 June 2008. Part (b) of 3.1.1 requires compliance with fluoridation plant operating targets set out in the NSW Fluoridation Code. The system sampling to verify this is also addressed in the annual water quality monitoring plan.

Under Section 3.1.3 of its Operating Licence, Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply these concepts in the manner, form and timeframes specified by NSW Health. Although the licence refers to the 1996 Guidelines, Sydney Water has agreed with NSW Health that compliance will be assessed against the Australian Drinking Water Guidelines 2004. The requirements of Section 3.1.3 and the approach to complying with them are also detailed in the five year management plan.

Section 3.3 of the Operating Licence sets out the requirements for reporting: 3.3.1 relates to reporting to the public; and 3.3.2 relates to reporting to NSW Health. In addition, 3.4.4 relates to the preparation and submission of an annual report to NSW Health on the implementation of the 'Five Year Water Quality Management Plan'. The audit of these sections considered the quarterly reports, both the public documents and the reports to NSW Health, and the Annual Report to NSW Health, which was available as a draft document at the time of our audit.

In terms of 'Other grades of water', Licence Clauses 3.6.1 was also subject to a detailed audit by Cardno. The 'IPART and Sydney Water Monitoring and Reporting Protocol' (Draft) does not provide any further specific interpretation on the audit requirements for 'Other grades of water'.

Clause 3.6.1 of Sydney Water's 2005/10 Operating Licence requires the Corporation to supply other grades of water according to relevant guidelines and requirements specified by NSW Health, DECC, DIPNR. The 2006/07 Operating Licence Audit Report raised the question of compliance with the Australian Guidelines for Water Recycling (Phase 1): Managing Health and Environmental Risks' (i.e. the new Guidelines)

In 2007, Sydney Water and NSW Health agreed to implement the new Australian Guidelines initially for new schemes and, following a period of validation and review, for existing schemes. Sydney Water has now commenced a project to implement these guidelines with the first stage to be completed in 2008/09. Stage 1 will include system assessment and development of Recycled Water Quality Management Plans (RWQMPs) for a number of new schemes in 2008/09 (note: the RWQMP for Wollongong Stage 2 is complete, with Wollongong Stage 1 and Rouse Hill to be completed by June 2009). Stage 2 will include the completion of improvement plans based on agreed timeframes with NSW Health – although there is no documented approach. We therefore believe that compliance against the new Guidelines should be assessed by reviewing the RWQMP for Wollongong Stage 2 against the 12 elements of the risk based framework, as outlined in the new Guidelines.

5.1.2 Water Quality – Compliance

Compliance is outlined in Table 5-1. We assessed full compliance with the audited clauses.

Table 5-1 - Compliance Assessment for Operating Licence Part 3 – Water Quality

Requirement	Target	Risk of Non-Compliance	Findings
3.1.1 (a) - Sydney Water must comply with the Australian Drinking Water Guidelines relating to Health guideline values and the Aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc.	Compliance with Health and specified Aesthetic guideline values.	Type of Risk Non-compliance with supply quality Likely Consequence Loss of public confidence in water supply Public health and safety issues Additional costs in reacting to issues	Full compliance All requirements of the condition have been met. There have been a small number of analyses, which had characteristics not complying with the guideline values, but the number of exceedences was small, and the 95%ile values are well below the guideline values, which ADWG consider reasonable. Thus to the extent of the audits undertaken and the data trailed we conclude that for 2007-08 Sydney Water has fully complied with this requirement. Our audits raised some peripheral issues relating to how the results have been presented but compliance with the guideline values has been good.
3.1.1 (b) - Sydney Water must comply with the fluoridation plant operating targets set out in the Fluoridation Code.	Compliance with operating targets.	Type of Risk Non-compliance with supply quality Likely Consequence Loss of public confidence in water supply Too high a concentration can have health effects. Too low a concentration can affect dental health	Full compliance All requirements of the condition have been met. To the extent of the audits undertaken and the data trailed we concluded that for 2007-08 Sydney Water has fully complied with this requirement.
3.1.3 - Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply these concepts in the manner, form and timeframes specified by NSW Health	Compliance with Framework	Type of Risk Non-compliance with good practice Likely Consequence Increased risk of failure to comply with 3.1.1 Loss of confidence in Sydney Water	Full compliance All requirements of the condition have been met. Sydney Water has adopted the approach and framework for management of drinking water quality set out in ADWG 2004. It has taken the 12 element approach set out in ADWG and designed its approach and systems around the 12 elements and incorporated them into its Five Year Drinking Water Quality Management Plan 2005-10. The requirements of the Framework are explicitly incorporated into this Plan, and this in turn has informed the Annual Drinking Water Quality Plans submitted to NSW Health for approval.

Requirement	Target	Risk of Non-Compliance	Findings
			To the extent revealed by our audits we concluded that Sydney Water is fully compliant with the requirements of Section 3.1.3 of its Operating Licence.
3.3.1 - Sydney Water is required to produce a quarterly report that includes the water quality monitoring test results. The quarterly report has to be placed on its website on the internet and also made available for access by any person, free of any charges imposed by Sydney Water.	Provision of reliable report	Type of Risk Data presentation poor Data omitted Likely Consequence Scope for misunderstanding by public and media Loss of confidence in Sydney Water	<div>Full compliance</div> All requirements of the condition have been met. We concluded that Sydney Water fully complies with the requirement of section 3.3.1 of its operating licence.
3.3.2 - Sydney Water must provide to NSW Health a copy of the report compiled to comply with clause 3.3.1. If the results do not comply with the Health guideline values or the Aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc, Sydney Water must provide NSW Health with an appraisal of the inconsistency, and indicate action to be taken to resolve any non compliance.	Provision of reliable report	Type of Risk Data presentation poor Data omitted Likely Consequence Scope for misunderstanding by NSW Health Loss of confidence in Sydney Water	<div>Full compliance</div> All requirements of the condition have been met. We concluded that Sydney Water fully complies with the requirement of section 3.3.2 of its operating licence.

Requirement	Target	Risk of Non-Compliance	Findings	
3.3.3 - Sydney Water must comply with requests by NSW Health to provide additional information on water quality. The additional information provided under this clause is to conform to the manner and form specified by NSW Health.	Compliance with requests from NSW Health	As for 3.3.2	Full compliance	All requirements of the condition have been met.
			NSW Health confirmed that Sydney Water had complied with all requests for additional information.	
3.4.4 - Sydney Water must prepare, and make available to NSW Health by 1 October each year, an annual report on the implementation of the Five Year Plan. The report must include details of: (a) any proposed amendments to the Five Year Plan needed to protect public health or to ensure the effective operation of the Plan; and (b) any additional water quality improvement actions identified in the preceding year through the drinking water quality monitoring data or by NSW Health and action taken to implement them.	Compliance with requirements	Type of Risk Data presentation poor Actions omitted Likely Consequence Scope for misunderstanding by NSW Health Loss of confidence in Sydney Water	Full compliance	All requirements of the condition have been met.
			At the time of the audit the Annual Report for 2007/08 was available as a draft, and the audit was conducted using this based on the assumption that there will be no significant changes to the Draft Report. The Draft Report has taken into account the secondary recommendation that Sydney Water include a table that clearly shows whether planned actions have been undertaken or not. To the extent revealed by our audit, we concluded that Sydney Water is fully compliant with the requirements of Section 3.4.4 of its Operating Licence.	

Requirement	Target	Risk of Non-Compliance	Findings
3.6.1 - Other grades of water supplied by Sydney Water must be supplied according to relevant guidelines specified by NSW Health, DEC, DIPNR and the Department of Primary Industries.	Compliance (adherence to Guidelines)	Type of Risk Non-compliance with supply quality Non-compliance with supply reliability Likely Consequence Compromised public and workplace health and safety Environmental pollution Recycled water quality not fit-for-purpose	<div>Full compliance</div> All requirements of the condition have been met. <p>Sydney Water obtained Full Compliance with the requirements for “supply of other grades of water” for the Rouse Hill recycled water scheme, and other schemes, with the most critical parameters (physical and chemical) complying with requirements of the old Guidelines, and the risk based framework being consistent with the requirements of the New Australian Guidelines and incorporated into the EMS. Sydney Water has been working in close association with NSW Health to put in place a program for the development of Recycled Water Quality Management Plans,(RWQMPs) under the new Guidelines (confirmed by NSW Health). The first of these RWQMPs, for Wollongong Stage 2, was reviewed in detail and found to be thorough and compliant with the 12 elements of the new Guidelines. We conclude that Sydney Water fully complies with the requirements of Section 3.6 of the operating licence.</p>

5.1.3 Discussion on Water Quality

Compliance with ADWG Quality Standards and Fluoridation Code (Operating Licence 3.1.1(a) and 3.1.1(b))

Observations

Sydney Water gave an overview of the systems and processes used to monitor and report on water quality and of how the monitoring related to their operations.

Sydney Water provided a copy of the 2007/08 and the 2008/09 Drinking Water Quality Monitoring Plans; the latter has been submitted to, and approved by NSW Health. We were also provided with the draft Quarterly Monitoring Report on Drinking Water Quality for NSW Health, for the fourth quarter, and the quarterly drinking water quality reports which are available on the Sydney Water website. The NSW Health reports and the quarterly drinking water quality reports contain essentially the same data, and the fourth quarter reports form the basis of the figures reported in the Statement of Compliance for 2007-08.

Sydney Water provided evidence that its laboratories for chemical and biological testing had NATA accreditation for the appropriate range of services. Evidence was also provided that the management systems conformed to AS/NSZ ISO 9001:2000.

In order to audit Table 1 of the Operating Licence Compliance Report 2007-08 we selected six (6) of the thirteen (13) delivery systems and requested, and were provided with, summary results for all regulatory analyses undertaken for these systems. These were the basis for the figures reported in Charts 1 and 2 of Section 1.1 of the Compliance Report. The data was provided to us on a Sydney Water laptop and Sydney Water confirmed that it had been extracted from the Monitoring Data Warehouse, which in turn was supplied from the laboratory information management system, Labware. We trailed a sample of individual results back to the laboratory information system. We trailed data for the following systems:

- **Orchard Hills**

Results for *E.coli*, manganese, and total THMs were trailed. All results were consistent with the summaries reported in Table 1a of the Monitoring Report. The use of the 95%ile value was discussed. The Quarterly Quality Reports on the website appear to simplify the requirements of the ADWG in that for many health parameters the criterion is stated as 95% of the results complying with the standard whereas the criterion is that the 95%ile value be below the standard. Sydney Water confirmed that it has actually used the 95%ile value in assessing compliance and this is shown in Table 1a presented as an appendix to the quarterly quality reports available on the website.

- **Prospect South**

Results for copper and fluoride were trailed. All results were essentially consistent with the summaries reported in Table 1a of the Monitoring Report. There was a minor discrepancy with the 95%ile value reported for copper compared to that calculated at audit, viz 0.049 against 0.047: it is accepted that this relates the calculation at audit using the Excel function rather than a more accurate calculation. This apparent anomaly has been seen by the auditor elsewhere and is not significant. The anomaly can arise when the number of samples is relatively small (28 in this case) but normally disappears when there is a larger sample size.

- **Ryde**

Results for *E.coli*, iron, and turbidity were trailed. All results were consistent with the summaries reported in Tables 1a and 1c of the Monitoring Report. For *E.coli* there were three positive samples which were looked at further. The samples are taken from outside taps and thus are prone to being contaminated, particularly after heavy rain. All three samples had good monochloramine concentrations, and all re-sampling was satisfactory. At the audit we were provided with copies of the “*E.coli* Investigation Reports” relating to the three exceedences: these were comprehensive and showed that key potential factors which could have given rise to the exceedences were considered, and included the result of the subsequent re-sampling. The reports did not indicate whether the additional sampling and analyses required by the Annual Drinking Water Quality Monitoring Plan had been undertaken. The requirements are for re-sampling from the location of the exceedence and sampling from the upstream source including heterotrophic plate counts and chlorine concentration. We confirmed with the laboratory that this is done as a matter of course. We suggest that Sydney Water consider adding the results of the upstream testing to the *E.coli* Investigation Reports.

We noted that although compliance with the *E.coli* standard is assessed at system level, an assessment is also carried out at zonal level, and any zone having less than 98% compliance is put onto an increased sampling frequency for the following reporting year. We consider this represents good practice with respect to confirming, or otherwise, that the exceedences are not systemic. In practice however this would be significant only where there had been a system problem.

There was a single exceedence to comply with the turbidity standard. It was noted that the average values reported for iron assumed that where the concentration was below the detection limit, a value of half the detection limit was used. This assumption, which is also mirrored for other parameters, is accurate only if the actual concentrations are randomly spread between zero and the detection limit but has no material effect on the results reported and no recommendation is made for any change to this.

- **Nepean**

Results for Antimony, Sulfate, and turbidity were trailed. All results were consistent with the summaries reported in Tables 1a and 1c of the Monitoring

Report. For Antimony and Sulfate there were less than 10 analyses and therefore no 95 percentile was reported.

- **North Richmond**

Results for total THMs and colour were trailed. All results were consistent with the summaries reported in Tables 1a and 1c of the Monitoring Report although there was a small difference for the 95 percentile value for THMs due to the small sample size.

- **Cascades**

Results for free chlorine and fluoride were trailed. All results were consistent with the summaries reported in Table 1a of the Monitoring Report. Seven of the samples had relatively low chlorine concentrations, of less than 0.2mg/L; where this was the case the analysis cannot differentiate between free and combined, and the figure is reported as total chlorine. The minimum chlorine reported was 0.04mg/L.

Where chlorine is the disinfectant Sydney Water aims to have a free chlorine concentration typically of around 1.2mg/L when water leaves the treatment plant. This was stated to be set by the need to ensure an acceptable concentration at the ends of the system. The concentration is well above the ADWG aesthetic guideline value of 0.6 mg/L and Sydney Water was challenged over this. Sydney Water stated it does receive some complaints but this was generally where people moved to areas of high chlorine; where complaints were received advice was given as to how to avoid chlorine odours for drinking water, and reference made to NSW Health guidance. For chloramine there is a similar issue, with concentrations well above the aesthetic guideline value.

The concentrations of disinfectant in the treated water leaving the treatment plants are relatively high, generally well above the aesthetic guideline values specified in the ADWG, but well below the health guideline values. The ADWG 2004 states "Water authorities may need to exceed the odour threshold value of 0.6 mg/L in order to maintain an effective disinfectant residual." It would be prudent to keep the disinfection strategy under review and to consider possible alternative strategies which would allow reduction of the disinfectant dose, whilst maintaining an appropriately low risk to public health.

Comments

Sydney Water includes a summary of performance against chlorine disinfection targets, and this showed generally satisfactory performance, at around the target compliance of 90%, but that for the Woronora system performance had dropped from 91% in 2003/04 to 58% in 2007/08. Inasmuch as Sydney Water has complied with all regulatory water guidelines this is not a regulatory concern but this is an area which appears to require monitoring and we challenged Sydney Water over this. It responded that the SCA had requested that the volume of water taken from the Woronora dam be

reduced in the drought; this led to the plant being operated at low volumes and water being imported from the Prospect plant to compensate. This led to long retention times in parts of the system and the falling compliance with internal targets. An action plan has been developed and implemented and it is expected that in 2008/09 there will be an improvement.

The figure of 99.97% compliance for 2007/08 for health characteristics is based on a total of 29,602 analyses and 8 exceedences of health guideline values. 242 of the analyses related to analyses of raw water from the North Richmond catchment; the balance were analyses of treated water. Sydney Water was challenged over the inclusion of raw water analyses in the figure and responded that this was because the analyses related to health characteristics with which compliance was required. Exclusion of the raw water analyses would not materially change the percentage compliance reported.

The figure of 98.92% compliance for aesthetic characteristics is based on 18,380 analyses of which 199 did not comply. The exceedences are predominantly due to the pH being higher than 8.5, and these failures are concentrated in North Richmond and Orchard Hills. The other non-compliances are occasional exceedence of guideline values for turbidity and iron.

The figure of 98.97% for results meeting physical characteristics relates to six characteristics for which there are no health derived guideline values: dissolved oxygen; taste; odour; hardness; ammonia; and total dissolved solids. The first three are physical characteristics but the latter three would normally be considered chemical characteristics. Most of the 1,160 analyses relate to dissolved oxygen, ammonia, and hardness. The only exceedences, 12, all related to dissolved oxygen, with 80% of these in the North Richmond system. North Richmond is the only run of river source but there are no indications that the system receives poorer quality water than other systems. The results for North Richmond do not relate to compliance and are not a particular concern but they do suggest that the system is performing differently to the systems supplied by water from impoundments.

We noted that in practice all samples comply with many of the parameter monitored. Thus all samples analysed for disinfectant, either chlorine or monochloramine, comply with the relatively high health guideline values. Additionally all samples analysed for disinfectant residual are reported twice, for both free and combined chlorine. Thus of the 29,602 samples taken to assess compliance, 15,728 relate to disinfectant, and this figure is derived from 7,864 samples analysed for both free chlorine and monochloramine. Arguably it would be more meaningful to also include in the Compliance Report a list of those parameters for which any samples failed to comply with the guideline together with the proportion of samples complying with those guideline values. By rolling up the results of all analyses the effect is to give a high compliance rate that arguably does not provide any insight into the significance of any exceedences. We note that extensive data on failing parameters is provided elsewhere and this information is in the public domain.

We noted that for some parameters specified in the ADWG, Sydney Water does not carry out analyses for treated water. Although this is in accordance with the Annual Drinking Water Quality Plans, we challenged Sydney Water over this: it responded that for these parameters SCA undertakes extensive analyses of raw water from its dams and provides results to NSW Health, also informing Sydney Water of any significant results.

With respect to fluoridation subject to the scope of the audit we confirmed that Sydney Water had fully complied with the fluoridation plant operating targets set out in the Fluoridation Code. Sydney Water noted that a recommendation was made to amend the wording in the Fluoridation of Public Supplies Code of Practice 2002 in regard to excursions in fluoride concentrations above 1.5 mg/L. The intention of the amendment would be to tolerate, in some circumstances, the occasional delivery of drinking water with a fluoride concentration above 1.5 mg/L. Correspondence with NSW Health was seen to substantiate this.

The Monitoring Plan notes that SCA is responsible for raw water monitoring of all catchments except North Richmond. North Richmond achieved 100% compliance for the monthly samples taken. For this reason, only results from North Richmond were viewed for analyses undertaken for a range of organic chemicals for which there are health related parameters.

We note that over 50% of the projected costs of water sampling and analyses for 2008/09 are accounted for by monitoring for *cryptosporidium* and *giardia*. Given that there is increasing evidence that only low concentrations are present in the raw water and that the treatment provided will, when operated properly, achieve a high removal rate it may be that a risk assessment would demonstrate that there is little risk of *cryptosporidium* or *giardia* entering the supply in significant concentrations. If so, and if acceptable in terms of public perception then there would be opportunities for significant reductions in analytical costs. Any reduction would need to be justified by a thorough risk assessment and be accompanied by an extensive communications strategy.

Concepts of Good Practice

Under Section 3.1.3 of its Operating Licence, Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 (in practice, it has been agreed that the 2004 Guidelines should be used) and must apply these concepts in the manner, form and timeframes specified by NSW Health.

Sydney Water has adopted the approach and framework for management of drinking water quality set out in ADWG 2004. It has taken the 12 element approach set out in ADWG and designed its approach and systems around the 12 elements and incorporated them into its Five Year Drinking Water Quality Management Plan 2005-10. The requirements of the Framework are explicitly incorporated into this Plan, and

this in turn has informed the Annual Drinking Water Quality Plans submitted to NSW Health for approval.

During this audit, we discussed the application of the Management Plan and reviewed various activities carried out under the aegis of the plan. This included a review of the revisions to Section 7, sub-section 7.9 relating to blue green algae and algal toxins, and of the Warragamba Dam Risk Assessment and the consequent Warragamba Dam Blue Green Algae Action Plan. The Warragamba Dam Risk Assessment and the Action Plan both appeared comprehensive. The audit did not review the technical content of the documents, only that they appeared comprehensive. We note that there was no evidence of review or sign-off for the Risk Assessment although the Action Plan contained a sign-off sheet.

Other Comments

We consider it important that risk assessments be supported by appropriate quality control sign-off sheets.

Drinking Water Quality – Reporting

Under clause 3.3.1 Sydney Water is required to produce a quarterly report that includes the water quality monitoring test results. The quarterly report has to be placed on its website on the internet and also made available for access by any person, free of any charges imposed by Sydney Water.

Sydney Water makes available quarterly reports on its publicly accessible website and we confirmed that these are freely available.

There are some inconsistencies in the reporting of analyses in the quarterly reports with respect to compliance for the parameters analysed for the raw water. For each treatment works a summary table is included covering nine physical/chemical characteristics and three microbiological characteristics. This is appropriate. In the water quality data at the end of the report, Sydney Water reports for the North Richmond supply in Table 1b, but no comparable data is reported for the other treatment works, for which SCA is responsible for monitoring the raw water quality and on which it reports separately to NSW Health. There is however data on *giardia*, *cryptosporidium* and *cyanobacteria* reported in Table 3A.

Under clause 3.3.2 Sydney Water must provide to NSW Health a copy of the report compiled to comply with clause 3.3.1. If the results do not comply with the Health guideline values or the Aesthetic guideline values for pH, true colour, turbidity, aluminium, iron and zinc, Sydney Water must provide NSW Health with an appraisal of the inconsistency, and indicate action to be taken to resolve any non compliance.

We were provided with a copy of the draft report for the fourth quarter of 2007/08. This is comprehensive and complies with requirements of section 3.3.2.

Under 3.3.3 Sydney Water must comply with requests by NSW Health to provide additional information on water quality. The additional information provided under this clause is to conform to the manner and form specified by NSW Health. NSW Health confirmed that Sydney Water complied with all requests for additional information.

Other Comments

The quarterly reports are very comprehensive. They include data on the quality of the North Richmond raw water for which Sydney Water is responsible for monitoring. All other raw water monitoring is the responsibility of SCA.

For the quarterly drinking water quality reports, which are published on the Sydney Water website, there are summaries provided of the analyses undertaken by SCA for a limited range of parameters. We would expect other analyses to be periodically undertaken and it would be appropriate to confirm on the Sydney Water website that these were satisfactory, or otherwise. Alternatively, the Sydney Water website could provide a link to the results on the SCA website.

Drinking Water – Planning

Section 3.4.4 of the Operating Licence requires that Sydney Water must prepare, and make available to NSW Health by 1 October each year, an annual report on the implementation of the Five Year Plan. The report must include details of: (a) any proposed amendments to the Five Year Plan needed to protect public health or to ensure the effective operation of the Plan; and (b) any additional water quality improvement actions identified in the preceding year through the drinking water quality monitoring data or by NSW Health and action taken to implement them.

At the time of the audit the annual report for 2007/08 was available in draft, and the audit was conducted using this on the assumption that there will be no significant changes to the draft report.

The Draft Report identifies that one amendment is to be proposed to the Five Year Plan, relating to section 7.9, blue green algae and algal toxins. We were provided with the proposed amendment. Sydney Water confirmed that this revision was in part associated with its risk assessment carried out for the Warragamba Dam algal bloom.

The Draft Report discusses each of the 12 elements set out in the ADWG and for each identifies improvement actions, either carried out in 2007/08, or planned for 2008/09. These are then summarised in Appendix 1, together with improvement actions identified back to 2005/06. In Appendix 1 the improvement actions are identified by a reference number, but in the body of the report no reference numbers are provided. Appendix 1 satisfactorily addresses the recommendation made in the 2006/07 audit report that such a summary be provided.

Other Comments

We suggest that it would be useful to include the reference numbers for each improvement item in the summaries at the end of each section.

Water Quality Risk Analysis

The 2007 audit made a secondary recommendation that Sydney Water “undertake an in-depth review of the circumstances relating to the algal bloom in Warragamba Dam and the requirements for control of such an event. It is further recommended that this review include an in-depth assessment of the adequacy of Sydney Water’s hazard assessment and risk management processes for identifying and establishing management strategies for such issues.”

We have commented on the risk assessment for the Warragamba Dam above.

We challenged Sydney Water as to whether it had extended the risk assessment to cover the broader issue of the adequacy of Sydney Water’s hazard assessment and risk management processes for identifying and establishing management strategies for such issues. It confirmed that this is in progress and supported this statement with the minutes of the Strategic Liaison Group meeting, with members from NSW Health, Sydney Water, and SCA, held in June 2008. This confirmed that a quantitative risk assessment is to be undertaken. In addition to the quantitative risk assessment, the auditors also viewed:

- The draft SOP “Drinking Water Quality Risk Management Processes”; and
- The revised Sydney Water Risk Management Policy and Corporate Wide Risk Management Framework.

During the course of the audit we identified an instance where Sydney Water had reacted to a deterioration in a sub-threshold indicator and reacted appropriately before there was any effect on compliance. This related to Sydney Water’s performance against its performance targets for disinfection. Sydney Water note and record the proportion of analytical test results which meet the internal targets for chlorine residual. In one system, Woronora there has been a steady decline in meeting the internal criterion. This has not led to any non-compliance but triggered the production of an Action Plan for the system which is now being implemented, and which is expected to improve compliance with the Company’s targets. We have not reviewed the Action Plan in detail but we consider Sydney Water’s actions in preparing an Action Plan an appropriate response to a trend of a deteriorating sub-threshold indicator.

Other Grades of Water (Clause 3.6)

Clause 3.6 of the Operating Licence for 'Other Grades of Water' relates to off-site reuse of water and not to on-site reuse (for example at STPs). 'Other Grades of Water' includes: (unfiltered) raw water (this particularly relates to a supply for Bluescope Steel, which is being maintained until the Wollongong Stage 2 scheme is implemented); residential recycled water (such as at Rouse Hill); industrial recycled water (such as that supplied to Bluescope Steel under Wollongong Stage 1); the use of reclaimed water for irrigation (for example for golf courses, under controlled and uncontrolled situations) and the use of reclaimed water for agriculture (e.g. market gardens).

Through our discussions with key staff and reviews of the documentation, it is evident that Sydney Water aims to comply with all the relevant guidelines as required in the Operating Licence clause, in order to minimise the risks to public and the environment. It was noted that the MoU with NSW Health makes no reference to other grades of water, although it was confirmed through a phone discussion with NSW Health (pers. Com Sandy Leask, 22 September 2008) that NSW Health are in agreement with Sydney Water on the proposed course of action to progressively implement the new Guidelines.

In addition to assessing compliance with relevant guidelines for recycled water, we also explored the relationship between planning, asset management and new infrastructure planning and were advised that liaison on these issues occurs through the 'Joint Operations Group' (JOG) meetings.

Compliance with Relevant (existing) Guidelines

Relevant guidelines relating to 'Other grades of water' include:

- NSW Recycled Water Coordination Committee "NSW Guidelines for Urban and Residential Use of Reclaimed Water" 1st Edition, May 1993 (for example, for Rouse Hill Recycled Water Scheme);
- National Water Quality Management Strategy (ARMCANZ, ANZECC, NHMRC) "Guidelines for Sewerage Systems – Use of Reclaimed Water", November 2000 (for example, for golf courses and some industrial applications); and
- DEC (NSW) Environmental Guidelines "Use of Effluent by Irrigation, October 2004" (for example, for golf course and agricultural irrigation).
- Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006 (ie the new Guidelines).

With regard to these guidelines, Sydney Water achieved full compliance with the requirements of the relevant guidelines and with their Customer Service Contracts with individual customers. During the audit, we reviewed the following documentation and

concluded that the operating licence requirements had been met in relation to the three older guidelines:

- Summary of Sydney Water Operating Licence Requirements - Sydney Water achieved full compliance against the older guidelines (i.e. the first three (3) bulleted items listed above), as per previous years;
- Annual Compliance Report for Recycled Water Irrigation Schemes (2007/08);
- Annual Report to NSW Health – Other Grades of Water (Industrial) – BlueScope Steel Supply Scheme Compliance Monitoring (2007/08);
- Annual Report to NSW Health – Other Grades of Water (Residential) – Rouse Hill Scheme Compliance Monitoring (2007/08);

Compliance with New Guidelines

Another document we viewed, but were unable to take away from the audit room due to commercial-in-confidence issues, was the RWQMP for Wollongong Stage 2. The RWQMP is the first of its type developed in NSW and is a thorough Plan, developed in conjunction with numerous key stakeholders, including NSW Health, and endorsed by BSW Health. The Plan uses a risk based approach and addresses the 12 elements of the framework set out in the new Guidelines. We reviewed the Plan and found the commitment to the principles, system assessment and analysis, supporting requirements and review provisions to be sound and in accordance with the Guidelines. A key factor in the successful development of this plan has been the thorough EMS maintained and used by Sydney Water. We were provided with a copy of the EMS certification and confirm that it is valid until 2011.

The RWQMP for Wollongong is proposed to be implemented in December 2008. As previously outlined, Sydney Water has agreed with NSW Health (although there is as yet nothing in writing) to develop such Plans for all new Schemes and to commence preparing them for other existing schemes. In the 2008/09 year, Sydney Water propose to prepare RWQMPs for the Rouse Hill Scheme (residential) and Blue Scope Steel existing scheme (i.e. Wollongong Stage 1), using the Wollongong Stage 2 RWQMP as a template. We understand that, while there is no written Agreement with NSW Health on this proposed course of action, there is a close ongoing relationship between NSW Health and the Recycled Water Group and the proposed course of action is clear. NSW Health (pers.com. Sandy Leask 22/9/2008) confirmed that their understanding of the proposed course of action was consistent with Sydney Water's.

In particular, Sydney Water has been very thorough in their attention to the risk assessment, and validation and commissioning requirements set out in the new Guidelines. Risk assessment is undertaken by suitably qualified and experienced people, in accordance with the EMS (ISO 14,000) and Sydney Water's Corporate Risk Management procedure (consistent with AS4360) (with detailed risk assessments included in the appendices). In relation to existing STPs, which will be the subject of a RWQMP in the near future, there is a Validation Project underway to undertake

validation of other critical STPs (e.g. Rouse Hill, Penrith, St Mary's, Wollongong Stage 1). It is understood that the dry weather component of this validation has been completed in accordance with the Validation Project methodology presented in Appendix A of the RWQMP, while wet weather validation is to follow in the coming year, 2008/09. Relevant operational, procurements and training requirements are included in Sydney Water's EMS and referenced in the RWQMP. The RWQMP itself has been included as a new procedure in the EMS, auditable and subject to all other requirements of the EMS.

Further to the scheme based RWQMPs for each individual scheme, Sydney Water is developing a five-year RWQMP, which is intended to be an overarching document to outline the approach to addressing the new Guidelines and outline the common supporting and systemic components to be included in each scheme based RWQMP.

Recycled water quality complaints were discussed and the customer complaint register and one example of a customer complaint were provided. The process for reviewing customer complaints is consistent with the potable water system and the complaints system is shared.

Examples of procedures from the Water Product System (from EMS)

We were provided with relevant examples of procedures from the Water Product System (EMS) to illustrate that the procedures are documented and systematic. Key procedures provided included:

- Rouse Hill Recycled Water Contingency Plan – includes both water and recycled water in the one plan for completeness;
- SOP for Reporting Water Quality; and
- Notification of Plant Recycled Water Production.

Previous Audit Recommendations and future compliance issues

In the 06/07 Audit Report the Auditor made no primary recommendations regarding 'other grades of water'; however, secondary recommendations were made which IPART supported and stated that it would monitor Sydney Water's progress on the matter (IPART 2007:11). The secondary recommendation was as follows:

"Consult with NSW Health to determine the requirements for compliance under Operating Licence Clause 3.6.1 with the new Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006; Sydney Water should clarify whether the requirement is only that the monitoring results must comply with certain requirements, or whether all the requirements of the guidelines should be complied with" (IPART 2007:11)

Clause 3.6.1 requires Sydney Water to comply with relevant guidelines specified by NSW Health and other relevant regulators. The Australian Guidelines for Water

Recycling had recently been implemented (Phase 1 commenced in November 2006 and Phase 2 has been through public consultation stage but has yet to be finalised), and as Sydney Water has been working in association with NSW Health to put in place a program for the development of the RWQMPs that complies with the new Guidelines, Sydney Water is deemed to have achieved full compliance with the requirement of clause 3.6.1 for the 2007/08 audit year.

Moving forward toward adoption of the new Guidelines for all recycled water schemes will require Sydney Water and IPART to come to some agreement on how to define compliance with the new Guidelines. Each RWQMP will have its own water quality monitoring plan, specific to the influent characteristics, the treatment process and the end-use needs. At this early stage of implementation of the new Guidelines, we believe that auditing and compliance should be an issue between Sydney Water and other State Government departments such as NSW Health and DECC, and be complemented by internal auditing as part of the EMS. In due course, as a fuller understanding is gained of the relevant and important parts of the new RWQMPs, Sydney Water and IPART may consider exploring how compliance is written into the Operating Licence.

5.2 Licence Section 4 – Infrastructure Performance

5.2.1 Summary of Requirements

Part 4 of the Operating Licence requires Sydney Water to comply with infrastructure performance objectives. This requirement is to ensure that Sydney Water achieves appropriate levels of system performance to comply with its level of service obligations.

For the purpose of the Risk Based Audit, Licence Clauses 4.1, 4.2, 4.3 and 4.13 are subject to a detailed audit by Cardno. The remaining clauses for Part 4 of the Licence were subject to a review by IPART, the assessment of which will not form part of this report.

5.2.2 Infrastructure Performance – Compliance

Compliance for Part 4, Infrastructure Performance, is outlined in Table 5-2. Cardno determined that Sydney Water exhibited Full Compliance with the requirements of this section of the Licence subject to this audit.

Table 5-2 - Compliance Assessment for Operating Licence Part 4 – Infrastructure Performance

Requirement	Target	Risk of Non-Compliance	Findings	
4.1.1 Sydney Water must ensure that no more than 15,000 Properties experience a water pressure failure in a financial year.	Stated limit not exceeded	Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection Likely Consequence Disruptions to supplies, insufficient supplies Inadequate pressure for fire fighting Increased probability of loss of life and/or property Contamination through backflow Customer Service Levels not met	Full compliance	All requirements of the condition have been met. Result – 345 pressure failures 147 failures were from capacity issues and 198 from abnormal operations This result easily complies with Licence Limit. It is also a significant improvement on last year's result when 1,094 properties were affected by a water pressure failure. It should also be noted that 194 out of the 198 abnormal operations failures were a result of a single event. The high level of performance against this indicator is a result of a combination of the largely completed "Poor Pressure Improvement Program" and the effect of water restrictions. Based on the information provided we are of the view that Sydney Water is doing an excellent job in addressing the systemic low pressure problems in its network.
4.2.1 (a) Sydney Water must ensure that no more than 32,000 properties	Stated limit not exceeded	Type of Risk	Full compliance	All requirements of the condition have been met.

Requirement	Target	Risk of Non-Compliance	Findings
experience a Planned Water Interruption exceeding 5 hours in a financial year.		<p>Non-compliance with supply reliability</p> <p>Non-compliance with consumer protection</p> <p>Likely Consequence</p> <p>Disruptions to supplies, insufficient supplies</p> <p>No supply for fire fighting</p> <p>Increased probability of loss of life and/or property</p> <p>Customer Service Levels not met</p> <p>Annoyance of customers</p>	<p>Result – 16,576 properties affected by planned interruptions</p> <p>There were 138 planned shutdown exceeding 5 hours that affected a total of 16,576 properties.</p> <p>This result is a little over 50% of the Licence Limit and, hence, easily complies. This figure has remained reasonably static with the 2006/07 result being 17,292.</p> <p>Sydney Water reported that the number of properties affected by a planned water interruption is influenced by the level and nature of maintenance of the water network. It is also affected by the existing configuration of the infrastructure.</p> <p>The actual number of planned shutdowns exceeding 5 hours has reduced from 169 to 138. This indicates that Sydney Water's planning and work efficiencies have improved.</p> <p>Based on the information provided we are of the view that Sydney Water is performing well in managing its water continuity obligations and that further strong performance against this indicator in the future is likely.</p>
4.2.1 (b) Sydney Water must ensure that no more than 35,000 properties experience an Unplanned Water Interruption exceeding 5 hours in a financial year.	Stated limit not exceeded	<p>Type of Risk</p> <p>Non-compliance with supply reliability</p> <p>Non-compliance with consumer protection</p> <p>Likely Consequence</p> <p>Disruptions to supplies, insufficient supplies</p> <p>No supply for fire fighting</p> <p>Increased probability of loss of life and/or property</p> <p>Customer Service Levels not met</p>	<p>Full compliance All requirements of the condition have been met.</p> <p>Result – 31,982 properties affected by unplanned interruptions</p> <p>There were 485 unplanned shutdowns exceeding 5 hours that affected a total of 31,982 properties. Whilst this complies with the Licence Limit, it is an increase from the 2006/07 result of 29,592 properties from 507 events. This number has been tracking up since 2004/05.</p> <p>This year's result was exacerbated by two broken water main events in the Illawarra region that each affected</p>

Requirement	Target	Risk of Non-Compliance	Findings
		Annoyance of customers	<p>over 2,000 properties.</p> <p>Sydney Water stated that the number of properties affected by unplanned water interruptions is associated with the need to isolate a broken main to enable its repair. The number of unplanned interruptions exceeding 5 hours is greatly influenced by the emphasis on isolating water main breaks to minimise water loss as measured by the Response Time indicator. That is, shutting off the water to stop the leak is the primary concern, repairing the main and returning it to service is secondary.</p> <p>Although Sydney Water's results against this indicator are increasing and approaching the limit, we feel that they are taking all reasonable and responsible measures to meet it. Additionally, we consider that their approach in giving priority to stopping the loss of water over supply continuity is appropriate.</p>
4.3.1 Sydney Water must ensure that no more than 25,000 Properties (other than Public Properties) experience an Uncontrolled Sewage Overflow in dry weather in a financial year. This is known as the sewage overflow standard.	Stated limit not exceeded	<p>Type of Risk</p> <p>Non-compliance with consumer protection</p> <p>Non-compliance with legislation/licence</p> <p>Likely Consequence</p> <p>Customer Service Levels not met</p> <p>Breach of Environmental Acts and regulations</p> <p>Exposure of public to raw sewage</p> <p>Public health and safety concerns</p> <p>Increased probability of loss of life and/or property</p> <p>Adverse impact on public perception</p>	<p>Full compliance All requirements of the condition have been met.</p> <p>Result – 18,148 overflows</p> <p>This result complies with the Licence Limit and represents a significant decrease (27%) from last year's result of 24,924.</p> <p>Sydney Water claimed that this improvement resulted from a combination of more favourable climatic conditions and on-going effects of their Choke Management Strategy. Specific initiatives include a more focussed risk-based approach to prioritisation of activities and an increased investment in proactive maintenance activities.</p> <p>75-80% of overflows are caused by tree root chokes. Based on the information provided we are of the opinion</p>

Requirement	Target	Risk of Non-Compliance	Findings
			that Sydney Water is progressing the Sewer Choke Management Strategy and indications are that further reduction in affected properties is likely in future years.
<p>4.13.1 Sydney Water's response to water main breaks and leaks (in the trunk and reticulation components of Sydney Water's drinking water system between water treatment plants and a property), as measured from the time Sydney Water receives notification of a break or leak to the time Sydney Water stops the loss of water, shall be as follows:</p> <p>a) Priority 6 breaks/leaks: 70% of jobs within 2 hours 90% of jobs within 3 hours</p> <p>b) Priority 5 breaks/leaks: 65% of jobs within 3 hours 85% of jobs within 6 hours</p> <p>c) Priority 4 breaks/leaks: 50% of jobs by end of next working day 100% of jobs within 5 days,</p>	Stated response targets met	<p>Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection</p> <p>Likely Consequence Disruptions to supplies, insufficient supplies Excessive loss of water Customer Service Levels not met Adverse impact on public perception</p>	<p>Full compliance All requirements of the condition have been met for parts a), b) and c) – criterion 1.</p> <p>Sydney Water obtained Full compliance with each criterion in this clause with the exception of c) criterion 2. However, compliance with Clause 4.13.1 should be assessed in the context of Clause 4.13.4.</p> <p>The results are as follows:</p> <p>Priority 6 breaks/leaks: 77.9% of jobs within 2 hours – complies 91.6% of jobs within 3 hours – complies</p> <p>Priority 5 breaks/leaks: 72.1% of jobs within 3 hours – complies 92.9 % of jobs within 6 hours – complies</p> <p>Priority 4 breaks/leaks: 76.4 % of jobs by end of next working day – complies 96.6 % of jobs within 5 days – complies subject to Clause 4.13.4.</p> <p>Although the limit for Priority 4 jobs is 100% of jobs within 5 days, Clause 4.13.4 concedes that this is not always operationally possible and requests that in such instances a list of non-compliances and their reasons is provided.</p> <p>Sydney Water has developed a "Balancing Requirements for Continuity and Leak Response" Standard Operating Procedure to assist field staff in addressing the requirements of this target. Sydney Water has remodelled the work practices of its Civil</p>

Requirement	Target	Risk of Non-Compliance	Findings	
			Maintenance section. This includes the implementation of shifts to address after hours leaks and the addition of First Call Responders who can attend to leaks quickly to shut them off and then assess the next course of action. Based on interviews with staff, viewing of documentation and/or screen displays we are of the opinion that Sydney Water has implemented robust and efficient systems that will allow them to continue to meet the response time targets.	
4.13.4Due to operational, planning and customer impact issues, it is recognized that Sydney Water will not be able to respond to 100% of priority 4 jobs within 5 days. Therefore Sydney Water shall annually submit to IPART a list of all instances of non-compliance with the above target and the reasons for the non-compliance. This will be reviewed as part of the annual operational audit.	Compliance	Type of Risk Non-compliance with legislation/licence Licence conditions not Fully met Likely Consequence Breach of Licence Condition	Full compliance	All requirements of the condition have been met. The list of instances of non-compliance with the Clause 4.13.1 c) target and the reasons for non-compliance is provided in Sydney Water’s Operating Licence Compliance Report and has been viewed. The reasons for non-compliance are taken from a standard generic list. The list is contained in FRM as a drop down list and is selected by field staff when they are unable to complete a job. The two most common causes for non-compliance were “specialist equipment and/or contractors required and” difficult leak detection.

5.2.3 Discussion on Infrastructure Standards

Responding to Customer Requests – Job Flow

During the audit we viewed the processes for responding to customer requests through visiting the following Sydney Water facilities:

- Liverpool Call Centre;
- Centralised Scheduler's Office, Birrong/ Potts Hill;
- Inner West Depot, Birrong/ Potts Hill; and
- Civil Maintenance Depot, Birrong/ Potts Hill.

The process generally involves:

- Receipt of an emergency request from customers at the Liverpool Call Centre;
- Determination of the nature and details of the event (eg location, contact details) and the priority for the event. We viewed the response to a request and noted the availability of information in WAMS (Works & Asset Management System) including spatial information on properties and infrastructure including historical records of customer service in the area. We viewed the entry of relevant data into WAMS. We were also shown a data dashboard of relevant KPIs including occasions where the priority level on jobs had to be modified. The target is less than 10% of requests and performance currently runs at 9%. The Call Centre is staffed from 6.00 am to midnight with calls diverted to the Centralised Scheduler's Office until 6.00 am. The number of events during this latter period is relatively low averaging around 10 per day in May and June 2008;
- The event once logged in WAMS is then available to the relevant Resource Coordinator at the Centralised Scheduler's Office at Birrong/ Potts Hill who then utilises FRM (Field Resources Management) system to allocate and dispatch the request to the appropriate field crew. Priority is given to Priority 5 and 6 events. We viewed the process for allocation and dispatch of requests. The Centralised Scheduler's Office is staffed 24 hours per day with a single person operation between 10.30pm and 7.00am except during high workload events (eg storms). The Field Resource Coordinator is also involved in the process of re-allocation of resources in association with the relevant depots when there is an unusually high number of Priority 5 and 6 events or a significant backlog of lower priority events exists. We also viewed some of the job management reports issued daily to the depots;
- The request is then received by the nominated field crew. A Team Leader, Civil Maintenance demonstrated the laptop (Toughbook) used in the maintenance vehicle and the information available in FRM to field crews. The process for attending to an event was described including the Task Codes used to close off a job. The facility for requesting Corrective Maintenance work orders (eg when

a non-operational valve was identified) was demonstrated. The process for communicating the status of a job in WAMS was also demonstrated;

- Once a job is closed off, if the event and/or response has triggered a customer rebate or impacts on a number of properties then the number of properties affected is calculated. The methodology from a previous water and a sewerage event was demonstrated on screen;
- The FRM data undergoes a validation process through the use of MAXMON data validation software. The software emails suspect data (eg date/ time errors, duplicate data) to the Data Analyst who then distributes the information to the relevant field supervisor with a requirement to respond within a week. Data validation is run at daily, weekly or monthly basis depending on the criticality of data;

Based on the interviews of staff, viewing of documentation and/or screen displays we are of the opinion that the process is robust and efficient. We also noted further business improvements that were in progress including:

- The continuing work of the Service Faults Optimisation Committee and Working Group which addressed the needs of Customer Service, Water Services and Asset Management Branches as a whole;
- Contacting customers (with agreement of customers) on completion of all jobs;
- Ability of Call Centre staff to see real-time status of jobs on screen to address customer queries;
- Further development of the FRM to have GIS (Hydra) available to field crews;
- Automation and increased accuracy of the process for calculating the number of properties affected; and
- Relocation of the Schedulers to the Liverpool Call Centre.

Water Pressure Standard (Clause 4.1.1)

The number of properties experiencing a pressure less than 15 metres head for the year was 345, made up of 147 due to capacity issues and 198 due to abnormal operations. Sydney Water stated that 194 of these pressure failures were a result of a single event where faulty dividing and stop valves caused properties in Como to receive low pressure.

This result is a significant improvement on the 1,094 pressure failures in 2006/07 and easily meets the Licence Limit of 15,000. The high level of performance against this indicator is a result of a combination of the largely completed “Poor Pressure Improvement Program” and the effect of water restrictions.

It should be noted that Sydney Water issues a rebate to all customers that suffer a water pressure failure. The rebate is issued regardless of whether the customer was aware of the problem or not.

Sydney Water was able to demonstrate a number of initiatives to meet the systemic water pressure requirements. These include:

- Pressure gauges installed throughout the system particular in identified critical areas. There are approximately 240 gauges permanently connected to the Integrated Instrumentation Control Automation and Telemetry System (IICATS) and approximately another 100 that are not connected. Of these 100 additional gauges around two thirds are read remotely by other computers and a third are read manually. Sydney Water is looking at having all these additional gauges read remotely and for data to be directed through to IICATS. However, there are some technical issues that may prevent this happening;
- Further development of hydraulic models to assess the system capability and design amplifications;
- Implementation of a desired minimum design level of 20 metres head in new developments. This has only been adopted in the last 20-30 years so the majority of Sydney was designed for a minimum pressure of 15 metres or 50 feet head.

Sydney Water provided evidence of their processes for monitoring, selection and reporting on water pressure failure events. Evidence included:

- Water Pressure Standard Folio of Progress;
- Standard Operating Procedure, Investigating, Measuring & Reporting Water Pressure, Sydney Water, October 2006; and
- A figure demonstrating the process for selecting properties for rebate or reporting. This process was also demonstrated at the Civil Maintenance Depot, Birrong/Potts Hill.

Based on the information provided we are of the view that Sydney Water is performing very well in addressing the systemic low pressure problems in its network.

The intent of this standard is to guarantee minimum water system capability and it has clearly achieved the desired function. Sydney Water, combined with the effects of water restrictions, has performed so well against this standard that there appears to be limited purpose in continuing with this indicator in its present form. It is therefore recommended that this standard be reviewed. A possible measure could be a more customer focused limit which would look at events rather than properties

and remove the 4 day limit on abnormal operations, the logic being that customers are more concerned with the fact they received low pressure than the reason why. However, to encourage responsible asset management some time relief should be given for planned operational low pressure events to allow for preventive maintenance to take place.

Water Continuity Standard (Clause 4.2.1)

Planned Interruptions

The number of properties affected by planned interruptions exceeding 5 hours was 16,576. This is a 4% reduction from last year and easily complies with the standard. The actual number of planned interruptions exceeding 5 hours has also reduced from 169 last year to 138 this year.

Sydney Water reported that the number of properties affected by a planned water interruption is influenced by the level and nature of maintenance of the water network. It is also affected by the existing configuration of the infrastructure.

The fact that the actual number planned shutdowns exceeding 5 hours has reduced indicates that Sydney Water's planning and work efficiencies have improved.

The number of properties affected is determined by placing a polygon around the water main in question on a computerised map (Hydra). It should be noted that Sydney Water is conservative in selecting these properties (eg corner blocks are always included). Therefore, Sydney Water's reporting on properties affected errs on the high side.

Based on the information provided we are of the view that Sydney Water is performing well in managing its water continuity obligations and that further strong performance against the Planned Interruption standard in the future is likely

Unplanned Interruptions

The number of properties affected by unplanned interruptions exceeding 5 hours was 31,982. Whilst this complies with the standard it is an 8% increase from last year and the trend has been tracking up since 2004/05 and is approaching the limit of 35,000 properties. Whilst the number of properties affected has increased the number of events has decreased from 507 to 485.

Sydney Water reported that this year's result was exacerbated by two broken water main events in the Illawarra region that each affected over 2,000 properties. Sydney Water also stated that the number of properties affected by unplanned water interruptions is associated with the need to isolate broken mains to enable their repair.

The number of unplanned interruptions exceeding 5 hours is greatly influenced by the emphasis on isolating water main breaks to minimise water loss as measured by the Response Time indicator. That is, shutting off the water to stop the leak is the primary concern, repairing the main and returning it to service is secondary. For

some events a First Call Responder would arrive on site and stop the leak, make the site safe and then call in another crew to carry out the actual repair. Clearly this is adding to the length of interruption times. Whilst it is the main contributing factor for the number approaching the limit it is not the sole fact. For example, mains have to break or leak in the first place and the allocation of more resources would mean that different people would not be required to initially stop leaks and then carry out the repair. However, it is doubtful that the increase in cost would be worth the benefits and Sydney Water appears to be dedicating an appropriate level of effort and money at this indicator.

Sydney Water staff mentioned several times the “tension between indicators” – that is the need to stop leaks versus the need to maintain supply. To assist field staff in addressing this conflict between indicators, Sydney Water has developed a “Balancing Requirements for Continuity and Leak Response” Standard Operating Procedure. This procedure gives instruction on actions to be taken in various leak response situations and also provides alarm levels for the ongoing tracking of performance against this standard.

As with Planned Interruptions, the selection of number of properties affected errs on the high side. Although Sydney Water’s results against this standard are increasing and approaching the limit, we feel that they are taking all reasonable and responsible measures to meet it. Additionally, we feel that their approach in giving priority to stopping the loss of water over supply continuity is appropriate

In order to achieve interruption targets set in the Operating Licence, Sydney Water has implemented a number of initiatives. These include:

- The ongoing watermain renewal and leakage reduction programs;
- The development of Standard Operating Procedure for “Balancing Requirements for Continuity and Leak Response”. This procedure includes self imposed targets for the completion of 100% of jobs in each category as well as having alarm points to trigger further action when numbers are tracking towards exceeding a limit. The procedure also addresses how field staff are to address the conflict between this target and the water continuity target;
- The implementation of the Field Resources Management (FRM) system, particularly giving field crews a laptop to receive and record job details. This has improved the process of issuing jobs and allows the Schedulers to view the real time status of jobs; and
- The ability to reallocate resources in high demand periods. This may involve drawing resources from crews assigned to planned maintenance crews from other depots or outsourcing low priority jobs to free up Sydney Water crews. This function has become much more efficient with the implementation of the FRM system.

Sydney Water provided evidence of their processes for monitoring and reporting on interruptions. Evidence included:

- Water Continuity Standard Folio of Progress;
- Standard Operating Procedure for “Balancing Requirements for Continuity and Leak Response”;
- Demonstration of issuing jobs from Call Centre to Scheduler to Field Crew;
- Demonstration of how field crews record job details such as water on/off times and specifying reasons why response time targets were not met;
- Screen print out of Operating Protocols & Maintenance Specifications (OPAMS)
- Presentation of a figure demonstrating the process for selecting properties for rebate or reporting
- The auto-verification system using MAXMON software to identify any errors in the job details reported in the FRM system;
- A flowchart describing the Civil Maintenance Data Correction Process; and
- Cost period reports showing how performance against the Licence Limits is tracked.

Sewage Overflows on Private Property Standard (Clause 4.3.1)

A significant reduction in properties affected by sewer overflows was noted (down to 18,148 from 24 924 in 2006/07). We were advised that the drivers for reducing the extent of sewer overflows (dry weather) also included minimising impacts on waterways and repeat blockages. Sydney Water advised that the reasons for the improved performance included:

- Drought conditions have eased;
- A more focused risk-based approach to the prioritisation of activities. Assets that have affected large numbers of properties are being inspected and repaired along with assets that haven’t failed but are likely to have this effect;
- Increased sewer maintenance which involved a sewer cleaning and inspection with follow-up preventive (further cleaning) and corrective (rehabilitation) maintenance. This was considered to be cost-effective with the cost of proactive root cutting/sewer cleaning being of the order of a third of the cost of reactive sewer blockage removal. Sewer cleaning generally resulted in further tree root blockages not occurring for about 1-2 years;
- Greater investment in CCTV inspections. Recent CCTV technology now enables the house connection to be viewed from the sewer. Where root problems were identified in a customer’s sewer the customer will be notified. It is estimated that approximately 30% of customers took corrective action as a

result of the notification. We were also advised that as high as 50% of sewer blockages caused by tree roots could originate from customers' mains;

- Improved sewer relining techniques particularly at the junction with house connections;
- Greater investment in sewer repairs (\$10M pa) and planned corrective action (\$10M pa). We were advised that 10 years ago the strategy had been reactive in response to an event.

Further initiatives proposed included:

- Continuation of the capital and operational investment at 2008/09 levels;
- Proactive involvement with local governments on the minimising the impacts of trees on the sewerage system;

We challenged Sydney Water on sewage overflow reduction practices. In response, Sydney Water provided the following documents to support their statements:

- Standing Operating Procedure – Private Sewer Defect Notification (draft);
- Sewage Overflows Standard Folio of Progress;
- Work Instruction- Wastewater Systems Maintenance – Prioritisation and WAMS Application;
- Operating Protocols and Maintenance Specifications (OPAMS) for Civil Assets – Wastewater;
- Dry Weather Overflows - Environment Committee Presentation (Powerpoint slides), Sept 08; and
- Sewer Choke Management Strategy, Sept 2005.

Based on the information provided we were of the opinion that Sydney Water are progressing the Sewer Choke Management Strategy and indications are that further reduction in affected properties is likely in future years.

We noted Sydney Water's comment that it may be preferable to count the connections impacted or number of events rather than number of properties affected. The argument is that in a multi-unit development it is likely that only ground floor properties would be affected. However, the dry weather overflow volumes from a multi-unit development are likely to be far greater than from a single dwelling.

Response Times for Water Main Breaks (Clause 4.13)

Sydney Water obtained Full Compliance with each criterion in this clause with the exception of c) criterion 2. However, although the limit set in c) criterion 2 for Priority 4 jobs is 100% of jobs within 5 days, Clause 4.13.4 concedes that this is not always

operationally possible and requests that in such instances a list of non-compliances and their reasons is provided. The Monitoring & Reporting Protocol (Draft) states that meeting this requirement constitutes Full Compliance with c) 2. IPART also agrees with this interpretation of the clause. Hence, Full Compliance has been awarded.

The section of the IPART and Sydney Water Monitoring and Reporting Protocol (Draft) that covers this issue states the following:

“Clause 4.13.4 of the Licence recognises that, due to operational, planning and customer impact issues, Sydney Water will not be able to respond to 100% of priority 4 jobs within 5 days. The requirement of priority 4 jobs, therefore, is for 50% of jobs the loss of water will cease by the end of the next working day. Sydney Water must aim to complete the remaining jobs within 5 days, it must report to IPART a list of non-compliances and reasons for these, but it does not constitute a breach of the licence if all jobs are not completed within 5 days of notification.”

The need to explain the reason why these jobs did not meet the 5 day limit is an extra level of reporting. Hence, reporting on this requirement becomes more onerous than reporting on the higher priority jobs which is counter intuitive. Clarifying the contradiction between 4.13.1 and 4.13.4 was a Key Recommendation in the 2006/07 Audit but it still remains. To some extent the Monitoring and Reporting Protocol addresses the issue but it would preferable to remove the contradiction from the Licence rather than having a separate document clarifying the issue. The Monitoring and Reporting Protocol states “Sydney Water must aim to complete the remaining jobs within 5 days”. This statement is more of a goal than a target and is not measurable, making assessing compliance difficult. It is not a suitable statement for a compliance requirement.

It is therefore recommended that this clause be modified to remove this contradiction and provide a clearly defined target. The most obvious solution would be to change the 100% limit to a lower limit that is still sufficiently high to promote the continuation of the current good work practices. This would allow the need to list the uncompliant events to be removed.

However, this document is only a Draft and some direction is required from IPART before this can be taken as its official interpretation of the standard.

Priority Levels are set by Customer Service Representatives at the Call Centre. Only selected experienced and trained representatives are allowed to take emergency calls and set priority levels. Typically, representatives must have 6-12 months experience at answering General Enquiries before they can be trained in taking Emergency calls. The procedure for identifying the priority levels includes a comprehensive list of questions aimed at obtaining accurate information from the caller.

The Priority Levels can be modified by field staff and the Operating Licence allows for the Response Time clock to be restarted if a Priority Level is increased. However,

less than 10% of Priorities are modified by field staff and, of these, less than a third are increased. This indicates that Sydney Water's training and procedures for setting Priority Levels at the Call Centre are working well and field staff are not abusing the allowance of being able to restart the clock.

To enable the reporting on the Priority 4 jobs that are not completed within 5 working days, Sydney Water has designed a drop down list in their Field Resource Management system of generic reasons for jobs not being closed off. This field is entered by field staff whenever a job cannot be closed off. Having a standardised list makes this task easy to complete in the field and also makes reporting much more streamlined. It should be noted as commendable that Sydney Water also use this field to give reasons for Priority 5 and 6 jobs not being completed even though this is not a requirement of the Operating Licence.

Sydney Water provides a list of the number of non-compliant results for each reason code. The two most common causes for non-compliance were "Specialist equipment and/ or contractors required" and "Difficult Leak Detection". These causes comprised 66.6% and 19% respectively of the 63 non-compliant events.

In order to achieve the response time targets set in the Operating Licence, Sydney Water has implemented a number of initiatives. These include:

- The implementation of shifts allowing quicker response to after-hours events;
- The introduction of a First Call Responder (FCR), whose primary function is to stop the loss of water as quickly as possible. After this they can make the site safe and determine the next course of action which will typically be either fixing the leak themselves or calling in another crew to carry out the repair;
- The development of Standard Operating Procedure for "Balancing Requirements for Continuity and Leak Response". This procedure includes self imposed targets for the completion of 100% of jobs in each category as well as having alarm points to trigger further action when they are tracking towards exceeding a limit. The procedure also addresses how field staff are to address the conflict between this target and the water continuity target;
- The implementation of the Field Resources Management (FRM) system, particularly giving field crews a laptop to receive and record job details. This improved the process of issuing jobs and allows the Schedulers to view the real time status of jobs; and
- The ability to reallocate resources in high demand times. This may involve drawing resources from crews assigned to planned maintenance, crews from other depots or outsourcing low priority jobs to free up Sydney Water crews. This function has become much more efficient with the implementation of the FRM system.

Sydney Water provided evidence of their data management practices for monitoring and reporting on water main break response times. Evidence included:

- Response Time for Water Main Breaks Folio of Progress;
- Standard Operating Procedure for “Balancing Requirements for Continuity and Leak Response”;
- Demonstration of issuing job from Call Centre to Scheduler to Field Crew;
- Demonstration of how Field Crew record job details such as water on/off times and specifying reasons why response time targets were not met;
- The auto-verification system using MAXMON software to identify any errors in the job details reported in the FRM system;
- A flowchart describing the Civil Maintenance Data Correction Process; and
- Cost period reports showing how performance against the Licence Limits is tracked.

Based on interviews with staff, viewing of documentation and/or screen displays we are of the opinion that Sydney Water has implemented robust and efficient systems that will allow them to continue to meet the response time targets.

5.3 Licence Section 9 – Water Conservation and Demand Management

5.3.1 Summary of Requirements

Part 9 of the Operating Licence requires Sydney Water to comply with specific water conservation and demand management objectives. This requirement is to ensure that Sydney Water minimises the volume of water drawn from sources in the region, (managed by the Sydney Catchment Authority) in the most cost-effective way, thereby achieving a balance between appropriate water demand reduction targets, water re-use initiatives and water leakage.

Operating Licence Requirements

For the purpose of the Risk Based Audit, Licence Clauses 9.2.1, 9.2.2 and 9.2.3 were subject to a detailed audit by Cardno. The remaining clauses for Part 9 of the Licence were subject to a desktop review by IPART, the assessment of which will not form part of this report.

The IPART and Sydney Water Monitoring and Reporting Protocol (Draft) does, however, provide a more specific interpretation on the audit requirements of Clause 9.2.3. Licence Clause 9.2.3 was developed when Sydney Water was responsible for the demand and supply side planning, which was before the creation of the Sydney Catchment Authority in 1998. The Metropolitan Water Plan (2006), which is the responsibility of the Department of Water and Energy, aims to consider demand and supply balance, and requires the co-ordination of a number of parties, including Sydney Water (e.g. demand side) and the Sydney Catchment Authority (e.g. supply

side). As a result, Licence Clauses 9.2.3(b), (f) and (g), relating to supply options no longer reflect current catchment management arrangements and have been excluded from the scope of the Audit, as proposed by Sydney Water in the Monitoring and Reporting Protocol (Draft). However, Sydney Water's input into supply side planning and coordination with the agencies (e.g. SWC & DWE) was reviewed.

Ministerial Requirements

In addition to the Operating Licence requirements, there are also Ministerial Requirements from previous audits in relation to demand management initiatives, specifically leakage management. As a result of the 2005/06 Operating Licence Audit (and the previous 2004/05 Audit), the Minister required Sydney Water to improve estimates of leakage through a revised bulk flowmeter installation program, and deliver the implementation of a number of pressure zones.

5.3.2 Water Conservation and Demand Management – Compliance

Compliance for Part 9, Water Conservation and Demand Management, is outlined in Table 5-3.

Overall, we determined that Sydney Water Corporation exhibited full compliance with the requirements of the auditable parts of this section of the Licence. Overall, compliance with this section of the Licence is consistent with last year, where full compliance was also achieved overall for demand management.

There is no Ministerial Requirement in the 2007/08 audit year in relation to pressure zones. However, we note that the two remaining pressure zones outstanding from 2006/07 were installed by the end of September 2007.

In relation to the bulk flowmeter program, as per the Ministerial Requirements, the target of 68 flowmeters (i.e. 40 for 2006/07 and 28 for 2007/08) is required before 30 September 2008, which falls outside the audit period for the 2007/08 Audit. We have, however, reviewed the progress toward this target and note that Sydney Water had installed 90 flowmeters by 30 June 2008, which exceeds the requirement.

Table 5-3 Compliance Assessment for Operating Licence Part 9 – Water Conservation and Demand Management

Requirement	Target	Risk of Non-Compliance	Findings
9.2.1 - Sydney Water must give due consideration to demand side management as the basis for planning the future provision of its Services, including addressing Water leakage.	Due consideration given by suitably qualified and experienced officer(s)	Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection Likely Consequence Insufficient supplies Higher prices due to need for new sources Reduced customer confidence	<div>Full compliance</div> All requirements of the condition have been met. Sydney Water Corporation has given due consideration to demand side management of current and future service provision (including leakage management) as evidenced by the following key documents and strategies: <ul style="list-style-type: none"> Corporate Plan (2007/08-2011/12); Sustainability Division Plan (2008/09); Folios of Progress (Water Conservation, Leakage); Leakage Management Program Integrated Strategy (2008); Water Conservation and Recycling Implementation Report (2007/08); and EMS documentation. <p>These strategies align with (and/or are driven by) the targets and strategies outlined in the Metropolitan Water Plan (2006) and the State Plan (2006). The inter-relationship between the Plans/Programs/ Strategies was illustrated by Sydney Water staff, revealing how the targets/goals/objectives feed through all levels. Evidence was also provided of the co-ordination of Sydney Water with DWE for the purpose of developing in the Metropolitan Water Plan and providing advice to the Drought Executive Committee on water restrictions.</p> <p>Also, translation of the higher level strategic water demand planning was illustrated in the Area Servicing Plan and associated documentation, including the research plan on developing revised design/planning standards and criteria to incorporate more sustainable water initiatives at the area level.</p>
9.2.2 - By no later than 1 September each year, Sydney Water must provide a demand management	Report completed by required date	Type of Risk Non-compliance with licence Likely Consequence	<div>Full compliance</div> All requirements of the condition have been met. The Water Conservation and Recycling Implementation Report (WCRIR) 2007/08 is Sydney Water Corporation's demand management strategy implementation report. Sydney Water submitted the WCRIR for 2007-08 to IPART before the 1 st September

Requirement	Target	Risk of Non-Compliance	Findings
strategy implementation report to IPART that reports on its implementation of its demand management strategy for the previous financial year, to enable IPART to consider and report on the matter as part of the Annual audit.		Breach of licence Reduced cost-effectiveness of demand management strategy	(note – some updates of sectoral consumption will be required based on recently acquired data). We viewed the covering letter of the Report submitted to IPART which was signed by senior staff and approved for submission on 22 nd August. The WCRIR reports on the performance during the 2007/08 year and provides the plan for the next 3 years of the Operating Licence Period.
9.2.3 - The demand management strategy implementation report must:			
(a) contain an estimate of past, current and projected water uses and distinguish between residential, industrial, commercial and government uses;	Observance of water use estimates and projections	Type of Risk Non-compliance with supply reliability Non-compliance with licence Likely Consequence Breach of licence Low cost-effectiveness of demand management strategy Poor understanding of usage patterns	<div>Full compliance</div> All requirements of the condition have been met. An estimate of past, current and projected water uses, distinguishing between residential, industrial, commercial and government uses, is presented in Appendix 3 and Figure 2 of the Water Conservation and Recycling Report. Figure 2 shows the overall baseline projections against demand management initiatives while Appendix 3 shows projections by various uses. Sydney Water proposes to update the 2008 figures to reflect actual demand rather than forecast, based on newly available data. We were also provided with an explanation and copies of the procedures for demand forecast data collection (SWEMS0117) and preparation of demand forecasts (SOP SWEMS0117) and found this to be a sound process, within the limitations of the accuracy of the available data such as population projections and baseline water consumption. In addition, we were provided with flowcharts of population data development and a timeline of data inputs to the required outputs.

Requirement	Target	Risk of Non-Compliance	Findings	
(b) describe the frequency and magnitude of expected supply deficiencies, including those arising as a result of wastage or loss, drought or emergency;	Observance of supply deficiency discussion	Type of Risk Poor communication and inconsistencies with supply side management parties Likely Consequence Breach of licence Low cost-effectiveness of demand management strategy Poor understanding of usage patterns Insufficient supplies	No Requirement	Excluded from Audit scope as per Monitoring and Reporting Protocol (Draft)
			<p>The frequency and magnitude of expected supply deficiencies, including those arising as a result of wastage or loss, drought or emergency are only partially described in Appendix 2 of the WCRIR. Supply side initiatives, which are outlined on the Metropolitan Water Plan and the State Plan no longer fall under Sydney Water's area of responsibility.</p> <p>The Monitoring and Reporting Protocol (Draft) reveals that Sydney Water proposes that this Clause is outside the scope of the audit, as it no longer reflects current catchment management arrangements whereby Sydney Water no longer have any authority to determine supply side deficiencies, as that is now the responsibility of the Department of Water and Environment.</p> <p>Furthermore, water restrictions are not imposed by Sydney Water, although Sydney Water provide advice / inputs to the Drought Executive Committee.</p>	
(c) identify conservation measures currently adopted and being practised;	Observance of section on current conservation measures	Type of Risk Poor communication and inconsistencies with supply side management parties Likely Consequence Breach of licence Low cost-effectiveness of demand management strategy Poor understanding of usage patterns Insufficient supplies	Full compliance	All requirements of the condition have been met.
			<p>We were provided with an overview of water conservation and the models adopted (e.g. WaterFix) and the water leakage programs. Section 4 of the WCRIR identifies the currently adopted and practiced conservation measures. Current conservation measures are also part of the Multi-Criteria Analysis Model and the End Use Model. To the extent of the audits undertaken and information provided, we concluded that for 2007-08, Sydney Water has fully complied with this requirement.</p>	

Requirement	Target	Risk of Non-Compliance	Findings
(d) describe, cost and evaluate additional conservation measures;	Observance of description, cost and evaluation of additional measures	Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection Likely Consequence Breach of licence Low cost-effectiveness of demand management strategy Poor understanding of usage patterns Insufficient supplies	<div>Full compliance</div> All requirements of the condition have been met. Section 5 of the WCRIR provides a discussion of additional conservation measures under consideration. The process for investigation of these measures was outlined during the audit and found to be a sound process. Additional conservation measures are outlined in Section 5. Investigations, pilots and trials are undertaken for measures that appear to have good potential, after internal and external research occurs to identify potential measures/programs. The cost of adopted measures is presented in Table 11 of the WCRIR. Sydney Water staff presented the End Use Model, which included calculation of levelised cost for each existing and proposed new measure, and also presented the Multi-Criteria Analysis (MCA) Model. We were provided with an overview of evaluation criteria for these new measures including screening criteria such as community issues and potential stakeholder issues. The End Use Model and MCA are updated six monthly. We believe that the process used to identify, cost and evaluate alternative conservation measures is sound. We also believe that it is appropriate for Sydney Water to omit measures which are based on regulatory requirements (e.g. BASIX, WELS) from the evaluation/comparison of measures. In terms of future programs, Sydney Water is very proactive in the area of research and provided a copy of the R&D working group meeting minutes (2 nd September 2008).
(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;	Observance of description of future plans	Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection Likely Consequence Breach of licence and/or other State and Metropolitan Plans Low cost-effectiveness of demand management	<div>Full compliance</div> All requirements of the condition have been met. Future plans for water reclamation and water use practices are outlined in Sections 4 & 5 of the WCRIR. While Sydney Water is not responsible for the implementation of some of these initiatives (e.g. private water recycling schemes, and regulatory requirements such as BASIX and WELS), Sydney Water is closely involved in such programs as evidenced by Sydney Water's involvement in an investigation into ground-truthing the savings from the BASIX initiative, in conjunction with the Department of Planning. Sydney Water illustrated its commitment to ongoing improvement, through an adaptive management approach to future demand management.

Requirement	Target	Risk of Non-Compliance	Findings	
		strategy Poor planning of implementation		
(f) evaluate these plans in terms of their cost and contrast with the cost of alternative water supplies;	Observance of evaluation of future plans	Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection Likely Consequence Low cost-effectiveness of demand management strategy Poor planning of implementation	No Requirement	Excluded from Audit scope as per Monitoring and Reporting Protocol (Draft)
			Similar to Clause (b) discussed above, alternative supplies no longer fall under the sole responsibility of Sydney Water, following the development of the Metropolitan Water Plan (2006). Sydney Water staff do have inputs into this process through their ongoing inputs to the development of the next annual comparison of options and ranking using MCA (including leakage), which considers utility levelised cost, environmental, water savings and implementation certainty, but first is measured with two hurdle criteria initially (community issues and stakeholder acceptability). We conclude that for demand side options within their control, and based on costs of alternative water supplies (provided by others) Sydney Water would fully comply with this requirement.	
(g) prioritise and schedule the implementation of courses of action found to be cost effective;	Observance of prioritisation and scheduling of proposed courses of action	Type of Risk Non-compliance with supply reliability Non-compliance with consumer protection Likely Consequence Low cost-effectiveness of demand management strategy Poor planning of implementation	No Requirement	Excluded from Audit scope as per Monitoring and Reporting Protocol (Draft)
			Similar to Clause (b) discussed above, alternative supplies no longer fall under the sole responsibility of Sydney Water, following the development of the Metropolitan Water Plan (2006). However, we believe that this clause is somewhat relevant for courses of action to be implemented by Sydney Water. We observed Sydney Water's End Use Model and Multi-criteria Model, which appear to be an excellent tool for evaluating demand side options and prioritising the most cost-effective options. The projected savings and cost of adopted measures are presented in Tables 10 & 11 of the WCRIR, however, there is limited discussion on prioritisation and scheduling of measures. Another observation is that the short term (i.e. to 2010/2011) plan presented in Tables 10 and 11 does not appear to fit within a longer term strategy. We conclude, however, that for the demand side options within their control, Sydney Water would fully comply with this requirement.	
(h) identify strategies for	Observance	Type of Risk	Full compliance	All requirements of the condition have been met.

Requirement	Target	Risk of Non-Compliance	Findings
reducing water leakage;	of discussion on water leakage reduction strategies	<p>Non-compliance with supply reliability</p> <p>Non-compliance with consumer protection</p> <p>Likely Consequence</p> <p>Breach of licence</p> <p>Low cost-effectiveness of demand management strategy</p> <p>Poor understanding of leakage management potential</p> <p>Reduced customer satisfaction and trust</p>	<p>The key driver for leakage management is meeting the Operating Licence target of 105 ML/d in the most cost-effective way.</p> <p>We were provided with the Leakage Reduction Program Integrated Strategy (WAO5009_R2), including overview and methodology for programs (outlined below) and a communication plan. The four (4) current programs outlined in the Leakage Strategy included:</p> <ul style="list-style-type: none"> • Bulk meters – which appear to be well on track as per ministerial requirement; • Active Leakage Management – which is starting to plateau based on surveying 19,600 km of mains/year; • Pressure Management – there have been implementation issues to date due to fire servicing and community concern, but good results are expected once commissioned; and • Response time to main breaks (dealt with under Infrastructure Performance). <p>Further to the programs underway, the strategy illustrates that there are other initiatives such as R&D and pilot programs, meters on fire sprinklers and smart meters. The ELL is determined each year (based on certain assumptions, particularly into the short-term and long-term marginal cost of water), as authorised in the document provided, 'ELL results for 2007-08.doc'.</p>
(i) include components of a water balance table consistent with the format and definitions in the IWA water table;	Observance of IWA water balance table and evidence of consistency of definitions	<p>Type of Risk</p> <p>Non-compliance with licence</p> <p>Likely Consequence</p> <p>Poor understanding of leakage</p>	<p>Full compliance All requirements of the condition have been met.</p> <p>The Water Balance, consistent with the format and definitions of the IWA water table, is presented in Appendix 8 of the WCRIR. We were provided with a copy of the Standard Operating Procedure (WPIMS5314_R3) which provides the calculation and reporting methodology. We also viewed the spreadsheet model 'Water Balance 0304 summary.xls' and various other input sheets and tracked through the calculation of leakage and the base assumptions used. The methodology is consistent with the IWA methodology and if anything, some of the assumptions made are on the conservative side, which would tend to over-estimate leakage rather than under-estimate. This creates significant uncertainty when trying to compare/benchmark with other water utilities.</p>

Requirement	Target	Risk of Non-Compliance	Findings
(j) include consumption of water across sectors in a format and content specified by IPART; and	Observance of sectoral water break-down	Type of Risk Non-compliance with licence Likely Consequence Poor understanding of usage patterns and leakage	<div>Full compliance</div> <div>All requirements of the condition have been met.</div> <div>Sectoral consumption is presented in Table 18 of the WCRIR. We viewed the spreadsheet where this data was sourced from "Water Balance 0304 Summary.xls", and verified some of the standard data checks (i.e. data mining) and corrections made. The methodology appears to be robust.</div>
(k) for each of the demand management activities of Sydney Water in the preceding financial year, report in a schedule in a format and content agreed between IPART and Sydney Water: (i) the planned and actual water savings and planned and actual expenditure; and (ii) the actual measures of outcomes for performance indicators.	Observance of reporting	Type of Risk Non-compliance with licence Likely Consequence Breach of licence Low cost-effectiveness of demand management strategy Poor understanding of performance Poor planning of implementation	<div>Full compliance</div> <div>All requirements of the condition have been met.</div> <div>Table 14 in Appendix 6 presents the planned and actual water savings and expenditure for 2007/08 and the actual measures of the outcomes for performance indicators. It is understood that the format and content of the schedule was agreed between Sydney Water and IPART in 2002 and as a result, represents a limited number of programs and proportion of the savings achieved to date (i.e. 6.982GL actual for 2007/08 from Table 14 vs 76.214 GL presented in the Executive Summary). We believe that these reporting schedules, including the appropriateness of the performance indicators should be reviewed as part of the development of the next licence.</div>

5.3.3 Discussion on Water Conservation and Demand Management

During the Audit, Sydney Water gave an overview of the systems, processes, data and reports for meeting the requirement under the Operating Licence to report to IPART on the implementation toward the Water Conservation Strategy and its progress towards meeting the water conservation targets.

Sydney Water submitted the Water Conservation and Recycling Implementation Report to IPART before 1st September 2008, as required under Clause 9.2.2., which essentially outlines how Sydney Water intends to give due consideration to demand side management, as required under Clause 9.2.1.

Similar to the previous years, it was found that Sydney Water continued to demonstrate a high level of commitment to water conservation and demand management, as evidenced by the range of documentation from individual Performance Development Plans through to the Corporate Plan, including relevant Quality procedures. We interviewed a total of 15 staff members, including a range of staff from high level management in the areas of water conservation, leakage/asset management and recycled water operations, ranging from high level managers through to graduate engineers. Staff demonstrated a good understanding of the processes required to deliver the demand management strategy and a genuine commitment to adaptive management aimed at improving the performance in relation to demand management and achieving the licence (and Metropolitan Water Plan and State Plan) targets in the most cost-effective and overall beneficial manner. The following key documents were provided and explored in detail:

- Corporate Plan (2007-12);
- Sustainability Division Plan;
- Folio of Progress – Water Conservation;
- Integrated Leakage Management Strategy;
- Water Conservation and Recycling Implementation Report (2007/08);
- Product Servicing Manual;
- Environmental Management System (Risk Assessment); and
- Relevant procedures from the EMS, including:
 - Procedure for Demand Forecast Data;
 - Procedure for Demand Forecasts; and
 - Procedure for Calculation of Water Balance.

Further to these key documents, we also viewed and inspected a number of models/spreadsheets, including a sample of the End Use Model, the Multi-Criteria Assessment Model, the Water Balance Calculations spreadsheet, and sectoral break-down spreadsheet.

In terms of ensuring that planning at the strategic level is implemented on the ground, Sydney Water have developed a 'Product & Servicing Strategy' (Level 1 Area Plan) and illustrated a work plan for the key activities necessary to achieve the long-term sustainable provision of water services, particularly in relation to ensuring that planning undertaken under the demand management strategy is incorporated into area level planning.

In terms of minimising the potential for overestimating savings projections through double counting of savings from various programs, it was illustrated in the End Use model that any such duplications are removed. Furthermore, we concur with the approach by Sydney Water to omit regulatory based programs from the Multi-criteria analysis, due to the compulsory and inevitable outcomes associated with these programs.

The WCRIR 2007/08 is supported by all these models and documents and forms the basis of the strategy as it currently stands, and presents the information required in the sub-clauses of Operating Licence Clause 9.2.3.

We note that Clause 9.1 is outside the scope of the audit this year, however, we note that the WCRIR for 2007/08 demonstrates improving performance against the water conservation target of 329 LCD by 2010/11. In 2007/08, an estimated [climate corrected but including effects of restrictions] consumption of 308 LCD was achieved, compared with an estimated [climate corrected but including effects of restrictions] of 306 LCD in 2006/07. If the estimated impacts of restrictions are considered, the estimated consumption would have been 378 LCD in 2007/08 compared with 389 LCD in 2006/07, representing a reduction of 11 LCD over the year. While the Water Conservation Target (CI 9.1) is not covered under this Audit, it is worth noting that while reasonable adjustments are required to be made for the effects of weather on water usage (CI 9.1.2), there is no requirement to adjust for the short-term effects of water restrictions.

The 11 LCD consumption reduction from 2006/07 to 2007/08 demonstrates significant progress towards the 2011 consumption target of 329 LCD. The WCRIR recognises that the current level 3 restrictions have had an influence on water demand and assume that when water restrictions are lifted, 30% of the water savings achieved through these restrictions will be maintained into the future. We believe that this is a realistic assumption, based on experiences in other states and note that Sydney Water need only maintain 20% of the savings already realised through the recent water restrictions in order to meet the target of 329 LCD. It appears reasonable to assume that this level can be maintained and therefore the likelihood of not meeting the target by 2011 is limited.

In conclusion, we believe Sydney Water has shown commitment to addressing the water conservation and demand management requirements of Clause 9.2 of the Operating Licence and continues to endeavour to improve its performance through its adoptive management approach.

5.4 National Performance Framework Indicators

Further to the requirements to audit selected clauses of the Operating Licence, IPART requested Cardno to audit a limited number of National Water Initiative (NWI) indicators, as required under the National Performance Framework (NPF). The NWI indicators audited in 2007/08 were those where the definition of the indicator had changed since the previous year. The audited NWI/NPF indicators were:

- W21 – Volume of recycled water (and subsequently W26 – total volume);
- A12 – sewer main breaks/chokes/100km;
- A13 – Property breaks/chokes/100km;
- C11 – Sewerage Service complaints/1,000 properties;
- C14 - % calls answered by an operator within 30 seconds;
- C15 – Average duration of unplanned interruption (water); and
- C16 – Average break/.choke repair time – sewerage.

The audit of these indicators included an analysis of documented procedures, information and quality controls, and relevant data. In addition, historical data (i.e. previous years) was included in this audit in order to confirm the data validity, given the changes in definitions.

Table 5-4 Audited performance against selected NPF indicators

Indicator		Compliance		Comments
No.	Description	Grading	Result Y/S/N	
A12	Sewer main breaks/ chokes/ 100 km main	A2	Y	<p>Sewer breaks/choke jobs are initiated at the Call Centre and entered into WAMS with no indication as to whether it is on a SWC main or a property connection. At completion of job field staff enter a "Task Code" into the FRM system. This Task Code identifies if the job is considered a sewer main break / choke. The number of sewer main breaks / chokes is stored in WAMS.</p> <p>The total length of main is taken from the Hydra data base. Sydney Water has processes in place for obtaining details of new mains installed and old mains decommissioned to ensure that Hydra is kept up to date. There would be some lag time between the mains being physically placed into or removed from service and it being reflected in Hydra.</p> <p>The collection of data and reporting against this indicator is based on suitable procedures and would have an accuracy of +/-5%.</p>
A13	A13 - Property breaks/ chokes/100 km main	A2	Y	<p>Sewer breaks/choke jobs are initiated at the Call Centre and entered into WAMS with no indication as to whether it is on a Sydney Water main or a property service. At completion of a job, field staff enter a "Task Code" into the FRM system. This Task Code identifies if the job is considered a Property break / choke. The number of Property breaks / chokes is stored in WAMS.</p> <p>The total length of main is taken from the Hydra data base. Sydney Water has processes in place for obtaining details of new property services installed and old property services decommissioned to ensure that Hydra is kept up to date. There would be some lag time between the property connections being physically placed into or removed from service and it being reflected in Hydra.</p> <p>It should be noted that this low figure is a result of the fact that the sewerage system configuration that Sydney Water has lends itself to having very few property connection sewers unlike some other Water Agencies across Australia. Sydney Water only has around</p>

Indicator		Compliance		Comments
No.	Description	Grading	Result Y/S/N	
				2.5% or 600km of main that it would classify as Sydney Water owned and operated property connection sewer. The collection of data and reporting against this indicator is based on suitable procedures and would have an accuracy of +/-5%.
C11	Sewerage Service complaints/ 1000 properties	A1	Y	Complaints are compiled in Sydney Water's Customer Complaints system. Complaints figures require sign off by both a preparer and a reviewer. The definition Sydney Water adopts for what constitutes a Sewerage Complaint is consistent with the NWI definitions. The number of properties is the number of properties connected to the sewerage system in the Access billing system. This is SWC's system for revenue collection and has the appropriate processes in place to keep it up to date.
C14	Percentage of calls answered by an operator within 30 seconds	A2	Y	Calls are automatically recorded by the software (Genesis) that Sydney Water uses at its Call Centre. Emergency calls that are transferred directly to the Dispatch centre after hours are also included in the data captured. Under the definitions provided, agencies are allowed to remove calls abandoned prior to 30 seconds. However, Sydney Water only records the number of calls abandoned not the time when they were abandoned and cannot remove these calls. Therefore Sydney Water is understating its performance, although the total number of calls abandoned is ranges from 0.7% to 1.75% of the total received each month so this will have minimal effect. Given the automated nature of the data collection there is high confidence in the systems and procedures used for recording and reporting on the indicator. The fact that Sydney Water is unable to remove the calls abandoned before 30 seconds, takes the accuracy into the +/-5% band. It should be noted that any error in this number is adverse to Sydney Water's performance.
W21 (and W26)	Volume of recycled water – commercial, municipal and industrial	A2	Y	Recycled water volumes are recorded by bulk flow meters and the data is recorded in a central database. Sydney Water provided a copy of the calibration schedule for bulk flow meters and we note that all meters appear to have been calibrated within the previous 18 month period. Production from each STP is recorded and tracked in a central spreadsheet, with production from each of the STPs flagged as belonging to one of the recycled water

Indicator		Compliance		Comments
No.	Description	Grading	Result Y/S/N	
				<p>volume indicators from W21 to W25, and rolled up to the appropriate indicator using an automated formula. We note that since this is based on production data it also includes losses. We tracked the calculation of W21 by identifying the appropriate production data and verifying its inclusion in the derived number.</p> <p>Given the automated nature of the data collection, there is high confidence in the systems and procedures supporting the calculation. The accuracy and potential for under/over registration of flow meters (approx +/-1%) and other potential data anomalies (such as recycled water lost due to mains flushing, or leakage) places the accuracy in the +/-5% band.</p>

5.5 Summary of Compliance

A comparison of the compliance from this Audit with prior years is presented in Table 5-5. This Table indicates that Sydney Water continues to perform very well against the audited sections of its Operating Licence.

Table 5-5 Comparison of 2007/08 Compliance with previous years

Operating Licence Clause	Level of Compliance		
	2007/08	2006/07	2005/06
Water Quality			
3.1 Drinking Water Quality - Standards			
3.1.1 (a) Comply with Australian Drinking Guidelines (1996) relating to Health guideline values and Aesthetic guideline values	Full	Full	Full
3.1.1 (b) Comply with operating targets set out in the fluoridation code	Full	Full	Full
3.1.3 Application of good practice concepts set out in the Australian Drinking Water Guidelines (1996)	Full	Full	Full
3.3 Drinking Water quality – Reporting			
3.3.1 Make monitoring results publicly available and on website and available for access free of charge	Full	Full	Full
3.3.2 Produce an Annual Drinking Water Quality Report to NSW Health to comply with clause with clause 3.3.1	Full	Full	Full
3.3.3 Must comply with requests from NSW Health to provide additional information	Full	Full	Full
3.4 Drinking Water Planning			
3.4.4(a) Prepare a report on any proposed amendments to the 5 Year Drinking Water Quality Management Plan	Full	Desktop	NR
3.4.4(b) Prepare a report on any additional water quality improvements	Full	Desktop	NR
3.6 Other Grades of Water			
3.6.1 Supply other grades of water according to relevant guidelines	Full	Full	Full
Infrastructure Performance			
4.4 Compliance with Performance Standards (Clauses 4.1.1, 4.2.1, 4.3.1)			
4.1.1 Water Pressure Standard - no more than 15000 Properties experience a water pressure failure (<15m)	Full	Full	Full
4.2.1(a) Water Continuity Standard - no more than 32,000 properties experience a Planned Water interruption exceeding 5 hours.	Full	Full	Full
4.2.1(b) Water Continuity Standard - no more than 35,000 properties experience an Unplanned Water interruption exceeding 5 hours.	Full	Full	Full

Operating Licence Clause	Level of Compliance		
4.3.1 Sewage Overflow Standard - no more than 25,000 properties (other than Public Properties) experience an Uncontrolled Sewage Overflow in dry weather	Full	Full	Full
4.13 Response time for Water Main Breaks and Leaks			
4.13.1 Response times to water main breaks and leaks (Priorities 5 & 6)	Full	High	Moderate
4.13.1 Response times to water main breaks and leaks (Priority 4)	Full	High	Moderate
4.13.4 Annually submit to IPART list of all instances of non-compliance with target and reasons for non-compliance	Full	Full	Full
Water Conservation and Demand Management			
9.2.1 to 9.2.3 Demand Management Strategy			
9.2.1 Consider demand side management for planning future services including addressing water leakage	Full	Full	Full
9.2.2 Provide a demand management strategy report to IPART by 1 Sept each year	Full	Full	Full
9.2.3(a) The report must estimate past, current and projected water uses and distinguish users	Full	Full	Full
9.2.3(b) The report must describe water deficiencies	NR	Full	Full
9.2.3 (c) The report must identify conservation measures	Full	Full	Full
9.2.3(d) describe, cost and evaluate additional conservation measures;	Full	Full	Full
9.2.3(e) describe future plans for water reclamation and strategies to alter water use practices,	Full	Full	Full
9.2.3(f) evaluate these plans in terms of their cost and contrast with the cost of alternative water supplies	NR	Full	NR
9.2.3(g) prioritise and schedule the implementation of courses of action found to be cost effective;	NR	Full	Full
9.2.3(h) identify strategies for reducing water leakage;	Full	Full	Full
9.2.3(i) include components of a water balance table consistent with the format and definitions in the IWA table	Full	Full	Full
9.2.3(j) include consumption of water across sectors in a format and content specified by IPART;	Full	Full	Full
9.2.3(k) for each of the demand management activities of Sydney Water , report in a schedule planned and actual savings and expenditure and actual measures of outcomes for performance indicators.	Full	Full	Full

NR No Requirement

Concluding Remarks

The audit confirmed that Sydney Water is complying well with both the spirit and the letter of the requirements of its Operating Licence. Sydney Water obtained Full compliance with all the Clauses required to be audited.

Key Recommendations

It is recommended that Sydney Water and IPART discuss amendments to the Monitoring and Reporting Protocol in relation to the measurement of Clause 4.13.1c2 (Response time for Priority 4 water main breaks/leaks).

Suggested Improvements

During the audit we identified potential improvements which could be achieved by Sydney Water in their operations:

- Drinking Water Quality

We suggest that Sydney Water considers adding the results of the upstream testing to the *E coli* investigation Reports which are produced to document the investigations undertaken following a positive analysis for *E coli*.

We note that the over 50% of the projected costs of water sampling and analyses for 2008-2009 is accounted for by monitoring for *Cryptosporidium* and *Giardia*. Given that there is increasing evidence that only low concentrations are present in the raw water and that the treatment provided will when operated properly achieve a high removal rate it may be that a risk assessment would demonstrate that there is little risk of *Cryptosporidium* or *Giardia* entering supply in significant concentrations. If so, and if acceptable in terms of public perception then there would be opportunities for significant reductions in analytical costs. Any reduction would need to be justified by a thorough risk assessment and be accompanied by an extensive communications strategy.

We were surprised that the risk assessment seen for the Warragamba did not include evidence of review and document control. We consider it important that risk assessments be supported by appropriate quality control sign-off sheets.

For the quarterly drinking water quality reports, which are published on the Sydney Water website, there are summaries provided of the analyses undertaken by SCA for a limited range of parameters. We would expect other analyses to be periodically undertaken and it would be appropriate to confirm on the Sydney Water website these were satisfactory, or otherwise. Alternatively, the Sydney Water website could provide a link to the results on the SCA website.

With respect to the Annual Report to NSW Health we suggest that in the body of the report it would be useful to include the reference numbers, from Appendix 1, for each improvement item in the summaries at the end of each section.

- Recycled Water Quality

Moving forward toward adoption of the new Guidelines for all recycled water schemes will require Sydney Water and IPART to come to some agreement on how to define compliance with the new Guidelines. Each RWQMP will have its own water quality monitoring plan, specific to the influent characteristics, the treatment process and the end-use needs. At this early stage of implementation of the new Guidelines, we believe that auditing and compliance should be an issue between Sydney Water and other State Government departments such as NSW Health and DECC, and be complemented by internal auditing as part of the EMS. In due course, as a fuller understanding is gained of the relevant and important parts of the new RWQMPs, Sydney Water and IPART may consider exploring how compliance is written into the Operating Licence.

As outlined in Section 5.3, Sydney Water intends to complete a Recycled Water Implementation Plan in 2008/09, along with individual RWQMPs for Wollongong Stage 1 and Rouse Hill. In addition, Sydney Water also proposes to complete validation (dry weather) for a number of STPs, as a preliminary step to developing a RWQMP for these STPs. We suggest that next year's audit should focus on the progress of these additional plans and the performance of the Wollongong Stage 2 RWQMP.

In addition to meeting the new Guidelines, questions have also been raised regarding performance standards for recycled water infrastructure to be written into the next licence. We understand that IPART is currently reviewing the potential for service standards and urge IPART and Sydney Water to negotiate on incorporating such infrastructure standards into the next licence, particularly for urban residential recycled water schemes (e.g. Rouse Hill) where no specific customer contract exists.

- Performance Standards

Pressure Standard

The intent of this standard is to guarantee minimum water system capability and has clearly achieved the desired function. Sydney Water, combined with the effects of water restrictions, has performed so well against this standard that there appears little point in continuing with it as it is. It is therefore recommended that this standard be reviewed. A possible measure could be a more customer focus limit which would look at events rather properties and remove the 4 day limit on abnormal operations: the logic being that customers are not concerned with the reason why they receive low pressure. However, to encourage responsible asset management some time relief should be given for planned operational low pressure events to allow for preventive maintenance to take place.

Information Management

The properties affected for the Continuity Standard is currently based on manually drawing polygons in Hydra and counting properties within these polygons. Sydney Water is conservative in counting the properties, such as corner blocks where the precise supply location is unknown, are always included. Hence, Sydney Water's reporting on properties affected errs on the high side as there is potential for corner blocks to be incorrectly included. We were advised that the asset/property connectivity was not fully established in Hydra.

We would encourage Sydney Water to consider the cost-benefit of showing the correct location of all property connections in Hydra, to minimise the potential for over-counting of affected properties. This would have an added benefit of being able to notify the correct customers of a planned interruption, and will also minimise the risk of accidentally disconnecting a critical customer.

As an additional activity which might be undertaken as part of this accurate mapping exercise, we suggest that Sydney Water consider including all critical customers, or at least a more comprehensive list, on the Hydra system. This will aid the planning of interruptions and assist workers in the field in decision making when they need to shut down mains for unplanned interruptions. For example, the protocol for dealing with priority 6 mains breaks/leaks, is dependent on the number and type of critical customers connected to the main.

Sewer overflows on private property

The issue of tree root ingress into sewers is exacerbated by inappropriate tree planting by other parties, such as local governments and residents. Sydney Water is encouraged to increase its efforts in educating other parties and discouraging them from inappropriate tree planting near sewers.

- Water Conservation and Demand Management

Installation of Water Efficient Appliances in existing homes

While BASIX requires demand reduction in proposed future homes to be achieved through the installation of high efficiency appliances, there is no such requirement for existing homes and it is recognised that the cost and difficulty in retrofitting existing homes is enormous. The Metropolitan Water Plan 2006 reveals that the Government is investigating options to provide information on a dwelling's water efficiency when it is sold, such as the provision of a certificate to inform of WaterFix retrofits. We recognise that Sydney Water is positive about the potential of this initiative and encourage Sydney Water to support this initiative to their best ability.

Future Water Demand Targets

The current licence target of 329 lcd is a static target which does not take account of what may be an economic level of water demand management. Whilst we concur that a specific target is important in fixing a stretch target, we believe that measuring the performance and effectiveness of programs may provide additional rigour to assessing Sydney Water's performance in relation to demand management.

Future Leakage Targets

The leakage target of 105 MLD was set in 2004, and was based on the Economic Level of Leakage estimated at that time. Sydney Water provided an information paper during the audit which outlined outcomes of the recent ELL modelling for 2007/08. This paper reveals that to the cumulative uncertainty in each step of the calculations create a band of uncertainty varying up to 10% from a mid-point. Furthermore, adopted assumptions underlying the calculations, such as short-run vs long-run marginal cost, assumptions regarding operation of the proposed Kurnell Desalination Plant significantly affect the ELL derived. We urge IPART and Sydney Water to consider negotiating banded leakage targets in future licences, or at least some form of target which makes provision for the inherent compounded uncertainty associated with calculating ELL.

Performance Reporting Schedule

The Sydney Water performance indicators presented in Tables 14 & 15 of the WCRIR are based on an agreed format which now appears to be out-of-date and is not effective in reporting the entire range of programs being executed and proposed. Consideration should be given to revising the content and format of these tables and performance indicators in the next licence.

Clarification of scope for demand management Clause 9.2.3

In the Monitoring and Reporting Protocol (Draft), Sydney Water suggested that sub clauses 9.2.3(b), (f), and (g) should be excluded from audit. While we recognise that the licence was developed when Sydney Water was responsible for the demand and supply side planning, it no longer reflects current water resource and catchment management arrangements. However, we believe that sub-clauses (f) and (g), relating to evaluation and prioritisation of courses of action are somewhat relevant, particularly for demand side initiatives. We therefore suggest that Sydney Water, in conjunction with IPART, clarify the influence of supply side initiatives in sub-clauses (f) and (g), and the extent to which Sydney Water has inputs to these supply side initiatives. This clarification will assist Sydney Water's compliance to be assessed against these clauses in future audits, specifically in relation to their inputs and areas of responsibility.

Appendices

A Documents Accessed During the Audit

Document Name	Water Quality	Infrastructure Performance	Water Conservation and Demand Management
2006 Metropolitan Water Plan, Section 5 Using Recycled Water in Greater Sydney			
Annual Drinking Water Quality Monitoring Plan 2008-2009, Sydney Water, March 2008			
Annual Drinking Water Quality Monitoring Plan for 2007-08, Sydney Water March 2007			
Copy of laboratory accreditations for chemical and biological testing together with copy of AS/NZS ISO 9001:2000 certification. The originals were seen.			
Copy of part of Fluoridation Code relating to operating targets together with results of fluoride analyses undertaken in June 2008.			
Corporate Plan 2007-08 to 2011-12, September 2007			
Correspondence between Sydney Water and NSW Health relating to proposed amendments to Fluoridation Code			
Customer Complaint CCS #19604c Rous Hill (Recycled Water Area)			
Customer Complaints Received by the Energy and water Ombudsman NSW, Annual Report 2007-08, Sydney Water			
David Gough's notes and answers to questions			
Demand Strategies Team (Inputs/Outputs Schedule)			
Disinfection Management Action Plan for Woronora System, updated 19/9/08.			
Dry Weather Overflows. Powerpoint slides of presentation to the Environment Committee, Sydney Water, Sept 08			
E.coli Investigation Reports for three failing samples			
Ed Braithwaite's notes on Leakage			
Email from Lucinda Maunsell re data for Figure 18 of WCRIR			
End Use Model Option sheet - 'Love your garden'			
Evaluation of trial water saving retrofit program in Shellharbour - Research Report			
Figure - Civil Maintenance Operational Areas			
Figure demonstrating the process for selecting properties for rebate or reporting			
Five-year Drinking Water Quality Management Plan 2005-2010, Sydney Water, Nov 2005			
Five-year drinking water quality management plan 2005-2010, WPIMS5152_R1, 30/11/2005			
Flow Chart - population and dwellings forecast methodology			
Flowchart - Civil Maintenance Data Correction Process			
Flowchart - Civil Maintenance Service Delivery and Support Cycle Diagram			
Implementation of the five-year drinking water quality management plan 2005-2010, 2007-2008 Annual Report, V4 Draft dated 2/9/08.			
IPART and Sydney Water Corporation, Monitoring and Reporting Protocol (draft)			
Memorandum of Understanding Between NSW Health and Sydney Water Corporation			
Metropolitan Water Plan 2006 (extracts - Chapter 6 on reducing demand and Chapter 5 Using Recycled Water in Greater Sydney)			
Minutes of Strategic Liaison Group meeting held on 17 June 2008.			
Multi-Criteria Analysis Criteria and Weighting Chart			
Operating Licence - Folios of Progress 2007-08 (29 No.)			

	Water Quality	Infrastructure Performance	Water Conservation and Demand Management
Document Name			
Operating Licence Compliance Report, Annual Report 2007-08, Sydney Water			
Operating Protocols and Maintenance Specifications (OPAMS) for Civil Assets - Wastewater, Sydney Water, Feb 08			
Organisational chart - hard copy (highlighted for staff relevant to Demand Management)			
Other Grades of Water (Industrial) Bluescope Steel Supply Scheme Compliance Monitoring, Annual Report to NSW Health, 1 July 2007 to 30 June 2008, Sydney Water			
Other Grades of Water (Residential), Rous Hill Scheme Compliance Monitoring, Annual Report to NSW Health, 1 July 2007 to 30 June 2008, Sydney Water			
EMS Procedure for demand forecasts (SWEMS0117)			
EMS Procedure for demand forecasts data collection (SWEMS0119)			
Production of Water Conservation and Recycling Implementation Report (WCRIR) - Answer to Question 1			
Program Evaluation - Rouse Hill Dual Reticulation Scheme - Household Consumption Patterns			
Proposed amendment to section 7.9 of the five year drinking water quality management plan;			
Quarterly Report on Drinking Water Quality for NSW Health, Fourth Quarter 2007/08, Sydney Water, September 2008			
R&D Working Group - Progress Meeting Minutes (Tuesday 2nd September 2008)			
R&D Working Group Progress Meeting Minutes			
Recycled Water Customer Complaints Register - Summary 07/08			
Recycled Water Irrigation Schemes Annual Compliance Report, 1 July 2007 to 30 June 2008			
Report for Risk-based Operational Audits, Development of a Risk Based Approach, GHD, July 2007			
Revised text for section 7.9 of five-year drinking water quality management plan 2005-2010, relating to blue green algae and algal toxins			
Rous Hill Recycled Water Contingency Plan (Doc No WRR5279), Sydney Water, Nov 07			
Screen print out of Operating Protocols & Maintenance Specifications (OPAMS) Connectnet Pathway, Sydney Water			
Sewer Mining Agreement (Sydney Water Corporation and Sewer Miner)			
Spreadsheet of bulk water meter calibration			
Spreadsheet of wastewater treatment plant flows and recycled volumes			
Standard Operating Procedure - Private Sewer Defect Notification			
Standard Operating Procedure, Balancing Requirements for Continuity and Leak Response, Sydney Water, December 2007			
Standard Operating Procedure, Investigating, Measuring & Reporting Water Pressure, Sydney Water, October 2006			
Standing Operating Procedure, Notification of Plant Recycled Water Production, Sydney Water July 08 (Doc N0. WRHQ5050)			
State Plan (Priority E1)			

Document Name	Water Quality	Infrastructure Performance	Water Conservation and Demand Management
Summary of Operating Licence Requirements, 4. Infrastructure Performance (with respect to recycled water)			
Summary of Sulphate Analyses for 2007-2008			
Sustainability Division Business Plan			
Sustainability Division Business Plan 2008-09, Sydney Water			
Sustainability Planning Manual, Sydney Water 2008			
SWEMS List of Significant Environmental Aspects and Impacts 2007			
Sydney Water 2008-09 Draft Performance and Development Plan			
Sydney Water Corporate Risk Register extract - Categories and Descriptions			
Sydney Water Corporate Risk Register extract - Table summarising high level risks and proposed controls			
Sydney Water Corporation 2007-08 Annual Compliance Report - Statement of Compliance			
Sydney Water Corporation Operating Licence 2005-2010			
Sydney Water Corporation Operational Audit 2006/07 Report to the Minister, Water - Compliance Report, IPART, December 2007			
Sydney Water Corporation Operational Audit 2006/2007 GHD, December 2007			
Sydney Water EMS - Procedure for Demand Forecast Data Collection			
Sydney Water EMS - Procedure for Preparation of Demand Forecasts			
Sydney Water Environmental Management System (SWEMS), List of Significant Environmental Aspects and Impacts 2007			
Sydney Water Sewerage Network Choke Management Strategy, Sydney Water/ SKM, Oct 2005			
Warragamba Dam Algal Risk Assessment, Sydney Water/ Sydney Catchment Authority, May 2008			
Warragamba Dam Algal Risk Assessment May 2008 – six page document.			
Warragamba Dam Blue Green Algae Action Plan, September 2008			
Wastewater Integrated Management System, Strategic Operations - Wastewater Systems Work Instruction, Wastewater Systems Maintenance - Prioritisation and WAMS Application, Sydney Water, July 08			
Water Conservation - Documents, Systems and Process (flow chart)			
Water Conservation and Recycling Fact Sheet - Love Your Garden			
Water Conservation and Recycling Implementation Report, Sydney Water, 2006-07			
Water Conservation and Recycling Implementation Report, Sydney Water, 2007-08			
Water conservation programs - overview chart			
Water Services Association of Australia Guide to Demand Management, July 2008			
Wollongong Stage 2 Recycled Water Scheme Recycled Water Quality Management Plan, Sydney Water, June 2008 (viewed only)			
Standard Operating Procedure WPIMS5330_R3 Reporting Water Quality			

B Personnel Interviewed During the Audit

Name	Position
Amanda MacKinnon	Water Asset Strategic Manager
Ben Blayney	Area Manager Recycled Manager Operations
David Gough	Product and Servicing Strategies Manager
David Holland	Systems Operations Officer
Deb Raha (scribe)	Licence Compliance Coordinator
Deidre Burt	Specialist, Monitoring and Reporting
Doanh Tang	Product Strategy Leader (W&RW Quality)
Ed Braithwaite	Team Leader - Water
Elissa Carroll	Business Analyst, Civil Maintenance
Emma Cooper	Systems Assurance Manager
Eric de Rooy	Manager, Strategic Operations
Frank Kanak	Water Systems and Renewals Manager
Frank Spaninks	Senior Demand Analyst
Gary Hurley	Water Systems Manager
Gavin Landers	Experienced Strategy Planner
Geoff Snell	Product Strategy Planner
Geoff Vickers	Manager, Centralised Scheduling , Civil Maintenance
Grant Bates	Planner - Water Balance
Greg Reynolds	Corporate Compliance Manager
Ian Watts	Data and Information Specialist
Joe Virgona	Wastewater Operations HQ Group
John Azzopardi	Team Leader, Civil Maintenance
John Nieuwland	Manager Customer Resource Management
Kathy Hourigan	Contact Centre Manager
Kon Barer	Business Support Administrator, Civil Maintenance
Larissa Jay	Customer Service Representative
Lionel Harris	Licence Compliance Manager - Assets
Lucinda Maunsell	Manager - Demand Strategies
Lynn Tamsitt	Monitoring and Reporting Manager
Matt Ferguson	Technical Advisor P&SS
Monika Cariss	Monitoring Information Systems Manager
Nicole Jones	Senior Analyst, Demand Strategies
Peter Chapman	Team Leader - Southern
Peter Cresta	Senior Consultant
Peter Djendjinovic	Area Manager, Civil Maintenance
Peter Donnelly	Senior Business Analyst, Regulatory Compliance
Peter Jenner	Strategic Operations Officer - Water Systems
Peter Nedelovski	Project Manager Corporate Compliance
Rick Rizzi	Wastewater Operations HQ Group

Name	Position
Robert Allen (scribe)	Graduate
Rod Kerr	Product Strategy Leader (Asset Management Strategy)
Saso Vasileski	Field Supervisor, Civil Maintenance
Shaun Humfrey	Resource Coordinator, Centralised Scheduling, Civil Maintenance
Tony Cartwright	Product Strategy Leader- Strategic Asset Management
Tony Garrard	Data Entry Operator
Yue-cong Wang	Senior Demand Analyst

C | IPART's Review of Obligations Not Subject to Audit

Table C.1 IPART's review of Sydney Water's Operating Licence – obligations not subject to audit

Licence Clause	Requirement	Compliance Certified	Comments
3	Water Quality		
3.1	Drinking Water Quality – Standards		
3.1.2	If there is an inconsistency between the Health guideline values and the Aesthetic and guideline values, the Health guideline values will prevail.	Yes	In 2007-08 Sydney Water monitored five characteristics that had both a Health and Aesthetic Guideline Value: Free Chlorine, Monochloramine, Copper, Manganese and Sulphate. For these characteristics, compliance was assessed against the Health Guideline values, as required by clause 3.1.1 (a).
3.2	Drinking Water Quality – Monitoring		

Licence Clause	Requirement	Compliance Certified	Comments
3.2.1	<p>SWC must prepare, to the satisfaction of NSW Health, a comprehensive annual Drinking water quality monitoring plan for the water supply by 31 March each year, and must:</p> <ul style="list-style-type: none"> (a) Includes system performance monitoring and regular sampling, laboratory testing and processes to ensure quality control; (b) Have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply those concepts in the manner, form and timeframes specified by NSW Health; (c) Include the monitoring of Health guideline values; (d) Include the monitoring of Aesthetic guideline values; (e) Assess the quality of water in Sydney Water's water supply system; and (f) Be undertaken for the period from the Commencement Date to 30 June 2006 and after that for each subsequent financial year. 	Yes	<p>The 2008/09 Drinking Water Quality Monitoring Plan was submitted to NSW Health on 29 February 2008.</p> <p>NSW Health wrote to Sydney Water on 26 March 2008 stating that "it was generally satisfied that the document meets the requirements of Sydney Water's Operating Licence and the Memorandum of Understanding between NSW Health and Sydney Water.</p> <p>NSW Health endorsed the final plan on 19 June 2008.</p> <p>Sydney Water advises that:</p> <ul style="list-style-type: none"> – In general, characteristics are monitored where there is a potential health risk and/or there is a potential for the presence of significant amounts in drinking water. – All requirements in sub-clauses (a) to (f) have been addressed in the monitoring plan; – Sydney Water Analytical Services and the Field Services will perform the sampling and analysis for the plan. The Analytical Services and the Field Services groups are have a Quality Management System certified to AS/NZS ISO 9001:2000 and are accredited with NATA certification to perform laboratory based analytical work and field sampling and testing.
3.2.2	<p>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 Consumers.</p> <p><i>[Note: The requirement for an annual Drinking water monitoring plan is also found in the Memorandum of Understanding between NSW Health and Sydney Water, November 2000.]</i></p>	Yes	<p>Sydney Water advises that the sampling frequencies and locations chosen for the monitoring are in keeping with the recommendations in the <i>Australian Drinking Water Guidelines 2004</i> (ADWG). The sampling regime adopted by Sydney Water meets or exceeds the minimum number of samples specified in the ADWG, for each water delivery system.</p> <p>The sample sites within each reservoir zone and delivery system are reviewed annually as part of the review of the monitoring plan.</p>

Licence Clause	Requirement	Compliance Certified	Comments
3.4	Drinking Water – Planning		
3.4.1	Sydney Water must prepare, to the satisfaction of NSW Health, a five-year Drinking Water Quality Management Plan (Five-Year Plan) within 5 months after the Commencement Date. Sydney Water must release to the public a discussion paper in relation to the Five Year Plan within 2 months after the Commencement Date and must engage in Public Consultation on the discussion paper.	Yes	Sydney Water achieved full compliance with this clause in 2005/06. The Five-Year Plan was prepared and endorsed by NSW Health on 29 November 2005.
3.4.2	The Five-Year 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 control any risk to public health and meet any Aesthetic guideline values extended to Sydney Water in or by this Licence. <i>[Note: the requirement for a long term water quality management strategy is also found in the Memorandum of Understanding between NSW Health and Sydney Water, November 2000.]</i>	Yes	Sydney Water achieved full compliance with this clause in 2005/06. The Folio of Progress report stipulates that the Five-Year Plan 2005-2010 sets out Sydney Water's strategies to ensure that the quality of drinking water supplied in Sydney, Illawarra and the Blue Mountains continues to meet regulatory requirements and consumer needs, and that systems and processes are in place to address any emerging water quality issues that may arise.
3.4.3	In preparing the Five-Year Plan, Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply these concepts in the manner, form and timeframes specified by NSW Health.	Yes	Sydney Water achieved full compliance with this clause in 2005/06. The Folio of Progress report stipulates that Sydney Water has taken into account all the concepts of good practice in the ADWG in preparing the Five Year Plan., and that it follows in essence the 12 elements of the ADWG 2004 whereby operational procedures and monitoring programs are in place to help in managing drinking water quality.
3.5	Drinking Water – Incident Management		
3.5.1	Sydney Water must immediately report to NSW Health any information or event in the delivery of the Services or in its systems or operations which may have risks for public health.	Yes	Information or events related to public health are reported to NSW Health both verbally and via the secure On-line Incident Reporting website, which also includes Sydney Catchment Authority in the communication.

Licence Clause	Requirement	Compliance Certified	Comments
3.5.2	From the Commencement Date, Sydney Water must maintain the existing Drinking water quality incident management plan (Incident Plan) prepared to the satisfaction of NSW Health and that Incident Plan must remain in place until any new plan is developed in agreement with NSW Health.	Yes	The Drinking Water Incident Management Plan comprises the Emergency Response Handbook and the Water Quality Event Management Standard Operating Procedure (SOP).
3.5.3	The Incident 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 to Consumers of public health advice received from NSW Health.	Yes	Sydney Water advises that the Drinking Water Incident Management Plan contains the required procedures.
3.5.4	In preparing the Incident Plan under clause 3.5.2, Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply these concepts in the manner, form and timeframes specified by NSW Health.	Yes	Sydney Water advises that it has taken into account the concept of good practice in the ADWG. Sydney Water follows the 12 elements of the ADWG 2004 whereby operational procedures and monitoring programs are in place to help manage drinking water quality.
4	Infrastructure Performance		
4.5	Reporting on system performance standards		
4.5.1	By no later than 1 September each year, Sydney Water must report to IPART on its compliance with the water pressure standard, the water continuity standard and the sewage overflow standard.	Yes	<p>The 2006/07 report on compliance with the system performance standards was included in the 2006/07 Operating Licence Compliance Report provided to IPART on 31 August 2007.</p> <p>Sydney Water has reported on its compliance with the System Performance Standards in section 2.1 of the 2007/08 Operating Licence Compliance Report dated 1 September 2008. Details of compliance were assessed by the auditor in accordance with the requirements in clause 4.4.</p>

Licence Clause	Requirement	Compliance Certified	Comments
4.5.2	By no later than 1 September each year, Sydney Water must report to IPART on the number of properties in the preceding financial year that experience the following: (a) a water pressure failure; (b) a Planned Water Interruption or an Unplanned Water Interruption; (c) an Uncontrolled Sewage Overflow.	Yes	As above.
4.5.3	Sydney Water must maintain record systems sufficient to enable it to measure accurately its performance against the water pressure standard, the water continuity standard and the sewage overflow standard and to enable measurement and reporting by Sydney Water of those standards by delivery systems. Delivery system in this clause means the geographic classification used by Sydney Water for its own internal purposes, based on geographic regions forming part of the Services.	Yes	Sydney Water advises that in 2007/08, two changes were made to record systems described under this clause. These are: <ul style="list-style-type: none"> – Replacing the paper based data collection of water and wastewater service requests (Job Cards) with the new Field Resource Management (FRM) system in April 2008; and – Transfer of Integrated, Instrumentation, Control, Automation and Telemetry System (IICATS) into the new Enterprise Data Warehouse in December 2007 as part of the Sydney Water Information architecture program, for reporting purposes.
4.5.4	Sydney Water must provide IPART with physical or electronic access to the records kept by Sydney Water that enable it to report under clause 4.5.1	Yes	The intent of this clause is to confirm that Sydney Water shall provide the appropriate access to such records, if requested by IPART. No specific action is required to be evidenced.
4.6	Review of system performance standards		
4.6.4	Any amendments to the performance standards that must be adopted by Sydney Water under clause 4.6.3 must be incorporated into the Customer Contract as soon as reasonably possible and also considered as part of any review of the Customer Contract.	No requirement	There was no amendment made in the 2007/08 audit year.
4.7	Service quality and system performance indicators		
4.7.1	Sydney Water must maintain record systems that are sufficient to enable it to measure accurately its performance against the service quality and system performance indicators in Schedule 1.	Yes	See comments for clause 4.5.3.

Licence Clause	Requirement	Compliance Certified	Comments
4.7.3	By 1 September 2006 and at the same time in each subsequent year, Sydney Water must report to IPART its performance against the service quality and system performance indicators in Schedule 1 for the immediately preceding financial year. The report must include an analysis of any problems of a systemic nature.	Yes	The 2006/07 report on performance against the service quality and system performance indicators in Schedule 1 was included in the 2006/07 Operating Licence Compliance Report provided to IPART on 31 August 2007. The 2007/08 report on the service quality and system performance indicators is included in section 2.2 of the 2007/08 Operating Licence Compliance Report dated 1 September 2008.
4.7.4	As part of its report, Sydney Water must provide IPART with physical and electronic access to the records kept by Sydney Water that enable it to report under clause 4.7.3.	Yes	The intent of this clause is to confirm that Sydney Water shall provide the appropriate access to such records, if requested by IPART. No specific action is required to be evidenced.
4.11	Water Leakage		
4.11.1	Sydney Water must ensure that by 30 June 2009, the amount of Water leakage from its Drinking water supply system does not exceed 105 megalitres a day.	No requirement	There was no requirement in the 2007/08 audit year.
4.11.3	On 1 September 2006 and at the same time in each subsequent year, Sydney Water must report to IPART on: (a) the economic level of Water leakage for the preceding financial year and how that level of Water leakage is calculated; and (b) its assessment of its progress towards compliance with clause 4.11.1	Yes	Sydney Water reported that the current level of water leaks is approximately 117ML/day (section 2.3 of the 2007/08 Operating Licence Compliance Report, page 25), and that this is within the identified common uncertainty band of its two-point estimates of the ELL for a given marginal cost of water. This leakage has fallen from the estimated 121.3ML/day in 2006/07, and Sydney Water predicts further reduction can be achieved mainly via the Pressure Management Program and the Active Leak Detection Program. Sydney Water expects to provide IPART with a report setting out Sydney Water's interpretations and recommendations in relation to how compliance with the target will be assessed.

Licence Clause	Requirement	Compliance Certified	Comments
4.12	Reports related to water leakage		
4.12.2	<p>Sydney Water must report to IPART no later than 1 September 2005 and at the same time in each subsequent year on the number of water pressure control zones in Sydney Water's Drinking water system that Sydney Water:</p> <p>(a) intends to complete in the current and subsequent financial years; and</p> <p>(b) had planned to complete in a financial year compared with the number actually completed in that financial year.</p>	Yes	<p>Sydney Water forecasted installation of 25 water pressure control zones in 2007/08, including two pressure zones that were due to be completed in 2006/07. These two pressure zones were established by the end of September 2007. Construction was completed for 20 zones. Full pressure reduction was deferred to provide more certainty and assurance that pressure reductions did not impact customer fire safety devices. These concerns are now largely addressed and re-commencement of pressure reduction is planned in August 2008. The Minister has been briefed on the program status and the intention to re-commence pressure reduction (section 2.3 of the 2007/08 Operating Licence Compliance Report, page 27).</p>
4.12.3	<p>On 1 September 2005, and on 1 September of each subsequent year, Sydney Water must report to IPART on the number of bursts, breaks or leaks (in the trunk and reticulation component of Sydney Water's Drinking water system between water treatment plants and a Property) which occurred in the immediately preceding financial year and the time taken by it to repair those bursts, breaks or leaks.</p>	Yes	<p>Sydney Water reported 13,408 breaks and leaks in the drinking water trunk and reticulation system between water treatment plants and properties, a significant reduction from the 15,009 in 2006/07.</p> <p>The weighted average time to repair bursts, breaks and leaks was 26.29 hours, compared with the average repair time of 25.33 hours in 2006/07 (section 2.3 of the 2007/08 Operating Licence Compliance Report, page 28).</p>
4.12.4	<p>Sydney Water must report to IPART, no later than 1 September 2005 and at the same time in each subsequent year, on:</p> <p>(a) the number of kilometres of reticulation mains it inspected during the preceding financial year for Water leakage; and</p> <p>(b) its program during the preceding financial year for inspecting reservoir zones for Water leakage and for rehabilitating reservoir zones to prevent or correct Water leakage.</p>	Yes	<p>Sydney Water reported inspection of 19,600km of reticulation water mains in 137 zones, well exceeding the target of 18,000km. All identified leaks are repaired as part of the Active Leak Detection Program (section 2.3 of the 2007/08 Operating Licence Compliance Report, page 29).</p>

Licence Clause	Requirement	Compliance Certified	Comments
4.14	Priority Sewerage		
4.14.1	<p>Sydney Water must meet the following requirements in relation to the "Priority Sewerage Program":</p> <p>(a) By 30 June 2009 connection shall be made available to all lots eligible for connection under Stage 1 Priority Sewerage Program, excluding those lots in the area of Menangle/Menangle Park;</p> <p>(b) By 30 June 2006 Sydney Water must report to the Minister on how it intends to service the area of Menangle/Menangle Park; and</p> <p>(c) By 30 June 2009 work shall be commenced which, when completed, will permit connection to be made available to at least 30% of lots eligible for connection under Stage 2 Priority Sewerage Program and including those lots which are situated in areas adjacent to World heritage areas.</p>	Yes	<p>Sydney Water reported (section 2.5 of the 2007/08 Operating Licence Compliance Report, page 32) that all projects in the PSP Stage 1 are on track to meet the 30 June 2009 target.</p> <p>The Sydney Water Board approved \$1.3 million for planning to commence in 2006/07 on the initial four schemes of PSP Stage 2. Commencing the Glossodia, Freemans Reach and Wilberforce sewerage scheme and the Hawkesbury Heights and Yellow Rock Sewerage Scheme in early 2009 will satisfy the Operating Licence requirement of commencing work on 1,800 lots (30%) by 30 June 2009.</p> <p>Sydney Water is currently reviewing the integrated servicing strategy for Appin, Wilton and Douglas Park sewerage scheme.</p> <p>The Review of Environmental Factors for the Agnes Banks and Londonderry scheme was placed on display in late June 2008. Subject to timely planning and funding approval, construction of this scheme is scheduled to commence in early 2009, with connections progressively available from early 2010.</p>
4.14.2	Should Sydney Water incur delays caused by consent authorities that impair its ability to meet the above targets, Sydney Water is required to write to the Minister for Energy and Utilities, to advise the Minister of the reasons for the delay.	Yes	<p>Sydney Water envisaged no planning consent delays of material significance that could impair Sydney Water's ability to meet Operating Licence targets for PSP delivery.</p> <p>The initial PSP Stage 2 projects are in the planning phase of execution. Subject to anticipated timeframes for planning and funding approvals, Sydney Water expects these initial schemes will meet Operating Licence timing requirements.</p>
4.14.3	On 1 September 2006 and at the same time in each subsequent year Sydney Water must report to IPART on its assessment of its progress towards compliance with clause 4.14.1 and the reasons which lead it to reasonably believe that (as at the date of its report) it will or will not be able to comply with clause 4.14.1.	Yes	See comments in 4.14.1 and 4.14.2.

Licence Clause	Requirement	Compliance Certified	Comments
5	Customer and consumer rights		
5.1	Customer Contract		
5.1.4	A copy of the Customer Contract and any variations to it must 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 also free of charge.	Yes	The Customer Contract is available from Sydney Water's offices and posted on Sydney Water's website free of charge http://www.sydneywater.com.au/WhoWeAre/OperatingLicence/CustomerContract.cfm
5.1.7	Sydney Water must take all steps necessary to issue an amended Customer Contract that addresses those recommendations of the review report adopted by the Minister within 3 months of the Minister's adoption of the review report.	No requirement	There was no review in the 2007/08 audit year.
5.1.8	Sydney Water must prepare a pamphlet that: (a) provides a brief explanatory introduction to the Customer Contract; (b) summarises the key rights and obligations of Customers, under the Customer Contract; (c) refers to the types of account relief available for Customers experiencing financial hardship; and (d) contains a list of Sydney Water's local offices and emergency contact numbers in its Area of Operations.	Yes	A pamphlet 'Making it Crystal Clear' provides a brief explanation of the Customer contract and a summary of the key rights and obligations has been prepared and issued to customers with the July quarter bills (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 79). The pamphlet can be accessed from the Sydney Water website http://www.sydneywater.com.au/Publications/LegislationActs/CustomerContract.pdf The pamphlet also refers to account relief available to customers experiencing financial hardship and lists Sydney Water's emergency contact numbers for customers, although it does not contain a list of Sydney Water's local offices.
5.1.9	The pamphlet prepared under clause 5.1.8 must be updated when changes are made to the Customer Contract under clause 5.1.7 and must be disseminated by Sydney Water free of charge to: (a) Customers, at least once annually with their quarterly or other bills; and (b) any other person on request.	No requirement	There were no changes made to the Customer Contract in the 2007/08 audit year.

Licence Clause	Requirement	Compliance Certified	Comments
5.2	Consumers		
	Sydney Water must fulfil its obligations under the Customer Contract relating to complaint handling and complaint resolution procedures as if those obligations also extended to Consumers.	Yes	All complaints received by Sydney Water are recorded irrespective of whether they are from a customer or a consumer.
5.3	Code of practice and procedure on debt and disconnection		
5.3.1	Sydney Water must have in place a code of practice and procedure on debt and disconnection.	Yes	Sydney Water advises that code of practice and procedure on debt and disconnection are in place (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 79).
5.3.2	The code of practice and procedure on debt and disconnection must provide for: (a) deferred payment or payment by instalment options for consumption bills; and (b) the payment options referred to in (a) to be advised in consumption bills.	Yes	Sydney Water advises that the code of practice and procedure on debt and disconnection provides for deferment of payment including instalment options for consumption bills and that deferred payment options are shown on the customer's bill (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 79)
5.3.3	Sydney Water must include the code of practice and procedure on debt and disconnection in its Customer Contract.	Yes	Sydney Water advises that code of practice and procedure on debt and disconnection is included in the Customer Contract (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 79)
5.3.4	Sydney Water must disseminate information on its code of practice and procedure on debt and disconnection free of charge to: (a) Customers, at least once annually with their quarterly or other bills; and (b) any other person on request.	Yes	This information has been provided free of charge on request and is advised to Customers at least once annually with their bills. This notification was included in the July quarter bills for this audit year.

Licence Clause	Requirement	Compliance Certified	Comments
5.4	Customer Councils		
5.4.1	In accordance with the Act, Sydney Water must have in place and regularly consult with one or more customer councils to enable community involvement in issues relevant to the performance of Sydney Water's obligations under this Licence.	Yes	<p>Sydney Water advises that it operated the Corporate Customer Council in 2007/08. During this period, the Council provided advice and received information on a number of projects and strategies including the following:</p> <ul style="list-style-type: none"> – Pressure management program – Private sewer rehabilitation and overflow abatement communications package – Corporate Customer Council Annual Report – Major recycled water projects – Demand management programs – Desalination project – Corporate positioning and recycling – Corporate Customer Council Forward Plan – Carbon management – Social policies – Maintenance and renewal of assets – Customer Service Channels Strategy – Pricing <p>The Corporate Customer Council met four times during this period, and there were an additional two out of session meetings on pricing.</p>

Licence Clause	Requirement	Compliance Certified	Comments
5.4.2	A customer council may be utilised by Sydney Water, among other things, to provide it with high quality advice on the interests of Customers and Consumers of Sydney Water and on the Customer Contract, in accordance with the terms of the relevant customer council charter, and on such other key issues related to Sydney Water's planning and operations as Sydney Water may determine.	Yes	See comments under clause 5.4.1 above.
5.4.3	Sydney Water must appoint the members of a customer council, consistent with this License.	Yes	Sydney Water confirms that appointment of members complied with the requirements of the Operating Licence (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 80).
5.4.4	At all times, the membership of one or more customer councils must between them include a representative from at least each of the following: (a) business and consumer groups; (b) low income households; (c) people living in rural and urban fringe areas; (d) residential consumers; (e) environmental groups; (f) local government; and (g) the Ethnic Communities Council	Yes	Sydney Water confirms that the Customer Council covers the representation for areas listed in clause 5.4.4 of the Operating Licence. Members have been notified about which group they are representing.
5.4.5	Sydney Water may allow a representative under clause 5.4.4 to serve on so many customer councils as it considers appropriate to best discharge the tasks assigned to him or her.	No requirement	Sydney Water operates one customer council only.
5.4.6	The customer council or customer councils under this Licence must comprise: (a) members of any customer council prior to the Commencement Date ("existing members"); and (b) any other person appointed by Sydney Water, consistent with clause 5.4.4.	Yes	Sydney Water advises that members of the Customer Council established under the previous Operating Licence have remained (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 81).

Licence Clause	Requirement	Compliance Certified	Comments
5.4.7	Subject to clause 5.4.8 the term of a member of a customer council (including the term of an existing member) will expire 2 years after his or her appointment.	No requirement	Sydney Water operates one customer council only.
5.4.8	At least half of the persons appointed as members of a customer council must be new members. That is, they must not be persons who were members of a customer council at any time during the period of 2 years before the date of their appointment.	No requirement	Not applicable as clause 5.4.11 applies.
5.4.9	No person may be appointed as a member of a customer council for more than 2 consecutive terms (including, without limitation, any term served as a replacement member under 5.4.10).	No requirement	Not applicable as clause 5.4.11 applies.
5.4.10	If a member's place becomes vacant before the expiration of their term, Sydney Water may appoint a suitable replacement for the remainder of that member's term.	Yes	Sydney Water wrote to the Property Council of Australia in August 2007 requesting a new representative as the previous person moved to a new position. No response was received. A new representative for BlueScope Steel started in September 2007. A new representative for the NSW Business Chamber started in March 2008.
5.4.11	If Sydney Water chooses to establish one or more customer councils the majority of members of which are not individuals, clauses 5.4.8, 5.4.9 and 5.4.12 do not apply to those customer councils.	No requirement	Sydney Water chose to establish one Corporate Customer Council. All members of the Council are representatives of various agencies.
5.4.12	Existing members will be eligible to be appointed for one term and other members for 2 consecutive terms. For the avoidance of doubt: (a) existing members will be regarded as having served their first term at the end of the period, mentioned in clause 5.4.7; and (b) replacement members appointed under clause 5.4.10 will be regarded as having served their first term at the expiration of the term of the member they replaced.	No requirement	Not applicable as clause 5.4.11 applies.

Licence Clause	Requirement	Compliance Certified	Comments
5.4.13	<p>Within 3 months of establishing a customer council, Sydney Water must develop in consultation with members of each customer council, a customer council charter that addresses the following issues:</p> <ul style="list-style-type: none"> (a) the role of the customer council; (b) selection criteria on how members will be drawn from the community; (c) information on how the customer council will operate; (d) induction processes for new members; (e) a description of the type of matters that will be referred to the customer council; (f) procedures for the conduct of customer council meetings, including the appointment of a chairperson and the requirement to invite on an annual basis a co-chair of the customer council from Customer representatives; (g) communicating the outcome of the customer council's work to Sydney Water; (h) procedures for tracking issues raised and ensuring appropriate follow-up of those issues; and (i) funding and resourcing of the customer council by Sydney Water including sitting fees and expenses for members. 	Yes	<p>The Corporate Customer Council charter is available on the Sydney Water website http://www.sydneywater.com.au/CustomerServices/CustomerCouncils/pdf/CorpCustomerCouncilCharter.pdf</p> <p>The Corporate Customer Council charter addresses most requirements in clause 5.4.13. Description of the type of matters that will be referred to the customer council, details of induction process for new members and co-chairing of the customer council from Customer representatives on an annual basis should also be included.</p>
5.4.14	There must be a charter for each customer council. However a single charter may be expressed to apply to more than one customer council.	Yes	Sydney Water operates one Customer Council.

Licence Clause	Requirement	Compliance Certified	Comments
5.4.15	Sydney Water must provide a customer council with information within its possession or under its control (other than information or documents over which Sydney Water or another person claims confidentiality or privilege) necessary to enable the customer council to discharge the tasks assigned to it.	Yes	Sydney Water advises that it has provided a number of papers, reports etc to the Customer Council. Members receive papers approximately 1 week before each meeting. In addition members are provided with papers for noting and information out of session when required (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 82). Sydney Water responds to requests from members for information. These requests can be raised either at meetings or out of session
5.4.16	Sydney Water must report annually on the issues considered by, and the achievements, of each of its customer councils. A copy of the report and each charter for a customer council must be posted on Sydney Water's website on the internet for downloading free of charge and made available at its offices for access or collection by any member of the public, also free of charge.	Yes	Sydney Water advised that the Corporate Customer Council Annual Report 2007 was presented to members at the meeting in December 2007 (section 6.2 of the 2007/08 Operating Licence Compliance Report, page 82). The report was endorsed at the meeting on 5 March 2008 and then placed on the Sydney Water website http://www.sydneywater.com.au/CustomerServices/CustomerCouncils/pdf/CorpCustomerCouncilAnnualReport.pdf
5.5	Customer Service Indicators		
5.5.1	Sydney Water must maintain record systems that are sufficient to enable it to measure accurately its performance against the Customer service indicators set out in Schedule 2.	Yes	Sydney Water advised that it maintains a quality management system that enables accurate reporting against customer service indicators.
5.5.2	By no later than 1 September 2006 and at the same time in each subsequent year, Sydney Water must report to IPART its performance against the Customer service indicators in Schedule 2 for the immediately preceding financial year.	Yes	The 2006/07 report on the Customer Service Indicators was included in the 2006/07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Sydney Water has reported its 2007/08 performance against the Customer service indicators in section 3.2 of the 2007/08 Operating Licence Compliance Report dated 1 September 2008.

Licence Clause	Requirement	Compliance Certified	Comments
5.5.3	The report must include an analysis of any problems of a systemic nature.	Yes	The report contains an analysis of systemic problems for each indicator. In 2007/08, a total of 15,165 complaints were received compared with the 9,643 received in 2006/07. Sydney Water reported that this was mainly due to an increase in billing complaints, related to the appointment of a new meter reading contractor. Remedial plans are in place, through implementation of revised training and competency program for the meter reading. The performance of the contractor continues to be closely monitored.
6	Complaint and dispute handling		
6.1	Internal Dispute Resolution Process		
6.1.1	Sydney Water must establish and maintain internal complaint handling procedures for receiving, responding to and resolving complaints by Customers and Consumers against Sydney Water.	Yes	Sydney Water has maintained an internal complaint handling procedures which received full compliance in the 2005/06 audit. There was no material change to Sydney Water's internal complaints handling procedures in 2007/08.
6.1.2	The internal complaints handling procedures of Sydney Water must be based on the Australian Standard AS4269-1995 Complaint Handling.	Yes	Sydney Water achieved full compliance with the requirement of this clause in 2005/06. The Australian Standard for complaint handling (AS4269-1995) has been replaced by AS ISO 1002 2006. Sydney Water's internal complaints handling procedure is based on the new standard.
6.1.3	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.	Yes	Sydney Water's brochures 'Customer Contract in Brief' and 'Sharing Your Views with Sydney Water' contain the required information and are available to customers. Web links for the two flyers are: http://www.sydneywater.com.au/Publications/LegislationActs/CustomerContract.pdf http://www.sydneywater.com.au/Publications/FactSheets/SharingYourViews.pdf
6.1.4	Sydney Water must provide information of the nature described in clause 6.1.3 to Customers through their quarterly, or other, bills at least once annually.	Yes	Sydney Water's brochures 'Customer Contract in Brief' and 'Sharing Your Views with Sydney Water' are provided to customers annually with one of their quarterly bills.

Licence Clause	Requirement	Compliance Certified	Comments
6.2	External Dispute Resolution Scheme		
6.2.1	Sydney Water must establish or be a member of an industry based 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.	Yes	Sydney Water is a member of the Energy and Water Industry Ombudsman of NSW (EWON).
6.2.2	The industry based dispute resolution scheme so established by Sydney Water is subject to the Minister's approval.	Yes	Sydney Water is a member of EWON, which was approved by the Minister as an industry based dispute resolution scheme.
6.2.3	Sydney Water must prepare a pamphlet that explains how the dispute resolution scheme operates and how it can be accessed.	Yes	Sydney Water's brochure 'Sharing Your Views with Sydney Water' outlines both the internal and external complaint handling processes.
6.2.4	Sydney Water must provide the pamphlet to Customers through their quarterly or other bills, at least once annually.	Yes	The brochure mentioned in clause 6.2.3 above is sent to Customers annually with one of their quarterly bills.
6.2.5	Sydney Water must provide IPART with written reports of the determinations made by the dispute resolution body based on information available to Sydney Water and information reasonably obtained from the dispute resolution body. Where considered appropriate by Sydney Water and the dispute resolution body, confidentiality arrangements are to be made so as not to disclose the Customer or Consumer's identity in such reports.	Yes	The report on Complaints to the Energy and Water Ombudsman (EWON) 2006/07 was provided to IPART with the suite of 1 September 2007 reports required by the Operating Licence. The 2007/08 EWON report is included in the suite of 1 September 2008 reports submitted to IPART. There were no determinations made by EWON during 2007/08.
6.2.6	Sydney Water must report each year to IPART based on information available to Sydney Water and information reasonably obtained from the dispute resolution body. The report must take into account any issues raised by the dispute resolution body and must contain the following information: (a) the number and types of complaints received by the dispute resolution body, classified in accordance with the dispute resolution body's reporting arrangements; and (b) any other relevant information required by IPART to be included in the report.	Yes	The 2007/08 EWON report contains the required information.

Licence Clause	Requirement	Compliance Certified	Comments
6.2.7	The report in clause 6.2.6 must be made available to the public free of charge.	Yes	The 2006/07 EWON report is published on the Sydney Water website. http://www.sydneywater.com.au/Publications/Reports/EWONComplaintsReport.pdf Sydney Water advised (section 6.2 of 2007/08 Operating Licence Compliance Report, page 84) that the 2007/08 EWON report will be published on its website after 1 September 2008 but was not available at the time of review (30 October 2008)
6.3	Complaints to other bodies		
6.3.1	Sydney Water must report to the IPART by no later than 1 September each year on all complaints made to Sydney Water in the preceding financial year that relate to its performance under this Licence or the Customer Contract that were referred for resolution by an external dispute resolution body (other than a court), for example the Consumer Trader and Tenancy Tribunal.	Yes	The 2006/07 Complaints Made to Other Bodies Report was included in the 2006/07 Operating Licence Compliance Report provided to IPART on 31 August 2007. The 2007/08 report on Complaints to Other Bodies Report is included in section 4 of the 2007/08 Operating Licence Compliance Report dated 1 September 2008.
6.3.2	Sydney Water must report to the IPART by no later than 1 September each year all civil actions in the preceding financial year that were brought against Sydney Water in all courts where the person bringing the action sought damages or other relief against Sydney Water for Sydney Water's failure to comply with a provision of its Customer Contract.	Yes	The 2006/07 report on Civil Actions in all Courts was included in the 2006/07 Operating Licence Compliance Report provided to IPART on 31 August 2007. The 2007/08 report on Civil Actions in all Courts is included in section 4 of the 2007/08 Operating Licence Compliance Report dated 1 September 2008.
6.3.3	The reports required under clauses 6.3.1 and 6.3.2 must contain the following information: (a) the number and types of matters; (b) the outcome of the matters; (c) if the matters were subject to a negotiated settlement, how they were settled; (d) any problem of a systemic nature arising from the matters or which the matters uncovered; and (e) any other information that IPART may reasonably request.	Yes	The reports referred to contain the required information.

Licence Clause	Requirement	Compliance Certified	Comments
7	Environment – indicators and management		
7.1	Environment Indicators		
7.1.1	Each year Sydney Water must monitor, record, compile data and report on the environmental performance indicators in Schedule 3 for the immediately preceding financial year.	Yes	<p>Sydney Water has developed Performance Indicator (PI) Sheets for each of the Schedule 3 indicators. These sheets document the following information for each indicator:</p> <ul style="list-style-type: none"> – Definitions and interpretations of key terms to ensure – the intent of the Performance Indicator is clearly – expressed and understood – Key data processes/systems used to collect – Performance Indicator information. – Key staff involved in data collection and reporting the – Performance Indicator. – Reference process manuals or work instructions – covering the monitoring and reporting of the – Performance Indicator – An overview of the data collection and reporting process for the Performance Indicator (if a detailed process manual or work instruction is not required). This can be in the form of a process map or detailed description. <p>The collection of data for the environmental performance indicators is managed through the Folios of Progress system, which is a component of Sydney Water's Online Corporate Compliance Program. The Corporate Compliance Program documents the data owner and the relevant folio for each of the Environmental Performance Indicators.</p>

Licence Clause	Requirement	Compliance Certified	Comments
7.1.2	By no later than 1 September 2006 and at the same time each subsequent year, (or an alternative date specified by IPART), Sydney Water must report on its performance against the environmental performance indicators, in Schedule 3 in a manner to be approved by IPART.	Yes	The 2006/07 Environmental Performance Indicators Report was provided to IPART on 30 September 2007. The 2007/08 Environmental Performance Indicators Report was provided to IPART on 30 September 2008.
7.1.3	The report must provide information which enables a year to year comparison in relation to Sydney Water's performance against the environmental performance indicators in Schedule 3. In particular, Sydney Water is to compare the performance indicators in Schedule 3 with historical annual values over at least the previous 10 years where comparable data is available.	Yes	Comparable historical annual values over at least the previous 10 years for the environmental performance indicators are included in the report where available.
7.2	Environmental Management		
7.2.1	By no later than 1 month from the Commencement Date, Sydney Water must have in place an environmental management system certified to AS/NZS ISO 14001 to manage environmental risk.	Yes	Sydney Water gained certification of its Environmental Management System to AS/NZS ISO 14001:2004 on 3 May 2005. Det Norske Veritas (DNV) has re-certified SWEMS to ISO 14001. The certification is valid for 3 years to 2011 with surveillance audits every 6 months. A surveillance audit was conducted in June 2008, no non-conformances were raised and the Sydney Water EMS held its certification.
7.2.2	Sydney Water must produce a five-year Environment Plan by 30 September 2005. Sydney Water must annually review and update the Environment Plan in accordance with its environmental management system referred to in clause 7.2.1.	Yes	Sydney Water published the 2005-2010 Environment Plan on its website on 30 September 2005. The Environment Plan will be reviewed annually as part of the Sydney Water Environment Management System. The Sydney Water Board approved the 2008-2013 Environment Plan on 16 July 2008.

Licence Clause	Requirement	Compliance Certified	Comments
7.2.4	<p>The Environment Plan must:</p> <ul style="list-style-type: none"> (a) contain details of Sydney Water's program for environmental improvement for its water, waste water and stormwater strategies, as well as the environmental aspects of its other activities such as energy management, waste minimisation, heritage and Botany Wetlands; (b) endorse Ecologically Sustainable Development principles; (c) be integrated into Sydney Water's business plans; (d) incorporate the objectives of the energy management plan of Sydney Water to: (e) improve energy efficiency and generate renewable energy; and (f) minimise the environmental impact of its energy consumption; and (g) comply with all relevant energy related regulation; and (h) incorporate environmental improvement targets and time tables for Sydney Water to achieve over the term of the Environment Plan. 	Yes	<p>Sydney Water advises in the 2007/08 Operating Licence Compliance Report (section 6.2, page 87) that:</p> <ul style="list-style-type: none"> – The published plan contains details of each of the areas of environmental management (refer 2008-2013 Environment Plan); – The 2008-2013 Environment Plan interprets the four ESD Principles. These principles are aligned with each objective within the Plan; – The 2008-2013 Environment Plan has been developed through the 2008-09 Corporate and Divisional Planning process. Review and alignment continues each year to ensure full integration; – The objectives of the SW Energy Management Plan have been incorporated into the Environment Plan; – The 2008-2013 Environment Plan includes timetables for achieving environmental actions against each of the objectives for the term of the Plan.
7.2.5	The Environment Plan must be posted each year on Sydney Water's website on the internet for downloading free of charge and made available at its premises for access or collection by any member of the public.	Yes	<p>The 2008-2013 Environment Plan was made available to the public on Sydney Water's internet site via the link http://www.sydneywater.com.au/Publications/PlansStrategies/EnvironmentPlan in August 2008. The Plan was also made available via the Customer Service centres so the public can request a printout whilst in a centre.</p>

Licence Clause	Requirement	Compliance Certified	Comments
7.2.6	By no later than 1 September each year, or an alternative later date specified by IPART, Sydney Water must report to IPART on its progress for the previous financial year in meeting the Environment Plan. The report is to include Sydney Water's compliance with the targets and timetables in clause 7.2.4, and in managing the Botany Wetlands. The information in the report must be posted on Sydney Water's website on the internet for downloading free of charge and made available at its premises for access or collection by any member of the public.	Yes	IPART has agreed to the revised timing of 30 September for delivery of the 2006/07 Environment Plan progress report and subsequent reports. The 2006/07 progress report on the Environment Plan was provided to IPART on 27 September 2007. The report was posted on the Sydney Water website for public access in December 2007 (in the 2007 Annual Report). Copies of the printed Annual Report were mailed to a comprehensive list of stakeholders, including DECC, Department of Planning, IPART and peak environmental non-governmental organisations, public libraries and councils and non-government environmental centres. Copies were also distributed to all Sydney Water customer and commercial centres. The 2007-08 Environment Plan progress report were provided to IPART by 30 September 2008.
7.2.7	Each year Sydney Water must review the Environment Plan by consulting with DEC, DIPNR, IPART, and peak environmental non-governmental organisations for the purpose of considering the views of those consulted organisations and whether they seek amendments to the Environmental Plan in the subsequent year.	Yes	Sydney Water requested feedback on the Environment Plan through the Annual Report process by sending letters to DECC, Department of Planning, IPART and peak environmental non-governmental organisations, seeking any amendments or comment for consideration in drafting the 2008-2013 Environment Plan.
7.3	Potable Water Use		
7.3.1	Sydney Water must ensure that potable water use for treatment processes at each of the following sewage treatment plants has been reduced by 80% in volumetric terms from its 2003/04 usage rates by 30 June 2009 – Malabar, North Head and Bondi.	No requirement	See comments under clause 7.3.4.
7.3.2	By 30 June 2009 Sydney Water must ensure that all sewage treatment plants (other than Malabar, North Head and Bondi, and storm flow sewage treatment plants at Fairfield, Bellambi and Port Kembla) use at least 85% recycled water for treatment processes.	No requirement	See comments under clause 7.3.4.

Licence Clause	Requirement	Compliance Certified	Comments
7.3.3	Sydney Water must undertake potable water efficiency audits at all sewage treatment plants (other than Malabar, North Head and Bondi) and implement appropriate findings under a water conservation plan by 30 June 2009.	No requirement	See comments under clause 7.3.4.
7.3.4	By no later than 1 September each year, Sydney Water must report to IPART on its progress in relation to clause 7.3.1, 7.3.2 and 7.3.3 for the previous 12 months, to enable the IPART to consider and report on the matter as part of the Annual audit.	Yes	<p>The 2006/07 report on Potable Water Use was included in the 2006/07 Operating Licence Compliance Report provided to IPART on 31 August 2007.</p> <p>The 2007/08 report on Potable Water Use is included in section 5.3 (page 55) of the 2007/08 Operating Licence Compliance Report.</p> <p>North Head STP achieve 97.7% reduction in potable water use compared with the usage rate in 2003/04, and has exceeded the June 2009 target of 80% reduction.</p> <p>Malabar STP achieved 70.1% reduction and Bondi STP achieved 77.5% reduction in potable water use.</p> <p>24 out of the required 25 sewage treatment plants (STPs) are achieving the 2009 target of using 85% recycled water for treatment processes, with the exception of the new Brooklyn STP (still under defects liability period). Overall, 97.5% of water used at these STPs for treatment processes is recycled water.</p> <p>As at 30 June 2008, potable water efficiency audits have been completed at all sewage treatment plants (including storm flow plants) with the exception of Brooklyn STP, which was completed in July 2008. These audits have identified potable saving opportunities at the sewage treatment plants.</p>

Licence Clause	Requirement	Compliance Certified	Comments
8	Pricing		
8	Sydney Water must set the level of fees, charges, and other amounts payable for its Services subject to the terms of this Licence, the Act and the maximum prices and methodologies for Sydney Water's Services determined from time to time by IPART under the IPART Act.	Yes	At its meeting 20 June 2007, the Sydney Water Board (SWB) noted the 1 July 2007 to 30 June 2008 prices. The prices noted by the SWB were based on the maximum real price paths determined under IPART's Determination No. 5 of 2005. The maximum real price paths were escalated for inflation using the method prescribed in IPART's Determination No. 5, and the consumer price index outcome of 6.3% provided by IPART on 16 May 2007 for this purpose.
9	Water conservation and demand management		
9.1	Water Conservation Target		
9.1.1	Sydney Water must take action to reduce the quantity of water (other than Re-use water) it draws from all sources to meet the water conservation target of 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).	No requirement	The estimated demand (climate corrected but including effects of water restrictions) for 2007/08 is 308 litres per person per day (LCD), down from 328 LCD in 2006/07. If the effects of water restrictions were removed, the estimated consumption would have been 378 LCD in 2007/08 compared with 389 LCD in 2006/07.
9.1.2	In assessing compliance with the water conservation target in clause 9.1.1, reasonable adjustments are to be made for the effects of weather on water usage.	Yes	Sydney Water uses a climate correction model that reports 'average year' demand as a 365 day rolling average of water use in litres per person per day. This is estimated to be 306 LCD at 30 June 2008, with a climate correction of +2.1 litres per person per day. See Appendix 5 – Correcting for climate in the Water Conservation and Recycling Implementation Report 2007/08.

Licence Clause	Requirement	Compliance Certified	Comments
9.1.3	By no later than 1 September each year, Sydney Water must report to IPART on its progress in complying with the water conservation target in clause 9.1.1 (which may include any target for Water leakage), to enable IPART to consider and report on the matter as part of the Annual audit.	Yes	<p>The Water Conservation and Recycling Implementation Report 2006/07 was provided to IPART on 31 August 2007.</p> <p>The Water Conservation and Recycling Implementation Report (WCRIR) 2007/08 was provided to IPART with the suite of 1 September reports required by the Operating Licence.</p> <p>Sections 3, 4 and 5 of the WCRIR explain Sydney Water's progress towards the Water Conservation Target, water conservation activities, initiatives and strategy. Applying an average water use of 426 litres per person per day as a baseline forecast, Sydney Water uses its End Use Model to assess the impact on demand of different water efficiency options. Sydney Water assumes that the temporary water restrictions will be lifted in 2009/10 and estimates that there will be up to 30% retention of water savings achieved by level 3 water restriction savings at June 2011. Applying these assumptions and planning projections of population growth adjusted to Sydney Water's supply area and program savings, a 2010-2011 revised forecast is developed to track Sydney Water's progress towards the 329 LCD target.</p>
9.3	Reducing Discharges		
9.3.1	Sydney Water must meet the Re-use water targets set by the Minister or Sydney Water from time to time.	No requirement	No targets have been set for the 2007/08 audit year.
9.3.2	Sydney Water must take action to generate Re-use water from the sewage or effluent of Customers and Consumers by intercepting or otherwise preventing the discharge of that sewage or effluent into the ocean, waterways and other waters.	Yes	<p>Recycling and water conservation measures reduce discharge to waterways. These measures are explained throughout the WCRIR 2007/08 (see Appendix 9 – Water recycling – reducing discharges). The 2006 Metropolitan Water Plan includes a target for recycling 70GL of water by 2015. Sydney Water currently recycled 41ML/day from existing sewage treatment plants. It is projected that in 2015, 126GL/year of treated wastewater will be prevented from entering the waterways. Recycling is expected to contribute 70GL/year and water conservation programs 56GL/year.</p>

Licence Clause	Requirement	Compliance Certified	Comments
9.3.3	By no later than 1 September each year, Sydney Water must report to IPART on its progress in meeting the Re-use water target required under clause 9.3.1 for the previous financial year, to enable IPART to consider and report on the matter as part of the Annual audit.	No requirement	A report is not required as no target has been set for the 2007/08 audit year.
9.4	Water Conservation Rating and Labelling		
9.4.1	Sydney Water, through continuing support for any national scheme (whether legislated or not), is to encourage manufacturers of water appliances to improve the water use efficiency of these appliances where consistent with Sydney Water's objectives.	Yes	Sydney Water supports the National Water Conservation Rating & Labelling Scheme. In addition, efficient washing machines are promoted through the washing machine rebate offered by Sydney Water and efficient fixtures through the WaterFix, DIY and Business Retrofits programs.
9.4.2	By no later than 1 September each year, Sydney Water must report to IPART on its performance under clause 9.4.1 for the previous financial year, to enable IPART to consider and report on the matter as part of the Annual audit.	Yes	The Water Conservation and Recycling Implementation Report 2006/07 was provided to IPART on 31 August 2007. The Water Conservation and Recycling Implementation Report 2007/08 was provided to IPART with the suite of 1 September reports required by the Operating Licence.
10	Licence authorisation and Area of Operations		
10.4	Connection of Services		
10.4.1	Subject to Sydney Water continuing to be in compliance with any applicable law, Sydney Water must ensure that its Services are available for connection on request to any Property situated in the Area of Operations.	Yes	See comments under clause 10.4.2.
10.4.2	Connection to the Services is subject to any conditions Sydney Water may lawfully determine to ensure the safe, reliable and financially viable supply of Services to Properties in the Area of Operations in accordance with this Licence. Satisfactory compliance with the conditions of connection is an essential requirement for gaining Sydney Water's approval for connection of the land to a water main or sewer main under section 56(2) of the Act.	No requirement	Definition clause. Sydney Water advises that there were no instances where it declined approval for connection during the 2007/08 period (<i>Sydney Water Corporation Annual Compliance Report 2007/08</i> , page 29).

Licence Clause	Requirement	Compliance Certified	Comments
10.5	Non-exclusive Licence		
	This Licence does not prohibit another person from providing services in the Area of Operations that are the same as or similar to the Services, if the person is lawfully entitled to do so.	No requirement	Definition clause.
11	Liability issues		
11.1	Contracting Out		
11.1.1	Subjecting to the Act, the SOC Act and any other applicable law, Sydney Water may contract out the provision, construction, operation, management or maintenance of any of the systems and Services the subject of this Licence.	No requirement	Sydney Water views this clause as encompassing its Build Own Operate (BOO), Build Own Operate and Transfer (BOOT) and Design Build Operate (DBO) arrangements. BOO agreements currently cover the water filtration plants at Prospect, Macarthur, Woronora and Illawarra. BOOT agreements cover the Blue Mountains Sewerage Transfer Scheme, and Design Build Operate agreements cover the Gerringong-Gerroa Sewerage Scheme.

Licence Clause	Requirement	Compliance Certified	Comments
11.1.2	Contracting out under clause 11.1.1 does not relieve Sydney Water of its responsibility to comply with its obligations under this Licence.	Yes	<p>Sydney Water monitors contractor performance for infrastructure works as specified in its Capital Project Delivery Management System (ISO 9001-certified) as well as in general contract provisions. Contractor Performance Appraisals are conducted for all contracts.</p> <p>A Contract Governance Framework is used to ensure significant contracts are managed within the conditions of the contract and performance is to the required standard, through monitoring and reporting from contract managers, executive managers and directors. Significant contracts are defined in terms of the risk they potentially present to the corporation in terms of financial or strategic risk.</p> <p>In the case of BOO contracts, for the provision of water treatment service and DBO Contract there are specific requirements/ standards on the quality and quantity compliance. Non-compliance is managed through monitoring, testing, auditing and penalty provisions. Quality assurance processes and implementation of certified quality management systems for the Operation / production processes are the tools used to ensure that the obligations of Sydney Water under the Operating Licence are met at all times. An agreed Management Framework details the management processes to ensure meeting of operational and contractual obligations of the parties.</p>

Licence Clause	Requirement	Compliance Certified	Comments
11.2	Damage and Compensation to Persons		
	Sydney Water is required by the Act to do as little damage as practicable in exercising its functions under Division 4 of Part 6 of the Act, and to compensate persons who suffer damage by the exercise of those functions.	Yes	<p>Sydney Water attempts to do as little damage as practicable in exercising its functions and restores areas disturbed by construction activities. If damage occurs to a customer's property as a direct result of Sydney Water activities and it has not repaired the damage, customers may lodge a claim for damages.</p> <p>Sydney Water has a system in place where records of claims and related correspondence are maintained.</p> <p>Where a party other than Sydney Water undertakes the provision of works, consideration must be made for the minimisation of potential damage to natural and human constructed features. Final requirements of the works process are restoration and compensation for damages not restored.</p> <p>Sydney Water will intervene if the developer or agent submits documented evidence of having failed to reach agreement after an attempt to negotiate reasonable terms on a compensation claim or on complaint from the affected property owner. Details of Sydney Water's involvement in resolving matters between the developer and affected customers are recorded in the development case folder.</p>

Licence Clause	Requirement	Compliance Certified	Comments
11.3	Competitive Neutrality		
11.3.1	Subject to the Act, the SOC Act and any applicable law, Sydney Water must comply, and must ensure that its Subsidiaries comply, with the competitive neutrality policies and guidelines adopted by New South Wales under clause 3 of the Competition Principles Agreement.	Yes	<p>No complaints about competitive neutrality were made to Sydney Water or IPART during 2007/08.</p> <p>Sydney Water provided input to the regulations under the Water Industry Competition Act 2006 (WICA). The regulations will, among other things, set requirements for new licence-holders. The intention is to provide a "level playing field" to encourage competition between new entrants and incumbents such as Sydney Water and Hunter Water.</p> <p>Existing regulatory functions performed by Sydney Water and Hunter Water are also being reviewed through this process. Changes to those functions may be made to ensure that, consistent with the Competition Principles Agreement, incumbents do not have a competitive advantage over new entrants in the water industry.</p> <p>The WICA also establishes a regime for third party access to Sydney Water's monopoly infrastructure. Third parties may also seek access to Sydney Water's three ocean wastewater systems, which were declared by the Australian Competition Tribunal under the Trade Practices Act 1974. The Australian Competition and Consumer Commission determined the price for access to the declared services in mid 2007.</p>
11.3.2	This Part is in addition to any obligations of Sydney Water under the Trade Practices Act 1974 and the Competition Code of NSW and other States and Territories as applicable.	No requirement	Definition clause.

Licence Clause	Requirement	Compliance Certified	Comments
12	Operational audits of this Licence		
12.2	What the audit is to report on		
12.2.1 (b)	<p>IPART or the person undertaking the Annual audit must investigate and prepare a report on any of, or any part of any of, or all of, the following:</p> <p>(b) Sydney Water's implementation of any Memorandum of Understanding (MoU)</p> <p><i>(Continues next page)</i></p>	Yes	<p><u>MoU with WAMC</u></p> <p>The current MoU has been in place since 13 March 2007 and replaced a MoU made in June 2002. The current MoU states that WAMC is represented by the Department of Natural Resources, which was abolished soon after the MoU was signed. The sections of the Department responsible for WAMC were transferred to the newly created Department of Water and Energy (DWE).</p> <p>Sydney Water recently wrote to DWE to propose that the MoU be reviewed. The review is necessary to update references to the Department of Natural Resources and to ensure that the MoU accurately reflects the nature of the relationship between WAMC and Sydney Water, particularly in relation to consultation between the two organisations. DWE has informally agreed (at officer level) to the review and supports its proposed objectives.</p> <p><u>MoU with NSW Health</u></p> <p>Sydney Water prepared and signed off a new Memorandum of Understanding with NSW Health on 15 February 2006 for the term of the current Operating Licence.</p> <p>Sydney Water has maintained a cooperative working relationship with NSW Health through the Strategic Liaison Group and Joint Operational Group. These work groups routinely meet to discuss drinking water quality issues and has involved Sydney Catchment Authority in health and drinking water quality management issues from catchment to tap.</p> <p>Sydney Water prepares Drinking Water Quality Monitoring Plan each year and forwards to NSW Health for endorsement. Additionally, Sydney Water has developed Incident / Event management policies, plans and procedures and forwarded to NSW Health for their input, comments and endorsement.</p>

Licence Clause	Requirement	Compliance Certified	Comments
12.2.1 (b)	<p>IPART or the person undertaking the Annual audit must investigate and prepare a report on any of, or any part of any of, or all of, the following:</p> <p>(b) Sydney Water's implementation of any Memorandum of Understanding (MoU).</p> <p><i>(Continued from last page)</i></p>		<p><u>MoU with EPA (DECC)</u></p> <p>The MoU was updated to reflect the broadened role of the Department of Environment and Conservation (DEC). Both parties signed the revised MoU on 30 June 2006.</p> <p>In April 2007, the Department of Environment and Conservation took on a range of new responsibilities and changed its name to the Department of Environment and Climate Change (DECC).</p> <p>Cooperative relationship with DECC is evidenced through interactions between the two agencies via the Strategic Liaison Group, the Operational Policy Committee and at officer level.</p>

D | Sydney Water 2007/08 Statement of Compliance

**ASSURANCE STATEMENT TO THE MANAGING DIRECTOR AND
CHAIRMAN ON COMPLIANCE WITH SYDNEY WATER'S
OPERATING LICENCE IN 2007-08**

In the opinion of the undersigned, the Statement of Compliance for the 2007-08 Annual Compliance Report as submitted:

- (i) exhibits a true and fair view of compliance with specified clauses of the Operating Licence as at 30 June 2008
- (ii) reflects the robust and reliable operation of folios of progress in the Corporate Compliance Program.

The Corporate Compliance Program requires General Managers to delegate authority and responsibility to ensure that systems/processes are in place to meet Operating Licence requirements and that information is accurate, complete and timely. The Independent Pricing and Regulatory Tribunal (IPART) conducts an annual review of folios of progress and the Corporate Compliance program.

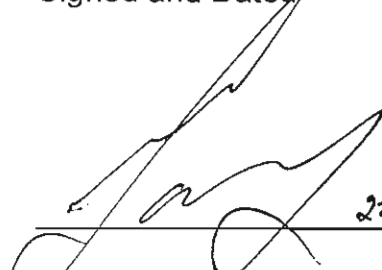
We are not aware of any circumstances that would render any particulars included in the Statement of Compliance to be misleading.


We are not aware of any factors or emerging issues that may affect compliance in future audits with clauses listed in the Statement of Compliance.

We recommend that:

- a) on the basis of the declaration provided herein under this Assurance Statement, the Chairman and Managing Director sign the Statement of Compliance
- b) this Assurance Statement accompany the signed Statement of Compliance provided to IPART.

Signed and Dated


22/08/08
Alan Ramsey
General Manager
Finance & Regulatory


20/8/08

Greg Reynolds
Corporate Compliance Manager
Regulatory Strategy & Pricing

Statement of Compliance

To: Independent Pricing and Regulatory Tribunal of NSW (the Tribunal)
Level 2, 44 Market Street
Sydney NSW 2000

Attention: The Chief Executive Officer

Sydney Water Corporation reports as follows:

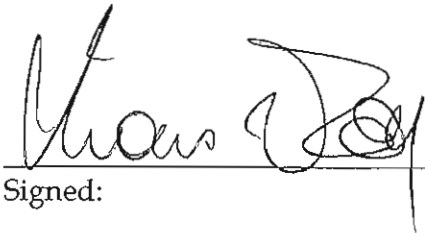
The Annual Compliance Report documents compliance during 2007-08 with those obligations in Sydney Water Corporation's 2005-2010 Operating Licence that are not subject to an operational audit. These obligations are listed by clause in Schedule A.

The Annual Compliance Report has been prepared by Sydney Water Corporation with all due care and skill in full knowledge of the obligations to which it is subject and in compliance with the Tribunal's Monitoring and Reporting Protocol, if applicable.

Schedule B provides information on those licence obligations that were not audited with which Sydney Water Corporation did not fully comply during 2007-08.

Other than the information provided in Schedule B, Sydney Water Corporation has complied with all obligations to which it is subject that have not been audited.

Schedule C outlines any factors and emerging issues that may affect compliance with a licence clause in future years.



Signed:

Dr Tom Parry
Chairman, Sydney Water

26/7/08

Date:



Signed:

Dr Kerry Schott
Managing Director, Sydney Water

22/8/08

Date:

Schedule A: Licence obligations for Sydney Water Corporation not audited in 2007/08

Where a clause is subject to an IPART desktop review, information to be provided by Sydney Water includes:

- a Statement of Compliance, signed off by the CEO and a member of the Board of Directors indicating that this clause has been complied with.
- for clauses that are covered by a report to IPART: a reference to or excerpts from the relevant report;
- for clauses that are not covered by a report to IPART: an outline of compliance with the key elements of each clause;
- for clauses where prior compliance has been established, evidence should be provided in relation to any changes since the most recent compliance assessment.

Additionally, Sydney Water should provide IPART with any further information that it considers will demonstrate compliance with any of the desktop reviewed clauses. Furthermore, IPART may request evidence or an interview to assess compliance with any clause in more detail.

The following table highlights any key documents that IPART requires for Licence obligations that are subject to the IPART desktop review during the 2007/2008 Operational Audit.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
3.1	Drinking Water Quality – Standards			
3.1.2	If there is an inconsistency between the Health guideline values and the Aesthetic guideline values, the Health guideline values will prevail.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Where applicable, Sydney Water should advise any inconsistency between the guideline values and outline its compliance with the requirement of this clause for the 2007/08 audit period.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 1 • Folio of Progress – Drinking Water Quality

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
3.2	Drinking Water Quality – Monitoring			
3.2.1	<p>Sydney Water must prepare, to the satisfaction of NSW Health, a comprehensive annual Drinking water quality monitoring plan for the water supply system by 31 March each year, for the duration of this Licence and must:</p> <p>(a) include system performance monitoring and regular sampling, laboratory testing and processes to ensure quality control;</p> <p>(b) have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply those concepts in the manner, form and timeframes specified by NSW Health;</p> <p>(c) include the monitoring of Health guideline values;</p> <p>(d) include the monitoring of Aesthetic guideline values;</p> <p>(e) assess the quality of water in Sydney Water's water supply system; and</p> <p>(f) be undertaken for the period from the Commencement Date to 30 June 2006 and after that for each subsequent financial year.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should outline its compliance with the requirements contained under this clause, or provide document of approval from NSW Health for any change to the Monitoring Plan.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Drinking Water Quality • Letter from NSW Health endorsing the draft 2007-08 Monitoring Plan. • Email from NSW Health approving the final 2007-08 Monitoring Plan.
3.2.2	<p>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 Consumers.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Where applicable, Sydney Water should explain how any change to the sampling frequency and locations (during the 2007/08 audit period) is representative of the quality of water supplied to customers.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Drinking Water Quality

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
3.4	Drinking Water – Planning			
3.4.1	Sydney Water must prepare, to the satisfaction of NSW Health, a five-year Drinking water quality management plan (Five-Year Plan) within 5 months after the Commencement Date. Sydney Water must release to the public a discussion paper in relation to the Five-Year Plan within 2 months after the Commencement Date and must engage in Public Consultation on the discussion paper.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should provide document of approval from NSW Health for any change to the five-year Plan.	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Drinking Water Quality
3.4.2	The Five-Year 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 control any risk to public health and meet any Aesthetic guideline values extended to Sydney Water in or by this Licence.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should provide document of approval from NSW Health for any change to the Five-Year Plan.	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Drinking Water Quality
3.4.3	In preparing the Five-Year Plan, Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply these concepts in the manner, form and timeframes specified by NSW Health.	As above.	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Drinking Water Quality
3.5	Drinking Water – Incident Management			
3.5.1	Sydney Water must immediately report to NSW Health any information or event in the delivery of the Services or in its systems or operations which may have risks for public health.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Outline the nature of any major event reported to NSW Health.	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Drinking Water Quality • Initial incident site report for 'Elevated Cyanobacteria in Lake Burragorang' (decalred an incident on 4 September 2007).

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
3.5.2	From the Commencement Date, Sydney Water must maintain the existing Drinking water quality incident management plan (Incident Plan) prepared to the satisfaction of NSW Health and that Incident Plan must remain in place until any new plan is developed in agreement with NSW Health.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, provide document of approval from NSW Health for any change to the Incident Management Plan.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Drinking Water Quality
3.5.3	The Incident 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 to Consumers of public health advice received from NSW Health.	As above.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Drinking Water Quality
3.5.4	In preparing the Incident Plan under clause 3.5.2, Sydney Water must have regard to the concepts of good practice set out in the Australian Drinking Water Guidelines 1996 and must apply these concepts in the manner, form and timeframes specified by NSW Health.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should outline its compliance with any time frame specified by NSW Health for the 2007/08 audit period.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Drinking Water Quality
3.6	Other grades of water			
3.6.3	Where there is a conflict between any of the guidelines, requirements or standards applying to Sydney Water under clause 3.6, the Minister's decision will prevail.	<i>There was no conflict between any guidelines in the 2005/06 and 2006/07 audit periods.</i> Statement of Compliance. Where applicable, Sydney Water should advise any conflict between any guidelines, requirements or standards, and outline how it complied with this clause for the 2007/08 audit period.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Other Grades of Water

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.5	Reporting on system performance standards			
4.5.1	By no later than 1 September each year, Sydney Water must report to IPART on its compliance with the water pressure standard, the water continuity standard and the sewage overflow standard.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Provide the 1 September report required by this clause, and refer to the relevant section.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on the system performance standards was included in section 3.1 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.1 of the 2007-08 Operating Licence Compliance Report.
4.5.2	<p>By no later than 1 September each year, Sydney Water must report to IPART on the number of Properties in the preceding financial year that experience the following:</p> <p>(a) a water pressure failure;</p> <p>(b) a Planned Water Interruption or an Unplanned Water Interruption;</p> <p>(c) an Uncontrolled Sewage Overflow.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Provide the 1 September report required by this clause, and refer to the relevant section.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on the system performance standards was included in section 3.1 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.1 of the 2007-08 Operating Licence Compliance Report.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.5.3	Sydney Water must maintain record systems sufficient to enable it to measure accurately its performance against the water pressure standard, the water continuity standard and the sewage overflow standard and to enable measurement and reporting by Sydney Water of those standards by delivery systems. Delivery system in this clause means the geographic classification used by Sydney Water for its own internal purposes, based on geographic regions forming part of the Services.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should outline any change to the record systems described under this clause.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folios of Progress: <ul style="list-style-type: none"> – Water Pressure Standard - Water Continuity Standard - Sewage Overflow Standard
4.5.4	Sydney Water must provide IPART with physical or electronic access to the records kept by Sydney Water that enable it to report under clause 4.5.1.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	As above
4.7	Service quality and system performance indicators			
4.7.1	Sydney Water must maintain record systems that are sufficient to enable it to measure accurately its performance against the service quality and system performance indicators in Schedule 1.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Outline any change to the record systems described under this clause, including how Sydney Water maintains and validates any equipment or instrument used for measurements.	Yes	<ul style="list-style-type: none"> Folio of Progress – Service Quality and System Performance Indicators.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.7.3	By 1 September 2006 and at the same time in each subsequent year, Sydney Water must report to IPART its performance against the service quality and system performance indicators in Schedule 1 for the immediately preceding financial year. The report must include an analysis of any problems of a systemic nature.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Provide the 1 September report required by this clause, and refer to the relevant section.	Yes	<ul style="list-style-type: none"> The 2006-07 report on the service quality and system performance indicators was included in section 3.2 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.2 of the 2007-08 Operating Licence Compliance Report.
4.7.4	As part of its report, Sydney Water must provide IPART with physical and electronic access to the records kept by Sydney Water that enable it to report under clause 4.7.3.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	
4.8	Asset management obligation			
	Sydney Water must ensure that its Assets are managed consistent with; <ul style="list-style-type: none"> (a) the terms and conditions in this Licence, and its obligations under the Customer Contract and all applicable laws with which Sydney Water must comply; (b) subject to (a) above, the lowest life cycle cost and acceptable risk of the Assets; (c) the whole of life of the Assets; and (d) its assessment of the risk of loss of the Assets, and capacity to respond to a potential failure or reduced performance of the Assets. 	<i>A report on the Asset Management System Audit was provided to the Minister on 9 July 2008.</i> Statement of Compliance.	NR	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Asset Management Obligation

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.11	Water Leakage			
4.11.2	Each year Sydney Water must calculate the level of Water leakage from its Drinking water supply system using the assumptions and methodology approved by IPART.	Statement of Compliance. Sydney Water should outline how it complied with the requirement to calculate the level of Water leakage for the 2007/08 audit period.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Water Leakage
4.11.3	On 1 September 2006 and at the same time in each subsequent year, Sydney Water must report to IPART on: <ul style="list-style-type: none"> (a) the economic level of Water leakage for the preceding financial year and how that level of Water leakage is calculated; and (b) its assessment of its progress towards compliance with clause 4.11. 	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Provide the 1 September report in relation to the economic level of water leakage and Sydney Water's progress towards the 2009 target.	Yes	<ul style="list-style-type: none"> The 2006-07 report on the economic level of water leakage was included in section 3.3 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.3 of the 2007-08 Operating Licence Compliance Report.
4.12	Reports Related to Water Leakage			
4.12.1	Sydney Water must report to IPART no later than 1 September 2005 and at the same time in each subsequent year on the number of bulk water meters in Sydney Water's Drinking water system that Sydney Water: <ul style="list-style-type: none"> (a) intends to install in the current and subsequent financial years; and (b) had planned to install in a financial year compared with the number actually installed in that financial year. 	<i>Sydney Water achieved full compliance with this clause for the 2005/06 and 2006/07 audit periods.</i> Statement of Compliance. Provide the 1 September report in relation to bulk water meters installation, as required under this clause.	Yes	<ul style="list-style-type: none"> The 2006-07 report on bulk water meters was included in section 3.3 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.3 of the 2007-08 Operating Licence Compliance Report.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.12.2	<p>Sydney Water must report to IPART no later than 1 September 2005 and at the same time in each subsequent year on the number of water pressure control zones in Sydney Water's Drinking water system that Sydney Water:</p> <p>(a) intends to complete in the current and subsequent financial years; and</p> <p>(b) had planned to complete in a financial year compared with the number actually completed in that financial year.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Provide the 1 September report in relation to pressure zones.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on water pressure control zones was included in section 3.3 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.3 of the 2007-08 Operating Licence Compliance Report.
4.12.3	<p>On 1 September 2005, and on 1 September of each subsequent year, Sydney Water must report to IPART on the number of bursts, breaks or leaks (in the trunk and reticulation component of Sydney Water's Drinking water system between water treatment plants and a Property) which occurred in the immediately preceding financial year and the time taken by it to repair those bursts, breaks or leaks.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance</p> <p>Provide the 1 September report in relation to bursts, breaks or leaks, as required under this clause.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on the number of bursts, breaks or leaks was included in section 3.3 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.3 of the 2007-08 Operating Licence Compliance Report.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.12.4	<p>Sydney Water must report to IPART, no later than 1 September 2005 and at the same time in each subsequent year, on:</p> <p>(a) the number of kilometres of reticulation mains it inspected during the preceding financial year for Water leakage; and</p> <p>(b) its program during the preceding financial year for inspecting reservoir zones for Water leakage and for rehabilitating reservoir zones to prevent or correct Water leakage.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Provide the 1 September report as required under this clause, and refer to the relevant section.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on the inspection of reticulation mains and reservoir zones was included in section 3.3 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.3 of the 2007-08 Operating Licence Compliance Report.
4.13	Response time for water main breaks			
4.13.2	<p>Categorisation of Priorities 4, 5 and 6 is to be finalised by IPART and published on Sydney Water's Internet site www.sydneywater.com.au</p>	<p>Statement of Compliance.</p> <p>Sydney Water should provide the web link to the categorisation of Priorities 4, 5 and 6 on its website.</p>	Yes	<ul style="list-style-type: none"> Web link included in the 2007-08 Operating Licence Compliance Report – section 6.2.
4.13.3	<p>On 1 September 2006, and on 1 September of each subsequent year, Sydney Water must report to the Minister and IPART on the number of breaks or leaks (in the trunk and reticulation components of Sydney Water's drinking water system between water treatment plants and a property) which occurred in the immediately preceding financial year and Sydney Water's performance against the targets in clause 4.13.1. The Minister from time to time may adjust targets based on Sydney Water's performance.</p>	<p><i>Sydney Water achieved full compliance with this clause for the 2005/06 and 2006/07 audit periods.</i></p> <p>Statement of Compliance.</p> <p>Provide the 1 September report in relation to performance against targets in clause 4.13.1, as required under this clause.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on response times for water main breaks and leaks was included in section 3.4 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.4 of the 2007-08 Operating Licence Compliance Report.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
4.14	Priority Sewerage			
4.14.2	Should Sydney Water incur delays caused by consent authorities that impair its ability to meet the above targets, Sydney Water is required to write to the Minister for Energy and Utilities, to advise the Minister of the reasons for the delay.	Statement of Compliance. Sydney Water should advise any reporting to the Minister in relation to delays.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 2.5 Priority Sewerage
4.14.3	On 1 September 2006 and at the same time in each subsequent year Sydney Water must report to IPART on its assessment of its progress towards compliance with clause 4.14.1 and the reasons which lead it to reasonably believe that (as at the date of its report) it will or will not be able to comply with clause 4.14.1.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance. Provide the 1 September report in relation to Sydney Water's progress in meeting the Priority Sewerage Program targets.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on the Priority Sewerage Program was included in section 3.5 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 2.5 of the 2007-08 Operating Licence Compliance Report.
5.1	Customer Contract			
5.1.4	A copy of the Customer Contract, and any variations to it must 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 also free of charge.	Statement of Compliance. Sydney Water should provide a copy of or the web link to, the Customer Contract on its website.	Yes	<ul style="list-style-type: none"> Web link contained in 2006-07 Operating Licence Compliance Report – section 6.2

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.1.8	Sydney Water must prepare a pamphlet that: (a) provides a brief explanatory introduction to the Customer Contract; (b) summarises the key rights and obligations of Customers, under the Customer Contract; (c) refers to the types of account relief available for Customers experiencing financial hardship; and (d) contains a list of Sydney Water's local offices and emergency contact numbers in its Area of Operations.	<i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should provide a copy of the pamphlet or outline its compliance with the requirements contained in this clause.	Yes	<ul style="list-style-type: none"> Web link contained in the 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Review of Customer Contract
5.2	Consumers			
	Sydney Water must fulfil its obligations under the Customer Contract relating to complaint handling and complaint resolution procedures as if those obligations also extended to Consumers.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Complaint and Redress
5.3	Code of practice and procedure on debt and disconnection			
5.3.1	Sydney Water must have in place a code of practice and procedure on debt and disconnection.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Code of Practice and Procedure on Debt and Disconnection
5.3.2	The code of practice and procedure on debt and disconnection must provide for: (a) deferred payment or payment by instalment options for consumption bills; and (b) the payment options referred to in (a) to be advised in consumption bills.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should outline how it complied with this clause during the 2007/08 audit period.	Yes	As above

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.3.3	Sydney Water must include the code of practice and procedure on debt and disconnection in its Customer Contract.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	As above
5.3.4	Sydney Water must disseminate information on its code of practice and procedure on debt and disconnection free of charge to: (a) Customers, at least once annually with their quarterly or other bills; and (b) any other person on request.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Outline compliance in relation to how Sydney Water disseminates the information described in this clause to its Customers and any person requesting it.	Yes	As above
5.4	Customer councils			
5.4.1	In accordance with the Act, Sydney Water must have in place and regularly consult with one or more customer councils to enable community involvement in issues relevant to the performance of Sydney Water's obligations under this Licence.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Councils
5.4.2	A customer council may be utilised by Sydney Water, among other things, to provide it with high quality advice on the interests of Customers and Consumers of Sydney Water and on the Customer Contract, in accordance with the terms of the relevant customer council charter, and on such other key issues related to Sydney Water's planning and operations as Sydney Water may determine.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Outline the types of consultation or activities Sydney Water has with its Customer Councils.	Yes	As above
5.4.3	Sydney Water must appoint the members of a customer council, consistent with this Licence.	<i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	As above

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.4.4	At all times, the membership of one or more customer councils must between them include a representative from at least each of the following: (a) business and consumer groups; (b) low income households; (c) people living in rural and urban fringe areas; (d) residential consumers; (e) environmental groups; (f) local government; and (g) the Ethnic Communities Council.	<i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Outline compliance with the requirement to have appropriate representation from each group of customers listed in this clause.	Yes	As above
5.4.5	Sydney Water may allow a representative under clause 5.4.4 to serve on so many customer councils as it considers appropriate to best discharge the tasks assigned to him or her.	<i>There was no requirement for Sydney Water to comply with this clause in the 2005/06 and 2006/07 audit periods, as Sydney Water operated one Corporate Customer Council only.</i> Statement of Compliance. Sydney Water to advise any change from the current arrangement of a single Corporate Customer Council.	Yes	Sydney Water operates a single Corporate Customer Council
5.4.6	The customer council or customer councils under this Licence must comprise: (a) members of any customer council prior to the Commencement Date ("existing members"); and (b) any other person appointed by Sydney Water, consistent with clause 5.4.4.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Outline compliance with the requirements contained in this clause.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Councils
5.4.7	Subject to clause 5.4.8 the term of a member of a customer council (including the term of an existing member) will expire 2 years after his or her appointment.	Statement of Compliance.	Yes	Not applicable as only one Customer Council operating

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.4.8	At least half of the persons appointed as members of a customer council must be new members. That is, they must not be persons who were members of a customer council at any time during the period of 2 years before the date of their appointment.	<i>There was no requirement for Sydney Water to comply with this clause in the 2005/06 and 2006/07 audit periods, as Sydney Water operated one Corporate Customer Council only.</i> Statement of Compliance.	Yes	Not applicable as only one Customer Council operating
5.4.9	No person may be appointed as a member of a customer council for more than 2 consecutive terms (including, without limitation, any term served as a replacement member under 5.4.10).	<i>There was no requirement for Sydney Water to comply with this clause in the 2005/06 and 2006/07 audit periods, as Sydney Water operated one Corporate Customer Council only.</i> Statement of Compliance.	Yes	Not applicable as only one Customer Council operating
5.4.10	If a member's place becomes vacant before the expiration of their term, Sydney Water may appoint a suitable replacement for the remainder of that member's term.	Statement of Compliance.	Yes	Not applicable as only one Customer Council operating
5.4.11	If Sydney Water chooses to establish one or more customer councils the majority of members of which are not individuals, clauses 5.4.8, 5.4.9 and 5.4.12 do not apply to those customer councils.	Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Councils
5.4.12	Existing members will be eligible to be appointed for one term and other members for 2 consecutive terms. For the avoidance of doubt: (a) existing members will be regarded as having served their first term at the end of the period, mentioned in clause 5.4.7; and (b) replacement members appointed under clause 5.4.10 will be regarded as having served their first term at the expiration of the term of the member they replaced.	<i>There was no requirement for Sydney Water to comply with this clause in the 2005/06 and 2006/07 audit periods, as Sydney Water operated one Corporate Customer Council only.</i> Statement of Compliance.	Yes	Not applicable as only one Customer Council operating

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.4.13	<p>Within 3 months of establishing a customer council, Sydney Water must develop in consultation with members of each customer council, a customer council charter that addresses the following issues:</p> <ul style="list-style-type: none"> (a) the role of the customer council; (b) selection criteria on how members will be drawn from the community; (c) information on how the customer council will operate; (d) induction processes for new members; (e) a description of the type of matters that will be referred to the customer council; (f) procedures for the conduct of customer council meetings, including the appointment of a chairperson and the requirement to invite on an annual basis a co-chair of the customer council from Customer representatives; (g) communicating the outcome of the customer council's work to Sydney Water; (h) procedures for tracking issues raised and ensuring appropriate follow-up of those issues; and (i) funding and resourcing of the customer council by Sydney Water including sitting fees and expenses for members. 	<p>Statement of Compliance.</p> <p>Where applicable, Sydney Water should advise any change from the current arrangement of a single Corporate Customer Council, or any change to its customer council charter, during the 2007/08 audit period.</p>	Yes	Sydney Water operates a single Corporate Customer Council
5.4.14	<p>There must be a charter for each customer council. However a single charter may be expressed to apply to more than one customer council.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Customer Councils

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.4.15	Sydney Water must provide a customer council with information within its possession or under its control (other than information or documents over which Sydney Water or another person claims confidentiality or privilege) necessary to enable the customer council to discharge the tasks assigned to it.	<i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should outline how it complied with the requirement to provide a customer council with information described in this clause during the 2007/08 audit period.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Councils
5.4.16	Sydney Water must report annually on the issues considered by, and the achievements, of each of its customer councils. A copy of the report and each charter for a customer council must be posted on Sydney Water's website on the internet for downloading free of charge and made available at its offices for access or collection by any member of the public, also free of charge.	<i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should provide the web link to the report and the customer council charter on its website.	Yes	<ul style="list-style-type: none"> Web link included in the 2007-08 Operating Licence Compliance Report - section 6.2
5.5	Customer service indicators			
5.5.1	Sydney Water must maintain record systems that are sufficient to enable it to measure accurately its performance against the Customer service indicators set out in Schedule 2.	<i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should advise any change to the record systems referred to in this clause during the 2007/08 audit period.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Service Indicators
5.5.2	By no later than 1 September 2006 and at the same time in each subsequent year, Sydney Water must report to IPART its performance against the Customer service indicators in Schedule 2 for the immediately preceding financial year.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Provide the 1 September report in relation to Sydney Water's performance against the Customer service indicators in Schedule 2	Yes	<ul style="list-style-type: none"> The 2006-07 report on the Customer Service Indicators was included in section 1.2 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. Performance for 2007-08 is included in section 3.2 of the 2007-08 Operating Licence Compliance Report.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.5.3	The report must include an analysis of any problems of a systemic nature.	As above.	Yes	As above
6.1	Internal Dispute Resolution Process			
6.1.1	Sydney Water must establish and maintain internal complaint handling procedures for receiving, responding to and resolving complaints by Customers and Consumers against Sydney Water.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Where applicable, Sydney Water should outline any change to its internal complaint handling procedures during the 2007/08 audit period.</p>	Yes	<p>There was no material change to Sydney Water's internal complaints handling procedures in 2007-08.</p> <ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Customer Complaint Handling and Redress
6.1.2	The internal complaints handling procedures of Sydney Water must be based on the Australian Standard AS4269-1995 Complaint Handling.	<p><i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p>	Yes	As above
6.1.3	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.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p>	Yes	As above
6.1.4	Sydney Water must provide information of the nature described in clause 6.1.3 to Customers through their quarterly, or other, bills at least once annually.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Outline compliance with the requirements contained in this clause.</p>	Yes	As above
6.2	External Dispute Resolution Scheme			
6.2.1	Sydney Water must establish or be a member of an industry based 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.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Customer Complaint Handling and Redress

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.2.2	The industry based dispute resolution scheme so established by Sydney Water is subject to the Minister's approval.	<i>There was no requirement for Sydney Water to comply with this clause in the 2005/06 and the 2006/07 audit periods because Sydney Water is a member of EWON, which is approved by the Minister.</i> Statement of Compliance.	Yes	As above
5.2.3	Sydney Water must prepare a pamphlet that explains how the dispute resolution scheme operates and how it can be accessed.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should provide a copy of, or the web link to, the pamphlet on its website.	Yes	<ul style="list-style-type: none"> Web link included in the 2007-08 Operating Licence Compliance Report – section 6.2
5.2.4	Sydney Water must provide the pamphlet to Customers through their quarterly or other bills, at least once annually.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Customer Complaint Handling and Redress
5.2.5	Sydney Water must provide IPART with written reports of the determinations made by the dispute resolution body based on information available to Sydney Water and information reasonably obtained from the dispute resolution body. Where considered appropriate by Sydney Water and the dispute resolution body, confidentiality arrangements are to be made so as not to disclose the Customer or Consumer's identity in such reports.	Statement of Compliance. Sydney Water should provide the report referred to in this clause.	Yes	<ul style="list-style-type: none"> There were no determinations made by EWON during 2007-08. 2007-08 Report on Complaints to the Energy and Water Ombudsman NSW (EWON)

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.2.6	<p>Sydney Water must report each year to IPART based on information available to Sydney Water and information reasonably obtained from the dispute resolution body. The report must take into account any issues raised by the dispute resolution body and must contain the following information:</p> <p>(a) the number and types of complaints received by the dispute resolution body, classified in accordance with the dispute resolution body's reporting arrangements; and</p> <p>(b) any other relevant information required by IPART to be included in the report.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Provide the report required under this clause, and refer to the relevant section.</p>	Yes	<ul style="list-style-type: none"> • 2006-07 Report on Complaints to the Energy and water Ombudsman NSW was provided to IPART on 31 August 2007. • 2007-08 Report on Complaints to the Energy and Water Ombudsman NSW (EWON) provided with suite of 1 September 2008 reports
5.2.7	<p>The report in clause 6.2.6 must be made available to the public free of charge.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should outline how it complies with the requirement to make the report referred to in clause 6.2.6 available to the public.</p>	Yes	<ul style="list-style-type: none"> • EWON Report is made publicly available on the Sydney Water website. • Web link to 2006-07 EWON report is included in the 2007-08 Operating Licence Compliance Report – section 6.2 • 2007-08 EWON report will be posted on website after 1 September 2008

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
5.3	Complaints to other bodies			
5.3.1	Sydney Water must report to the IPART by no later than 1 September each year on all complaints made to Sydney Water in the preceding financial year that relate to its performance under this Licence or the Customer Contract that were referred for resolution by an external dispute resolution body (other than a court), for example the Consumer Trader and Tenancy Tribunal.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should provide the report described in this clause, and refer to the relevant section.</p>	Yes	<ul style="list-style-type: none"> 2006-07 report on Complaints to Other Bodies was included in section 1.3 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. 2007-08 report Complaints to Other Bodies is included in section 4 of the 2007-08 Operating Licence Compliance Report
5.3.2	Sydney Water must report to the IPART by no later than 1 September each year on all civil actions in the preceding financial year that were brought against Sydney Water in all courts where the person bringing the action sought damages or other relief against Sydney Water for Sydney Water's failure to comply with a provision of its Customer Contract.	<p><i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should provide the report described in this clause, and refer to the relevant section.</p>	Yes	As above
5.3.3	<p>The reports required under clauses 6.3.1 and 6.3.2 must contain the following information:</p> <p>(a) the number and types of matters;</p> <p>(b) the outcome of the matters;</p> <p>(c) if the matters were subject to a negotiated settlement, how they were settled;</p> <p>(d) any problems of a systemic nature arising from the matters or which the matters uncovered; and</p> <p>(e) any other information that IPART may reasonably request.</p>	<p><i>Sydney Water achieved high-full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p>	Yes	As above

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
7.1	Environmental Indicators			
7.1.1	Each year Sydney Water must monitor, record, compile data and report on the environmental performance indicators in Schedule 3 for the immediately preceding financial year.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Environmental Performance Indicators
7.1.2	By no later than 1 September 2006 and at the same time in each subsequent year, (or an alternative later date specified by IPART), Sydney Water must report on its performance against the environmental performance indicators, in Schedule 3 in a manner to be approved by IPART.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should provide the report (due on 30 September) described in this clause, and refer to the relevant section.	Yes	<ul style="list-style-type: none"> The 2006-07 report on the Environmental Performance Indicators was provided to IPART on 27 September 2007. The 2007-08 report will be provided by 30 September 2008
7.1.3	The report must provide information which enables a year to year comparison in relation to Sydney Water's performance against the environmental performance indicators in Schedule 3. In particular, Sydney Water is to compare the performance indicators in Schedule 3 with historical annual values over at least the previous 10 years where comparable data is available.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Environmental Performance Indicators
7.1.4	The information in the report referred to in clauses 7.1.1 and 7.1.2 is to be made available to the public by Sydney Water. Copies of the information 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 also free of charge.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should provide the web link to the report referred to in clauses 7.1.2 and 7.1.3 on its website.	Yes	<ul style="list-style-type: none"> Web link included in the 2007-08 Operating Licence Compliance report – section 6.2

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
7.2	Environment Management			
7.2.1	By no later than 1 month from the Commencement Date, Sydney Water must have in place an environmental management system certified to AS/NZS ISO 14001 to manage environmental risk.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Where applicable, Sydney Water should outline any change to its environmental management system during the 2007/08 audit period.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Environmental Management
7.2.2	Sydney Water must produce a five-year Environment Plan by 30 September 2005. Sydney Water must annually review and update the Environment Plan in accordance with its environmental management system referred to in clause 7.2.1.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Where applicable, Sydney Water should outline any change to the five-year Environment Plan as a result of annual review during the 2007/08 audit period.</p>	Yes	As above

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
7.2.4	<p>The Environment Plan must:</p> <ul style="list-style-type: none"> (a) contain details of Sydney Water's program for environmental improvement for its water, waste water and stormwater strategies, as well as the environmental aspects of its other activities such as energy management, waste minimisation, heritage and Botany Wetlands; (b) endorse Ecologically Sustainable Development principles; (c) be integrated into Sydney Water's business plans, (d) incorporate the objectives of the energy management plan of Sydney Water to: <ul style="list-style-type: none"> (i) improve energy efficiency and generate renewable energy; and (ii) minimise the environmental impact of its energy consumption; and (iii) (comply with all relevant energy related regulation; and (e) incorporate environmental improvement targets and time tables for Sydney Water to achieve over the term of the Environment Plan 	<p><i>Sydney Water achieved high-full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Outline how any change to the Environment Plan complies with the requirements contained in this clause.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Environmental Management
7.2.5	<p>The Environment Plan must be posted each year on Sydney Water's website on the internet for downloading free of charge, and made available at its premises for access or collection by any member of the public.</p>	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should provide the web link to the Environment Plan on its website.</p>	Yes	<ul style="list-style-type: none"> • Web link included in the 2007-08 Operating Licence Compliance report – section 6.2

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
7.2.6	By no later than 1 September each year, or an alternative later date specified by IPART, Sydney Water must report to IPART on its progress for the previous financial year in meeting the Environment Plan. The report is to include Sydney Water's compliance with the targets and timetables in clause 7.2.4, and in managing the Botany Wetlands. The information in the report must be posted on Sydney Water's website on the internet for downloading free of charge and made available at its premises for access or collection by any member of the public.	<p><i>Sydney Water achieved high compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should provide the progress report (due on 30 September) referred to in this clause and the web link to the report on its website.</p> <p>Additionally, Sydney Water should outline its compliance with the requirement to make the report available to the public.</p>	Yes	<ul style="list-style-type: none"> The 2006-07 report on the Environmental Performance Indicators was provided to IPART on 27 September 2007. Web link to the 2006-07 report included in the 2007-08 Operating Licence Compliance Report – section 6.2 The 2007-08 report will be provided by 30 September 2008 and posted on the website with the 2008 Sydney Water Annual Report
7.2.7	Each year Sydney Water must review the Environmental Plan by consulting with DEC, DIPNR, IPART, and peak environmental non-governmental organisations for the purpose of considering the views of those consulted organisations and whether they seek amendments to the Environmental Plan in the subsequent year.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Where applicable, Sydney Water should advise any amendments made to the Environment Plan during the 2007/08 audit period, as a result of consultations.</p>	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Environmental Management
7.3	Potable Water Use			
7.3.4	By no later than 1 September each year, Sydney Water must report to IPART on its progress in relation to clause 7.3.1, 7.3.2 and 7.3.3 for the previous 12 months, to enable the IPART to consider and report on the matter as part of the Annual audit.	<p><i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i></p> <p>Sydney Water should provide the progress report and refer to the relevant section. Specifically, Sydney Water should indicate any issues that could jeopardise its meeting the targets referred to in clauses 7.3.1 to 7.3.3.</p>	Yes	<ul style="list-style-type: none"> 2006-07 report on Potable Water Use was included in section 4.1 of the 2006-07 Operating Licence Compliance Report provided to IPART on 31 August 2007. 2007-08 report on Potable Water Use is included in section 5.1 of the 2007-08 Operating Licence Compliance Report

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
3	Pricing			
3	Sydney Water must set the level of fees, charges, and other amounts payable for its Services subject to the terms of this Licence, the Act and the maximum prices and methodologies for Sydney Water's Services determined from time to time by IPART under the IPART Act.	<i>This clause is regulated by the IPART price path.</i> Statement of Compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Pricing
9.1	Water Conservation Target			
9.1.2	In assessing compliance with the water conservation target in clause 9.1.1, reasonable adjustments are to be made for the effects of weather on water usage.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should outline any adjustment made in its calculations.	Yes	<ul style="list-style-type: none"> Water Conservation and Recycling Implementation Report 2007-08
9.1.3	By no later than 1 September each year, Sydney Water must report to IPART on its progress in complying with the water conservation target in clause 9.1.1 (which may include any targets for Water leakage), to enable IPART to consider and report on the matter as part of the Annual audit.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should provide the progress report required under this clause, and refer to the relevant section.	Yes	<ul style="list-style-type: none"> The Water Conservation and Recycling Implementation Report 2006-07 was provided to IPART on 31 August 2007. Water Conservation and Recycling Implementation Report 2007-08 – Executive Summary.
9.3	Reducing Discharges			
9.3.1	Sydney Water must meet the Re-use water targets set by the Minister or Sydney Water from time to time.	Statement of Compliance. Where applicable, Sydney Water should advise any targets set and its compliance with meeting these targets.	Yes	No target set

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
9.3.2	Sydney Water must take action to generate Re-use water from the sewage or effluent of Customers and Consumers by intercepting or otherwise preventing the discharge of that sewage or effluent into the ocean, waterways and other waters.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Where applicable, Sydney Water should outline any actions taken during the 2007/08 audit period to generate Re-use water from sewage or effluent.	Yes	<ul style="list-style-type: none"> Water Conservation and Recycling Implementation Report 2007-08, Appendix 9 – water recycling – reducing discharges
9.3.3	By no later than 1 September each year, Sydney Water must report to IPART on its progress in meeting the Re-use water target required under clause 9.3.1 for the previous financial year, to enable IPART to consider and report on the matter as part of the Annual audit.	Statement of Compliance. Provide the progress report referred to in this clause and refer to the relevant section.	Yes	No report is required as no target has been set.
9.4	Water Conservation Rating and Labelling			
9.4.1	Sydney Water, through continuing support for any national scheme (whether legislated or not), is to encourage manufacturers of water appliances to improve the water use efficiency of these appliances where consistent with Sydney Water's objectives.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Sydney Water should outline any actions taken during the 2007/08 audit period to encourage manufacturers to improve water use efficiency in the design of appliances.	Yes	<ul style="list-style-type: none"> Water Conservation and Recycling Implementation Report 2007-08 – section 4.
9.4.2	By no later than 1 September each year, Sydney Water must report to IPART on its performance under clause 9.4.1 for the previous financial year, to enable IPART to consider and report on the matter as part of the Annual audit.	<i>Sydney Water achieved full compliance with this clause for the audit period of 2005/06.</i> Statement of Compliance. Provide the report referred to in this clause and refer to the relevant section.	Yes	<ul style="list-style-type: none"> The Water Conservation and Recycling Implementation Report 2006-07 was provided to IPART on 31 August 2007. Water Conservation and Recycling Implementation Report 2007-08 – section 4.

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
10.4	Connection of Services			
10.4.1	Subject to Sydney Water continuing to be in compliance with any applicable law, Sydney Water must ensure that its Services are available for connection on request to any Property situated in the Area of Operations.	Statement of Compliance.	Yes	
10.4.2	Connection to the Services is subject to any conditions Sydney Water may lawfully determine to ensure the safe, reliable and financially viable supply of Services to Properties in the Area of Operations in accordance with this Licence. Satisfactory compliance with the conditions of connection is an essential requirement for gaining Sydney Water's approval for connection of the land to a water main or sewer main under section 56(2) of the Act. <i>[Note: Sydney Water can authorise and approve connection to the Services under section 56(2) of the Act.]</i>	Definition clause. Where applicable, Sydney Water should outline instances where it declined approval for any connection during the 2007/08 audit period.	Yes	<ul style="list-style-type: none"> There were no instances where Sydney Water declined approval for connection during the 2007-08 audit period.
11.1	Contracting out			
11.1.2	Contracting out under clause 11.1.1 does not relieve Sydney Water of its responsibility to comply with its obligations under this Licence.	Statement of compliance.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Contracting Out
11.2	Damage and Compensation to Persons			
	Sydney Water is required by the Act to do as little damage as practicable in exercising its functions under Division 4 of Part 6 of the Act, and to compensate persons who suffer damage by the exercise of those functions. <i>[Note: Section 41 of the Act provides that compensation may be made by reinstatement, repair, construction of work or payment.]</i>	Statement of compliance. Where applicable, Sydney Water should outline any processes for handling damage and compensation to persons.	Yes	<ul style="list-style-type: none"> 2007-08 Operating Licence Compliance Report – section 6.2 Folio of Progress – Damage and Compensation to Persons

Licence Clause	Operating Licence Obligations	Information to be provided by Sydney Water for the IPART desktop review	2007/08 Compliance Yes/No	Source of SWC compliance information for desktop review
11.3	Competitive Neutrality			
11.3.1	Subject to the Act, the SOC Act and any applicable law, Sydney Water must comply, and must ensure that its Subsidiaries comply, with the competitive neutrality policies and guidelines adopted by New South Wales under clause 3 of the Competition Principles Agreement.	<p>Statement of compliance.</p> <p>Where applicable, Sydney Water should outline any process that deals with competitive neutrality issues.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folio of Progress – Competitive Neutrality
12.2	What the audit is to report on			
12.2.1 (b)	IPART or the person undertaking the Annual audit must investigate and prepare a report on any of, or any part of any of, or all of, the following: (b) Sydney Water's implementation of any Memorandum of understanding;	<p><i>Sydney Water achieved moderate compliance with this clause for the audit period of 2005/06.</i></p> <p>Statement of Compliance.</p> <p>Sydney Water should demonstrate that it had exercised its best endeavours to maintain each Memorandum of Understanding referred to in clause 2.3 during the 2007/08 audit period.</p>	Yes	<ul style="list-style-type: none"> • 2007-08 Operating Licence Compliance Report – section 6.2 • Folios of Progress: <ul style="list-style-type: none"> - MoU with NSW Health - MoU with EPA (DECC) - MoU with WAMC

Schedule B: Non-Compliances for Sydney Water Corporation's licence obligations not audited in 2007/08

[Instruction: If a "no" response was provided in the compliance column for a licence clause in Schedule A, then a description of the non-compliance must be provided for that clause in Schedule B.]

Licence clause	Obligation	Description of non-compliance
List licence clauses	List obligations breached, including a brief description of each obligation	<ul style="list-style-type: none"> ➤ Nature and extent of non-compliance ➤ Reasons for non-compliance ➤ Remedial action taken ➤ Actual/ anticipated date of full compliance
Nil		

Schedule C: Issues that may affect compliance in future audits

[Instruction: If a "yes" response was provided in the compliance column for a licence clause in Schedule A and there are factors or emerging issues that may affect compliance in future audits, please describe these factors or issues in Schedule C.]

Licence clause	Obligation	Description of emerging issue
List licence clauses	List obligations including a brief description of each obligation	<ul style="list-style-type: none"> ➤ Describe the issue ➤ Explain how the issue could affect compliance in the future with licence clause ➤ Outline how the issue is being managed ➤ Explain any impedances to management.
Nil		

