

Sydney Catchment Authority
Operational Audit 2002/2003

INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

Sydney Catchment Authority
Operational Audit 2002/2003

Compliance No 13

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INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

Our reference: 03/174

18 December 2003

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The Hon Bob Debus, MP
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Dear Minister

Operational Audit of Sydney Catchment Authority 2002-2003

In accordance with Section 32 of the *Sydney Water Catchment Management Act 1998*, the Tribunal is pleased to submit the independent Operational Audit Report of Sydney Catchment Authority for the period from 1 July 2002 to 30 June 2003.

The Audit has found that *"The Sydney Catchment Authority has managed its resources to achieve predominantly high to full compliance with the Operating Licence"* and that *"the Authority has continued to demonstrate a strong commitment to its charter to protect water quality in the catchment areas that provide Sydney, the Blue Mountains and Illawarra with bulk raw water"*.

Having considered the Audit report, the Tribunal recommends that no penalties be imposed on the Authority. However, the auditors have highlighted some significant issues which are addressed below.

Risk Management

The auditors commended the Authority for its bulk water quality management systems, incorporating a risk based approach to assure the safety of drinking water. Bulk water supplied by the Authority complies with all health requirements and water quality has improved on that of last year.

During the 2001/2002 audit period, the Authority undertook the development of a comprehensive risk management plan. The auditors note that the Authority has continued to develop this plan through the current period, improving its understanding of the main pollution sources in the catchment and the risks to water quality posed by these sources. However the auditors have repeated the concern they expressed in 2001/2002, that the Risk Management Plan remains incomplete. In particular, the auditors note that the Plan has yet to provide *"a good overview of the relative importance of the various risk issues in each catchment, and where its catchment management efforts should be focused."*

The Tribunal supports the auditors' recommendation (R6.2) that the Authority finalise the development of the Risk Management Plan by 1 September, 2004, with particular focus on the identification, assessment and treatment of hazards to bulk raw water quality. This should include determining the significance of pollution loads with respect to treated water quality and requirements for control.

"Safe Yield"

The current estimate of the "safe yield" from the Authority's storages is 600 GL per year. This is less than the current demand from the system. The model used to calculate "safe yield" has been independently reviewed. This review found that the model was accurate and correctly applied, but would benefit from some refinements. The auditors have proposed some further simulation work to ensure that the model used to calculate the safe yield is sound and well calibrated (R 8.1).

The Tribunal endorses this proposal, since it will improve the understanding of the likelihood of extreme water shortages and improve confidence that future planning will achieve a balance between water supply and demand.

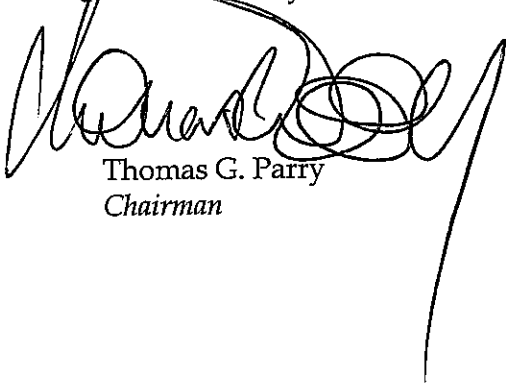
Regional Environmental Plan (REP)

The development of a Regional Environmental Plan (REP) that gives priority to water quality in the catchment was recommended by the Sydney Water Inquiry in December 1998. The concept of a Regional Environmental Plan was envisaged as an important instrument of catchment protection, particularly in the area of developing and implementing remediation plans to redress existing threats to water quality. The auditors have commented on the efforts of the Authority's staff to complete the REP with the Department of Infrastructure, Planning and Natural Resources (DIPNR). However, it has still not been finalised. The auditors suggest that finalisation of this plan may require involvement at higher levels of Government.

The Tribunal intends to monitor Sydney Catchment Authority's progress in addressing all issues raised by the auditor, especially the matters discussed above.

Please do not hesitate to contact me if I can be of further assistance.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Thomas G. Parry', written over a large, faint circular stamp or watermark.

Thomas G. Parry
Chairman

IPART

**Sydney Catchment Authority
Operational Audit 2002/03**

Final Report

December 2003



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Abbreviations

Acronym	Description
Act	<i>Sydney Water Catchment Management Act 1998</i>
ANCOLD	Australian National Committee on Large Dams
ARMCANZ	Agriculture and Resource Management Council of Australia and NZ
Authority	Sydney Catchment Authority
AWT	Australian Water Technologies Pty. Ltd.
BWSA	Bulk Water Supply Agreement
CA	Catchment Area
CEO	Chief Executive Officer
CRC	Co-operative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSR	Customer/Stakeholder/Regulator
DBP	Disinfection by-products
DEC	Department of Environment and Conservation
DLWC	Former Department of Land and Water Conservation (NSW)
DoH	Department of Health (NSW)
DIPNR	Department of Infrastructure Planning and Natural Resources (NSW)
DUAP	Former Department of Urban Affairs and Planning (NSW) and PlanningNSW, now DIPNR
EASI	Environmental Assessment of Sites and Infrastructure
EIS	Environmental Impact Statement
EMS	Environmental Monitoring Services, a division of AWT
EP	Environment Plan
EPA	Former Environment Protection Authority (NSW), now part of DEC
ESD	Ecologically Sustainable Development
GHD	GHD Pty Ltd
GIS	Geographical Information System (computer mapping)
HNRMF	Hawkesbury-Nepean River Management Forum
HRC	Healthy Rivers Committee
HVRF	Hunter Valley Research Foundation
ICOLD	International Committee on Large Dams
IPART	Independent Pricing and Regulatory Tribunal (NSW)
ISF	Institute for Sustainable Futures



Acronym	Description
JOG	Joint Operational Group
LR	Licence Regulator
ML	Megalitre (1 million litres)
MOU	Memorandum of Understanding
NATA	National Analytical Testing Authority
NCC	Nature Conservation Council (NSW)
NHMRC	National Health and Medical Research Council
NHT	Natural Heritage Trust
NPWS	National Parks and Wildlife Service (NSW)
PENGO	Peak Environmental Non-Government Organisation
RCC	Regional Consultative Committee
REP	Regional Environmental Plan
RIS	Regulatory Impact Statement
SASPoM	Special Areas Strategic Plan of Management
SCA	Sydney Catchment Authority
SCADA	Supervisory Control And Data Acquisition (instrumentation)
SEDA	Sustainable Energy Development Authority (NSW)
SEPP	State Environmental Planning Policy
SLG	Strategic Liaison Group
SoE	State of the Environment (report)
SOP	Standard Operating Procedure
Sydney Water	Sydney Water Corporation
TEC	Total Environment Centre
WAMC	Water Administration Ministerial Corporation
WFP	Water Filtration Plant
WHO	World Health Organisation
WML	Water Management Licence (under the Water Act 1912)
WSSPoM	Wingecarribee Swamp and Special Area Plan of Management



Glossary/definitions

General terms and definitions

Term	Meaning
Act	<i>Sydney Water Catchment Management Act, 1998.</i>
Audit period	1 July 2002 to 30 June 2003.
Auditor	GHD Pty Ltd
Bulk Water	Water supplied by the SCA to Sydney Water under the Bulk Water Supply Agreement and by the SCA to customers other than Sydney Water.
Bulk Water Supply Agreement	The Bulk Water Supply Agreement between the SCA and Sydney Water.
Commencement Date of Operating Licence	19 April 2000.
End of Term Review	A review of the Operating Licence to be undertaken on or about 1 January 2004.
Environmental Flow	A release of water from storage so as to provide a flow of water in a river or other natural waterway that mimics natural seasonal flows and aims to restore or maintain the ecology of the waterways concerned.
Function	Means a power, authority or duty.
Mid-term Review	A review of the Operating Licence during 2002.
Minister	The Minister responsible for administering the provisions of the <i>Sydney Water Catchment Management Act, 1998.</i>
Operating Licence	The licence under which the SCA operates between 19 April 2000 and 31 December 2004.
Water Management Licence	A Water Management Licence granted under the <i>Water Act, 1912</i> and issued by DLWC on 23 April 2001.

Compliance table assessment

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



Preface

GHD Pty Ltd, in association with the Hunter Valley Research Foundation, was commissioned by the Independent Pricing and Regulatory Tribunal (IPART) to undertake the 2002/03 Operational Audit of the Sydney Catchment Authority (SCA).

The audit's context is provided by the principal and special objectives of the SCA (under the *Sydney Water Catchment Management Act 1998, Section 14(1) and 14(2)*) which are directed to the protection of water quality, public health and catchment management, and the sound management of infrastructure works. In addition to the requirements of the Operating Licence the assessment included customer services, sustainability of operations in catchment management, and recommendations to improve outcome delivery.

The 2002/03 Operational Audit covers the period from 1 July 2002 to 30 June 2003 and is the fourth audit undertaken since the SCA became operational in July 1999. During the audit period, the SCA has been required to comply with the five-year Operating Licence that took effect from 19 April 2000. Additional compliance requirements were also imposed by the Minister following the 2001/02 Operational Audit.

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

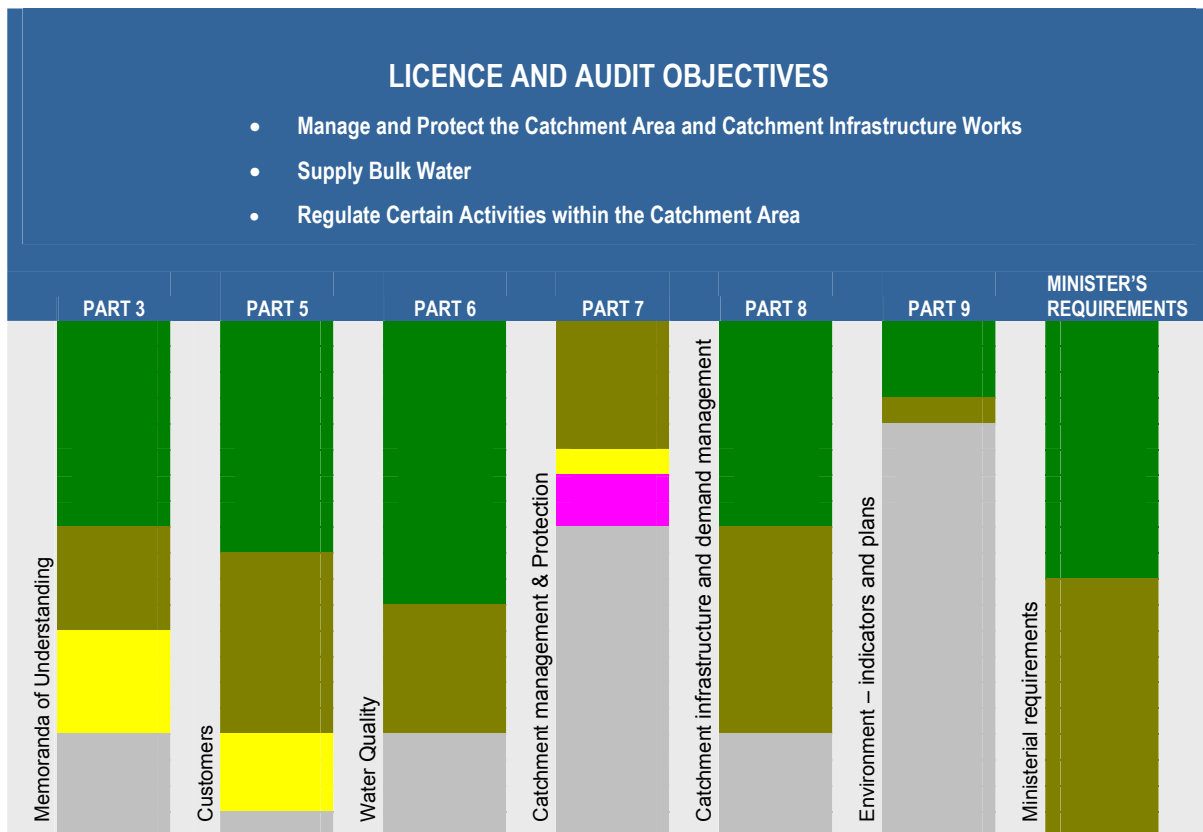
This audit report has been specifically prepared to meet the requirements of the audit brief and Part 10 of the Operating Licence.

The findings of the report are presented in a format consistent with the Operating Licence structure and not in a "prioritised order" or "order of significance".

Executive Summary

The Sydney Catchment Authority (SCA) has managed its resources to achieve predominantly high to full compliance with the Operating Licence, although some areas of low to partial compliance have been recorded. Figure 1 provides an indicative overview of the SCA's level of compliance.

Figure 1 Overview of compliance for 2002/3 audit period.



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

NOTE: Figure is indicative only.



Compliance with each Part of the Operating Licence for the 2002/03 audit period is summarised below in the order that the Parts appear in the Licence.

Memoranda of understanding (part 3)

The SCA has maintained Memoranda of Understanding (MOUs), with the former NSW Environment Protection Authority (EPA, now Department of Environment and Conservation, DEC), the Water Administration Ministerial Corporation (WAMC), and NSW Health. The SCA's performance in implementing the MOUs with NSW Health and the EPA was assessed as **Full compliance**. The SCA's performance in implementing the MOU with the WAMC was assessed as **Partial compliance**.

Customers (part 5)

The SCA has achieved **High to Full compliance** for most clauses related to its customers and consultative committees. However, **Partial compliance** was assessed for two complaint handling clauses. This year, SCA's interpretation was that only complaints from bulk water customers need be reported in detail and only eight (8) complaints were provided for audit. In previous years, the auditor had access to complainants from all customers and community members. This year's interpretation limited the effectiveness of the audit process. Thus the 2003/03 audit was not able to assess whether complaints were handled according to the relevant Australian standards or how well complaints were resolved, or not resolved, as the case may be. As with the previous year's Audit, there remains the opportunity for SCA to improve the level of satisfaction of complainants and in the way complaints are handled by the SCA.

Bulk water (part 6)

The Sydney Catchment Authority (SCA) has a well established system for managing bulk water quality. A risk-based approach to the management of water quality is being taken, consistent with recent developments in the water industry for providing assurance that the quality of drinking water will be safe and acceptable. SCA was assessed to be in **Full or High compliance** in regard to the Bulk Water supplied for water treatment and in **High compliance** for water supplied for other uses.

Catchment management and protection (part 7)

Over 2002/03 SCA continued to apply its resources in a targeted manner to achieve Catchment Management and Protection. Increased integration across programs is occurring so higher risk environmental issues, such as pollution sources, are being identified and targeted.

High compliance was assessed for most clauses applicable during the audit period. **Partial** and **Low compliance** were assessed for coordinating and publishing water quality data and a number of 'implementation' tasks including the Special Areas Strategic Plan of Management and the Wingecarribee Swamp and Special Area Plan of Management. Some programs are slow to be actioned and not in accord with Ministerial endorsed timetables for the Plan.

Catchment infrastructure works (part 8)

The SCA has demonstrated **Full compliance** in the areas of management of catchment infrastructure, dam safety and demand management. A **High compliance** rating was achieved in the area of security of supply, as emergency measures were required to be implemented to address low supply levels in dams within the Blue Mountains catchments. This finding highlights the importance of developing a more detailed understanding of the performance of each element of the water supply system through SCA's system model (WATHNET).



Environment (part 9)

This is the second audit period that the SCA has been able to report its compliance against the Environment Plan. The SCA demonstrated **Full compliance** in relation to reporting against the Plan and the **High compliance** against the requirements of the plan.

The SCA also demonstrated **Partial compliance** relating to reporting of performance against the environmental and ESD indicators. Year-to-year comparison of performance is possible on most indicators, however for a number of indicators insufficient information has been reported to allow objective yearly comparison. SCA's performance against the indicators demonstrated a neutral or downward trend over the audit period, partly due to the impacts of bushfire and drought.

The SCA demonstrated **High compliance** with the requirements of the Water Management Licence issued by the DIPNR, relating to the release of environmental flows from its storages.

Ministerial requirements

Following the findings and recommendations of the 2001/02 Operational Audit, the Minister for the Environment issued two Ministerial Requirements to the SCA. The SCA demonstrated **High compliance** with the Ministerial Requirement to report quarterly on the implementation of the *Sydney Water Catchment (Environmental Protection) Regulation 2001*. SCA did not meet the reporting deadlines (a **technical non-compliance**) but has actively pursued implementation of the Regulation with a comprehensive program of training, establishment of compliance units, investigation of breaches as well as the issuing of Penalty Infringement Notices.

SCA demonstrated **Full compliance** with the Ministerial requirement to provide reports on its progress towards finalising projections of future safe yields from the catchments.



‘The big picture’

The Sydney Catchment Authority (SCA) has continued to demonstrate a strong commitment to its charter to protect water quality in the catchment areas that provide Sydney, the Blue Mountains and Illawarra with bulk raw water. The SCA’s staff are developing a culture of continual improvement as evident across the organisation.

The SCA has performed at a generally high to full level of compliance with the Operating Licence, with only minor exceptions. It has established a foundation of management plans and work programs and, overall, demonstrated good performance in the implementation of those plans.

The 2002/03 audit of the SCA has assessed SCA’s performance against its Operating Licence and the following key issues are raised as the “*big picture*” items for discussion. In brief:

- ▶ Sydney Catchment Authority provides bulk water that complies with the health-based objectives, and generally the quality of the bulk water is better than that of the previous year. While the quality of the bulk water has not fully complied with the requirements of the Bulk Water Supply Agreement with Sydney Water Corporation, the variations have not caused problems and the treated water supplied by Sydney Water Corporation to customers has complied with requirements.
- ▶ SCA continues to develop its risk management plan, its understanding of the main pollution sources in the catchment and the risk that they present with regard to variations in the quality of the bulk water supplied to customers. This program is ambitious and it may be some time before sources can be prioritised in terms of their risks to bulk water quality and therefore where management efforts should be focused.
- ▶ “Safe yield” continues to be a critical issue in the SCA’s ability to supply Sydney’s future water demands. Ensuring that the model for determining (“safe yield”) water supply is sound and well calibrated remains a priority. Also, the findings of the model need to be integrated with the water demand projections to provide a good understanding of the likelihood of extreme water shortages and confidence that future planning will achieve a water supply – water demand balance.
- ▶ Opportunities remain to improve strategic alliances with the other regulators.
- ▶ The (“*Sustaining the Catchments*”) Regional Environmental Plan has not been finalised, impacting on the SCA’s capability to meet its charter of catchment protection, particularly in developing and implementing Remediation Action Plans to redress existing threats to water quality. It is recognised that the responsibility for the REP is with DIPNR and, as such, its finalisation may require involvement at higher levels of Government.
- ▶ While the SCA has obtained ‘Full compliance’ on most components of its customer, community consultation and complaints handling clauses, there continues to be a number of issues requiring attention. The SCA was unable to obtain water supply agreements with Wingecarribee and Shoalhaven Councils although it indicated it used its “best endeavours”, as required by the Operating Licence. Also the SCA only provided complaints from ‘water customers’ for auditing purposes, rather than complaints from the community, and this limited the extent of the audit. Finally, the development of a Catchment Management Authority (under the Department of Infrastructure, Planning and Natural Resources) which covers an area similar to the SCA will need to be integrated through a ‘whole of government’ process.



Risk management – bulk water quality

The SCA continues to demonstrate that it has well-established systems for managing bulk water quality. A risk-based approach is being taken, consistent with recent developments in the water industry, to provide assurance that the quality of drinking water is safe and acceptable.

Based on performance over the past three years, no significant water quality issues have arisen and it may be concluded that SCA is adequately managing the risks associated with bulk water quality. However, there has been a period of drought and this has assisted in ensuring good water quality. The SCA has recognised that natural events, such as the onset of heavy drought breaking rains, may adversely affect water quality and SCA, in conjunction with Sydney Water and NSW Health, has been actively developing its preparedness should such an event occur.

A concern raised in the 2001/02 audit was that the Risk Management Plan under development was being prepared at a too detailed level and that the SCA may find it difficult to “...*maintain an overview of the main issues, and to not get lost in the detail.*” Although SCA has continued to develop the Plan and advance other catchment management tools, important aspects of the Plan have not yet been completed and the concern remains that SCA has not been able to gain a good overview of the relative importance of the various risk issues in each catchment, and therefore where its efforts might best be focused.

“Safe yield”

Safe yield may be defined as the capacity of SCA’s system to supply water within the community perception of what is an acceptable risk (of water restrictions). The current safe yield for the system has been estimated by the SCA at 600,000ML/year. Whilst the SCA’s safe yield meets the requirements of the Operating Licence, Sydney Water Corporation’s (Sydney Water) actual demand for 2002/03 was 635,000ML. In the short term this is not a high-risk situation. However, should a drought sequence continue, this could increase the risk of stringent restrictions and need for greater than desirable transfers from the Shoalhaven catchment to Nepean and Warragamba reservoirs.

A review of demand forecasts indicates that unless more aggressive demand management action is undertaken, total demand will continue to rise thereby increasing the risk that insufficient water will be available to meet Sydney’s demand for water in the long term. A comprehensive course of action, not wholly within the charter of the SCA, is proposed by the Water CEOs including definition of agreed demand projections, consideration of climate correction to demands and a study of “drought hardening” on the effectiveness of long-term water restrictions.

Specific to the SCA, further assessment and development of the SCA’s safe yield model is required to demonstrate that the model presents a good representation of past behaviour and to improve confidence for predicting future behaviour of the system. In addition, the SCA should consider a range of possible future scenarios and develop actions and time limits to respond to each scenario outcome that has a large detrimental impact on safe yield.

Interface with other regulators of the catchment

The SCA was established to protect water quality in the catchment areas that provide Sydney, the Blue Mountains and Illawarra with bulk water. A critical component of this function is to develop effective partnerships with other regulators within the catchments. The SCA’s progress in developing these partnerships has been variable.

- ▶ The former Environment Protection Authority (EPA) (now Department of Environment and Conservation, DEC) is the sole regulator of all point sources of pollution licensed under the



Protection of the Environment Operations Act (POEO). During the 2002/03 audit period, the EPA undertook an audit of licensed premises in the catchment. Continued strengthening of the relationship between the two agencies was demonstrated at strategic level through the development of a Strategic Work Plan and at the operational level, especially in the implementation of the Environmental Protection Regulation.

- ▶ Local government is the consent authority for new developments, however the SCA has a concurrence or notification and advisory role for development in the hydrological catchment that is likely to have an impact on water quality. The previous audit identified the need for SCA to implement a formal system with Councils to ensure all development applications and commencements covered by SEPP 58 are received by SCA. This need subsequently became a Ministerial requirement, however it remains to be implemented.
- ▶ The relationship between the SCA and the Department of Infrastructure, Planning and Natural Resources (DIPNR) would benefit from intervention at a higher level of government to accelerate the finalisation of the Memorandum of Understanding (MOU) with WAMC. An MOU would set the framework for a co-operative working relationship, however an effective MOU has not been in place between the two agencies since the 2000/01 audit period.
- ▶ In addition, the delay in the finalisation of the Regional Environmental Plan “*Sustaining the Catchments*” (REP) has impacted on the capability of the SCA to protect water quality in the catchment areas. This is discussed further in the following section.

The formation of the DEC in September 2003 has brought the SCA, the former EPA and the former National Parks and Wildlife Service under one CEO. It is anticipated that this will further encourage and strengthen relationships between these agencies. In particular, improved links to facilitate the SCA’s contribution to the review of POEO Licences and the enforcement of pollution controls in the catchment areas would be a positive outcome. It may also assist NPWS enhance its financial accountability under the Special Areas Management Program.

The Regional Environmental Plan (REP)

Under Section 53 of the Act, one or more REPs are required to be created as soon as practicable after the presentation of the report on the first catchment audit. The first catchment audit was presented in 2001 and a draft Regional Plan was prepared, however as at October 2003, the REP had not been gazetted.

The SCA has been managing the catchment for four years and a fundamental instrument that would provide the SCA with the ability to develop rectification plans for areas that pose a risk to water quality has not been created. This has a significant impact on the capability of the SCA to fulfil its charter, particularly in the “Outer” Catchments where their management was historically divided between many agencies at State and local government level, as well as by private landholders.

Whilst it is acknowledged that the responsibility for creating the REP is with DIPNR, expediting the REP should be considered a priority of Government to ensure that the SCA and other regulators work in a coordinated manner for the protection of the drinking water catchments. SCA has applied considerable resources to bring the REP and its implementation to fruition and it may well require the matter to be addressed at higher levels of government.



Unresolved Water Supply Agreements

Despite SCA's continued efforts, water supply agreements with Wingecarribee and Shoalhaven Councils have not been secured. Yet, all parties are public bodies and thus it should be in the powers of State and local government to resolve. The lack of a suitable contractual base for water supply to these Councils may also require the matter to be resolved at a higher level of government.

Compliance issues from year-to-year

The SCA is continuing to work at a generally high to full compliance with the requirements of the Operating Licence. There are, however, a number of Licence requirements that are not fully addressed year-to-year. On an individual basis, these issues are sometimes minor and may relate to an individual element of a clause. In other cases, the requirements are key components in delivering SCA objectives.

SCA should apply its best endeavours to comply with the requirements over the next year. Examples include:

- ▶ Although SCA has continued to develop the Risk Management Plan and advance other catchment management tools, important aspects of the Plan have not yet been implemented.
- ▶ A number of key actions and *performance indicators* of the Special Areas Plan of Management (SASPoM) continued not to be met over 2002/03. Similarly, many key actions of the Wingecarribee Swamp and Special Area Plan of Management have not achieved the Ministerial endorsed Plan of Management (2001) timetable and expenditure would not appear to have increased to meet the Ministerial requirement (2001/02) to "*accelerate action*" to implement the Plan.
- ▶ Formal links with Councils to advise SCA of all Development Applications and development commencements (under SEPP 58 powers), as directed by the Minister in 2000/01, have not been established.

It is recommended that the SCA present an implementation plan to IPART to finalise these year-to-year compliance issues.



Comparison of SCA compliance with the previous three years

This section of the report provides a tabular summary of the compliance achieved by the SCA in the 2002/03 audit period compared to compliance levels attained for the three previous audit periods. Table A provides a summary of compliance with each auditable requirement of the Operating Licence.

It is evident from Table A that:

- ▶ The SCA is continuing to work at generally high to full compliance, with there being little change in SCA's compliance levels from the previous year on most parts of the Licence.
- ▶ There was a discernible increase in compliance performance, particularly, the active implementation of the "Sydney Water Catchment (*Environmental Protection*) Regulation" and the management of compliance generally.
- ▶ A clear improvement over the previous year's compliance levels was evident for the Environment Plan and its annual reporting.
- ▶ There was some decline in compliance on the customer clause due to the new interpretation by SCA on which complaints could be reviewed as part of the audit process. There was also a decline due to the Expert Reference Group not being reappointed during the audit period which resulted in one of the required groups not being represented on a consultative committee.
- ▶ A lower level of compliance is evident in relation to aspects of Water Quality. This is particularly related to the continued delay in the finalisation of SCA's Risk Management Plan.
- ▶ A lower level of compliance was evident in relation to aspects of Catchment Infrastructure. This is particularly related to the supply area of the Blue Mountains as it did not fully meet the requirements of security of supply (Schedule 2 of the Operating Licence).
- ▶ Performance against the MOU requirements with the EPA increased to full compliance however performance against the MOU requirements with the WAMC has decreased over the last two audit periods.
- ▶ The majority of clauses reported as "No requirement" for this audit period were also reported as "No requirement" in previous years. These relate to the development of plans and other milestones that have now been satisfied, to requirements not enacted during the audit period, or are "definitions" or requirements on agencies other than the SCA.

There are a number of variations from full to high compliance between years on individual clauses. These results reflect changing priorities and resourcing that take place within organisations from year to year. The auditor does not believe that this signifies any trend unless numerous clauses also demonstrate a consistent change in level of compliance.



Table A: Operating Licence - summary of compliance over the last four years

Licence Clause	Summary of Requirement	2002/03	2001/02	2000/01	1999/00
3 MEMORANDA OF UNDERSTANDINGS					
3.3.1	Maintain MOUs for Licence term	High	High	Full	Full
3.3.2	MOU to form basis of cooperative relationships with:-				
	▶ WAMC (now DIPNR)	Partial	High	Full	Full
	▶ DoH	Full	Full	Full	Full
	▶ EPA (now DEC)	Full	High	Partial	Full
3.3.3	SCA to enter into additional MOUs as directed by the Minister	NR	NR	NR	NR
5 CUSTOMERS					
5.1	Customer – Sydney Water Corporation				
5.1.1	Supply of Bulk Water to Sydney Water	Full	Full	Full	Full
5.1.2	Review terms of bulk supply to Sydney Water	Full	Full	Full	NR
5.1.3	Best endeavours to gain Sydney Water's agreement	Full	Full	Full	NR
5.2	Customers – other than Sydney Water Corporation				
5.2.1	Best endeavours to customers other than Sydney Water	High	Full	High	Partial
5.3	Customer Complaints				
5.3.1	Establish internal complaints handling	Full	High	Full	Full
5.3.2	Complaints handling to be based on Australian Standard	Partial	Partial	Insufficient information	Partial
5.3.3	Make available customer handling information	High	Full	Full	Partial
5.3.4	Provide information and post on website each year	Full	Full	Full	Partial
5.3.5	Report details on complaints handling	Partial	High	Insufficient information	Partial
5.4	Consultative Committees (CC)				
5.4.1	Establish and consult with CC	High	High	Full	High
5.4.2	Establish first CC within 3 months (by 19/07/00)	NR	NR	Full	Partial
5.4.3	Appoint CC members consistent with Licence	High	Full	Full	Partial
5.4.4	Groups from which CC to comprise	Partial	Full	Full	Partial
5.4.5	Number of CC a member can sit on	NR	NR	NR	NR
5.4.6	Term of appointments for CC members	Full	Full	Full	NR
5.4.7	Replacement of a CC member before term expiry	Full	Full	Full	NR



Licence Clause	Summary of Requirement	2002/03	2001/02	2000/01	1999/00
5.4.8	Establishment of CC charter by 19/10/00	High	NR	Full	NR
5.4.9	Charter required for each CC	High	NR	Full	NR
5.4.10	CC to have possession of information required	Full	High	Full	NR
5.4.11	CC Charter to be posted on website	High	Full	Full	NR
5.4.12	Effectiveness of CC to be included in end of term review	NR	NR	NR	NR
6 BULK WATER QUALITY					
6.1	Definitions of guidelines and water treatment	NR	NR	NR	NR
6.2	Water Supplied for water treatment				
6.2 (a)	SCA to meet health guideline values under Schedule 4	Full	Full	Full	Insufficient information
6.2 (b)	SCA must comply with specific bulk water standards	High	High	Partial	Partial
6.2 (c)	Liaise with water customers on strategies to ensure safe water	High	Full	Full	Full
6.3	Water supplied for other uses				
6.3.1	Best endeavours used to reach agreement on water quality standards for water supplied to customers for purposes other than treatment	High	Full	High	Partial
6.3.2	Advise customers of potential uses for bulk water and need for treatment if used for human consumption	High	High	Partial	Partial
6.4	Catchment and System Management				
6.4	Comply with drinking water relating to catchment and system management.	Full	Full	Full	High
6.5	Review of obligations regarding water quality	NR	NR	NR	NR
6.6	Water Quality Monitoring and Reporting				
6.6.1	Develop a WQ monitoring program	Full	Full	Full	Full
6.6.2	Routine monitoring requirements of program a, b, c, d	Full	Full	Full	Full
6.6.2	e) representative of bulk water	Full	High	Full	Full
6.6.3	Supply of monitoring results to customers and DoH	Full	Full	Partial	NR
6.6.4	Requirements for event based monitoring	Full	Full	High	Full
6.6.5	Develop a database for all monitoring results	Full	Full	Full	Full
6.6.6	Features of monitoring reported by 30/11 each year	Full	Full	Full	Full
6.6.7	Requirements for the monitoring report	Full	Full	Partial	Full
6.6.8	Availability of monitoring report	Full	Full	Full	Full
6.7	Water Quality Planning - Risk Management Plan (RMP)				



Licence Clause	Summary of Requirement	2002/03	2001/02	2000/01	1999/00
6.7.1	Risk Management Plan prepared following first audit	High	Full	Full	Full
6.7.2	Identify and assess sources of pollution	High	Full	Partial	Full
6.7.3	Requirements for developing RMP	High	Full	High	Full
6.7.4	Parties to comment during preparation of RMP	NR	Partial	Full	High
6.7.5	Review of RMP following catchment audits	Full	Full	NR	NR
6.7.6	RMP amended only after public consultation	NR	Full	NR	NR
6.7.7	RMP to be reviewed mid-term	Full	Full	NR	NR
6.7.8	IPART audit SCA's required actions under the RMP	Full	Full	NR	NR
Water Quality Planning – Incident Management Plan (IMP)					
6.7.9	Prepare IMP by 1 July 2000	NR	Full	Full	Full
6.7.10	IMP to minimise human health risk	Full	Full	Full	Full
6.7.11	IMP to contain procedures for management of water incidents	Full	Full	Full	Full
6.7.12	Requirements of IMP for advising stakeholders of risk	Full	Full	Full	Full
6.8 Environmental Water Quality					
6.8.1	Meet environmental water quality requirements of EPA or DLWC (now DIPNR)	NR	NR	NR	Partial
7 CATCHMENT MANAGEMENT					
7.1 Authority to Manage and Protect					
7.1.1	Manage and protect the Catchment Area	High	High	High	High
7.1.2	Best endeavours to coordinate collection of data	Low	Partial	High	High
7.1.3	Make unpublished data on river health available	Low	Low	Partial	Partial
7.2 Special Areas Strategic Plan of Management (SASPoM)					
7.2.1	Definition of Special Areas Strategic Plan of Management	NR	NR	NR	NR
7.2.2	Consultation with NPWS in giving effect to SASPoM	High	High	Partial	Partial
7.2.3	Report to Licence Regulator by 01/09 each year on SASPoM	High	High	High	NR
7.2.4	Review SASPoM with NPWS every 5 years	NR	NR	Full	Full
7.2.5	Minister to be advised of any amendment to SASPoM	NR	NR	Full	Full
7.3 Wingecarribee Swamp & Special Area Plan of Management (WSSPoM)					
7.3.1	Definition of Wingecarribee Swamp and Special Area Plan of Management	NR	NR	NR	NR
7.3.2	Review WSSPoM with NPWS by 1/11/00	NR	NR	Full	Full
7.3.3	New WSSPoM to consider rehabilitation and restoration	NR	NR	Full	Full



Licence Clause	Summary of Requirement	2002/03	2001/02	2000/01	1999/00
7.3.4	New WSSPoM must be put into effect	Partial	Partial	High	High
7.3.5	Report to Licence Regulator by 01/09 each year on WSSPoM	High	High	Full	NR
7.3.6	Review WSSPoM with NPWS every 5 years	NR	NR	Full	NR
7.3.7	Any alteration required to be brought to notice of Minister	NR	NR	Full	NR
7.4	Regional Environment Plan				
7.4.1	Compliance required with REP	NR	NR	NR	NR
7.4.2	Promotion of REP including stakeholder education	NR	NR	NR	NR
7.4.3	Licence Regulator to consider planning instruments in annual audit	NR	NR	NR	NR
7.5	State Environmental Planning Policy				
7.5.1	Comply with SEPP 58	High	High	High	High
7.5.2	Licence Regulator to consider SEPP in annual audit	NR	NR	NR	NR
8 CATCHMENT INFRASTRUCTURE					
8.1	Management of Catchment Infrastructure Works				
8.1.1	Manage infrastructure to minimise human health risks	Full	Full	Full	Partial
8.1.2	Catchment infrastructure works designed, operated and managed according to Schedule 2 requirements:-				
	• Reliability	High	Full	Full	Full
	• Robustness	High	Full	Full	Full
	• Security	High	Full	Non	Full
	• Operate within Designated Drought Conditions	High	Full	Full	Full
8.1.3	Schedule 2 performance criteria reviewed mid-term	NR	NR	NR	NR
8.2	Dam Safety				
8.2	Compliance with dam safety requirements	Full	Full	Full	Full
8.3	Demand Management				
8.3.1	Demand management consistent with the Water Management Licence	NR	NR	NR	NR
8.3.2	Water demand managed in accord with Sydney Water's Operating Licence	Full	Full	Full	High
8.3.3	Improved demand management by Sydney Water to be considered before augmenting catchment works	Full	Full	NR	NR
9 ENVIRONMENT					
9.1	Environment Plan (EP)				



Licence Clause	Summary of Requirement	2002/03	2001/02	2000/01	1999/00
9.1.1	Prepare draft EP by 31/12/00, final by 30/06/01	NR	NR	Full	NR
9.1.2	Final EP to be submitted to the Minister for approval. Public consultation required to develop draft and final EP	NR	NR	Full	High
9.1.3	Requirements for the EP	NR	NR	Full	NR
9.1.4	EP must set targets and timetable	NR	NR	Partial	NR
9.1.5	EP to include an energy management policy	NR	NR	Full	NR
9.1.6	EP available from website	Full	High	NR	NR
9.1.7	EP amended following public comment/Minister approval	NR	NR	NR	NR
9.2	Environmental and ESD Indicators				
9.2.1	Prepare a draft list of environmental indicators by 01/07/00 and draft list of ESD indicators by 01/10/00	NR	NR	Full	Full
9.2.2	Environmental Indicators to allow direct monitoring of environment	NR	NR	Full	NR
9.2.3	ESD indicators to allow degree of compliance with ESD	NR	NR	Full	NR
9.2.4	Final list of indicators to the Minister by 1 January 2001	NR	NR	Full	NR
9.2.5	Requirements for draft indicators	NR	NR	Full	High
9.2.6	Consistent with other environmental (env.) Indicators	NR	NR	Full	Full
9.2.7	SCA to give consideration to catchment auditor	NR	NR	Full	Full
9.2.8	Public comment for 40 days required for env. indicators	NR	NR	Full	Full
9.2.9	Monitoring and compiling env. indicators to start by 01/03/01	NR	NR	High	NR
9.2.10	Sydney Water's environmental indicators to be used in interim period	NR	NR	Full	Full
9.2.11	Draft and final environmental indicators reviewed at end of term	NR	NR	NR	NR
9.2.12	Requirements of ESD indicators	NR	NR	Full	NR
9.2.13	Public comment for 40 days required for ESD indicators	NR	NR	Full	NR
9.2.14	Monitoring and compiling ESD indicators to start by 01/03/01	NR	NR	High	NR
9.2.15	Draft and final ESD indicators reviewed at end of term	NR	NR	NR	NR
9.3	Reporting				
9.3.1	Environment Plan to be reported on annually	Full	Full	NR	NR
9.3.2	Requirements for Environment Plan report	Full	High	NR	NR
9.3.3	Year to year report on environmental and ESD indicators	High	Low	NR	NR
9.3.4	Publicly available within 1 month of completion	Full	Full	NR	NR
9.4	Environmental Flows				



Licence Clause	Summary of Requirement	2002/03	2001/02	2000/01	1999/00
9.4.1	Final report on environmental flows by 19/10/01	NR	NR	Full	Full
9.4.2	Requirements for draft report on environmental flows	NR	NR	Non	Non
9.4.3	Minister may appoint independent expert panel	NR	NR	NR	NR
9.4.4	Composition of expert panel	NR	NR	NR	NR
9.4.5	Term of independent expert panel	NR	NR	NR	NR
9.4.6	Review role of independent expert panel	NR	NR	NR	NR
9.4.7	Panel to provide socio-economic impact assessment	NR	NR	NR	NR
9.4.8	Cooperation and assistance to expert panel	Full	Full	NR	NR
9.4.9	Environmental flows from water storages prior to Water Management Licence	NR	NR	High	High
9.4.10	Implementation of environmental flow requirements under the Water Management Licence.	High	High	High	NR



Table B provides a summary of compliance levels reached by the SCA in the 2002/03 audit period for the Ministerial requirements. As Ministerial requirements are specific to each operational year, yearly comparisons with previous operational audits are not applicable.

Table B: Ministerial requirements for 2002/03 – summary of compliance

Ministerial Requirement		2002/03
M.1	Safe yields <i>"While I realise that the SCA will not be able to finalise projections of future safe yields from the catchments until various outstanding matters have been determined, I do wish to be informed of progress. I require that the SCA provide both myself and the Tribunal with quarterly progress reports on this issue. The first report should be made available to me on or before 28 March 2003."</i>	Full
M.2	Catchment management and protection <i>"I require that the SCA provides both myself and IPART with quarterly reports on the implementation of this [Sydney Water Catchment (Environmental Protection) Regulation 2001] regulation. The report should be made available to me on or before 28 March 2003."</i>	High



Summary of key recommendations

The **key recommendations** from the 2002/03 Operational Audit are presented below (grouped by the audited parts of the Operating Licence). The recommendations are made to provide IPART and the Sydney Catchment Authority with a basis for continuous improvement.

Additionally, secondary recommendations are presented in the body of this report. These have been provided to facilitate improved performance and compliance for subsequent audit periods.

Note: Resolution of some long standing unresolved issues may well require reference to a higher level of government (denoted by *).

Memoranda of understanding

That the SCA:

- R4.1* Completes the review of, and renew, the MOU with WAMC to incorporate recommendations identified in previous Audits, to enhance the cooperative relationship between the two agencies.
- R4.2 Reports on the Strategic Work Programs developed between the SCA and the regulatory agencies in its Annual Report.

Customers

That the SCA:

- R5.1* Demonstrates a greater commitment to overcome the impasse between the SCA and Wingecarribee and Shoalhaven Councils to obtain a signed agreement for the supply of water to these Councils, over 2003/04 (it is recognised that this may require requests for higher level government involvement).
- R5.2* Liaises with the Department of Infrastructure, Planning and Natural Resources and finalises the legal status and responsibility (either SCA or DIPNR) for the unresolved "customers" of the SCA.
- R5.3 Ensures that overall membership of the Consultative Committees include each required categories (in accord with Clause 5.4.4) in the Licence.
- R5.4 Ensures that the review of the consultative committees is undertaken in consultation with the Department of Infrastructure, Planning and Natural Resources to avoid conflict with the proposed Catchment Management Authority structure under the Catchment Management Authorities Bill 2003.
- R5.5 Provides full reporting on all complaints (sub clauses 5.3.2 and 5.3.5) received by the SCA according to the requirements of the SCA's Operating Licence (sub clause 10.5.1).



Bulk water

That the SCA:

- R6.1 Reviews the water quality monitoring program in light of the findings of the Expert Panel regarding nutrients and disinfection by-product precursors, the priorities identified in the Risk Management Plan and the requirements for characterising bulk water for treatment, in conjunction with Sydney Water and NSW Health.
- R6.2 Confirms that all pesticides used in significant quantities in the catchments are monitored through its Monitoring Plan and liaises with NSW Health following completion of the Sydney Water review to determine whether additional pesticide monitoring is required.
- R6.3 Includes a reporting item on the verification of the performance of the laboratories that would prompt the review in R6.2.
- R6.4 Finalises the development of the Risk Management Plan in the 2003/04 Licence period and determines the significance of pollution loads with respect to treated water quality and requirements for control.

Catchment management and protection

That the SCA:

- R7.1* Secures a specific timetable and agreement of action with DIPNR to gazette and implement the Regional Environment Plan "*Sustaining the Catchments*".
- R7.2 Provides IPART with two progress reports (30 March and 30 June 2004) and an annual progress report (by 1st September 2004) covering the 2003/04 operating year on improving performance in *Catchment Management and Protection* clauses (7.1.2, 7.1.3, 7.2 and 7.3).

Infrastructure

That the SCA:

- R8.1 Completes the following safe yield simulation work with WATHNET:
 - ▶ Independently verified "*degree of fit*" runs using historical operating rules and stream/flow/demand data;
 - ▶ Safe yield sensitivity analysis for an agreed set of likely or possible supply-demand-loss scenarios (for example, environmental flows, reduced losses to groundwater/evaporation, climate effects on demand, demand hardening); and
 - ▶ Model the Blue Mountains system for current local demand levels to establish reliability, robustness and security.



Environment

That the SCA:

- R9.1 Reports against all environmental and ESD indicators in a manner that fully and specifically addresses the indicator with data and allows objective year to year comparison.
- R9.2 Reports to IPART, for those indicators that the SCA believes it cannot report in a manner that fully and specifically addresses the indicator and that provides data to allow objective year to year comparison:
- ▶ the limits of the SCA reporting against clause 9.3.3 of the Licence and the reasons for such limits; and
 - ▶ the extent to which the SCA investigated options to meet the full reporting requirements of Clause 9.3.3 and the findings of those investigations.
- R9.3 Undertakes a systematic review of all comparable data available to the SCA in order to report historical values over at least the previous 10 years, where possible, for each environmental and ESD indicator. The review is to include data available from sources other than the SCA, such as Sydney Water.



1. Introduction and objectives

1.1 The Sydney Catchment Authority

The Sydney Catchment Authority (SCA) was established in July 1999 by the NSW Government in response to a series of water quality incidents in Sydney the previous year. The 'McClellan Inquiry' had recommended that an independent agency be established to protect water quality in the catchment areas that provide Sydney and Wollongong with bulk raw water. The water storages, infrastructure and many of the management and operational functions were transferred from the Sydney Water Corporation (Sydney Water) to the SCA. The area of operations for which the SCA is responsible is shown in Figure 1.1. A schematic representation of the water storage and infrastructure under the control of the SCA is shown in Figure 1.2.

The "Inner" Catchments have always been subject to stringent land-use controls in order to protect water quality. However, the "Outer" Catchments have been subjected to increased development in the last 50 years and their management was divided between many agencies at State and local government level, as well as by private landholders. The inter-relationship between the SCA and other connected organisations and stakeholders is shown in Figure 1.3.

The roles and responsibilities of the SCA derive from the *Sydney Water Catchment Management Act, 1998* (the Act) and the Operating Licence issued pursuant to Section 25 of the Act.

1.2 Independent and Pricing Regulatory Tribunal

On 1 November 2000 the Independent Pricing and Regulatory Tribunal and Other Legislation Amendment Act commenced. Under Schedule 1 of that Act, the operating audit function of the Licence Regulator was transferred to the Independent Pricing and Regulatory Tribunal (IPART).

1.3 Scope of operating audit

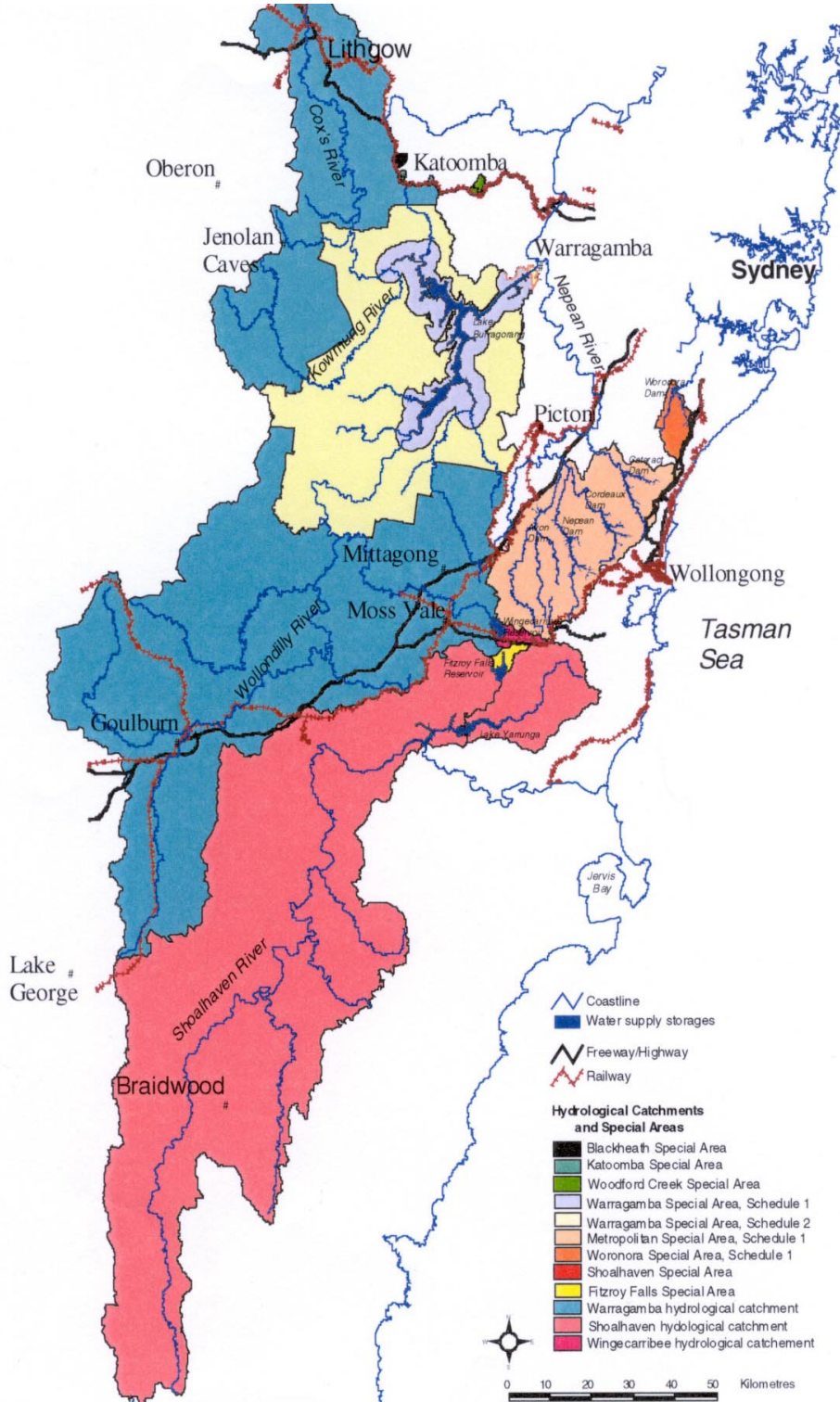
This is the fourth audit of the Sydney Catchment Authority against the requirements of the current Operating Licence. The audit covers the period from 1 July 2002 to 30 June 2003.

The scope of the audit is defined in Part 10 of the Operating Licence and broadly includes assessment of compliance against the Parts of the Licence as outlined in Table 1.1.

The scope of the audit also includes assessment of compliance against the Ministerial requirements, as presented in the letter from the Minister for the Environment to the SCA dated 21 January 2003, and the identification of factors that have influenced the SCA's compliance.

The detailed audit brief is contained in Appendix A. The Operating Licence and the Minister's requirements are provided in Appendix B and Appendix C, respectively.

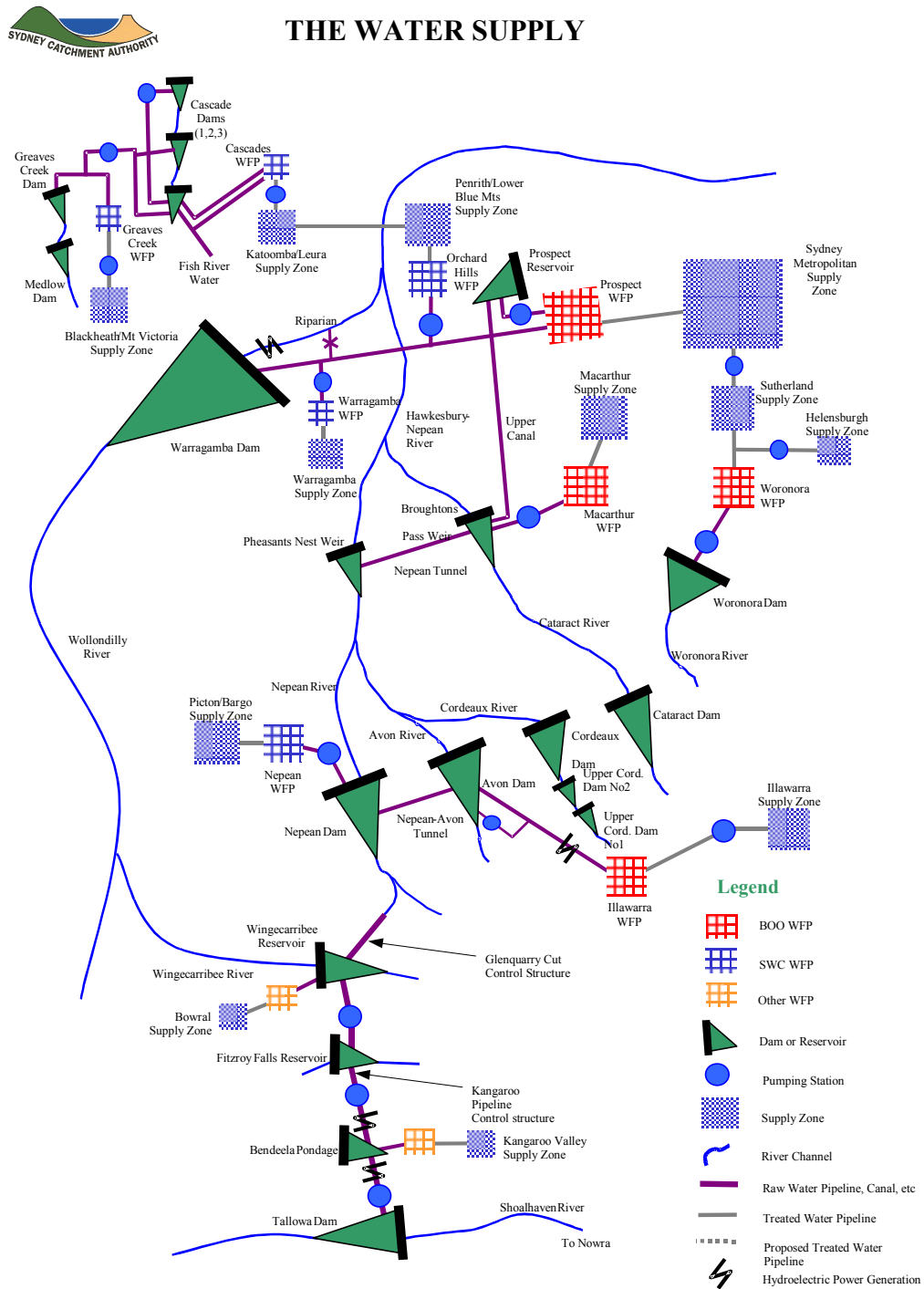
Figure 1.1 Sydney Catchment Authority – catchments and special areas



Source: Sydney Catchment Authority

Note: Areas transferred to NPWS via the SASPoM are not recognised in this figure.

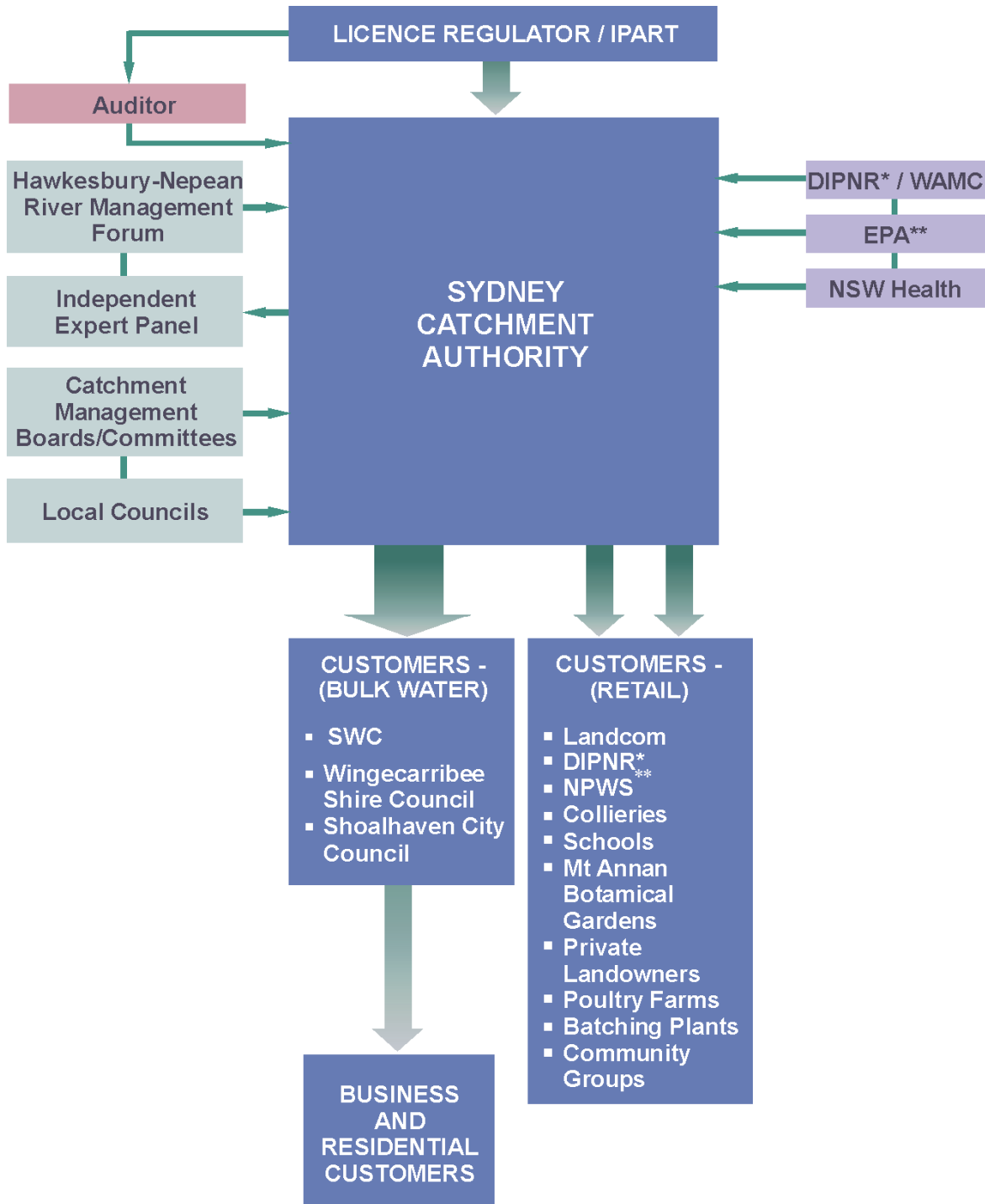
Figure 1.2 SCA schematic of infrastructure and operational control



Source: Sydney Catchment Authority

Note: SCA infrastructure only includes infrastructure upstream of water filtration plants (WFP). Other infrastructure is controlled by organisations other than the SCA.

Figure 1.3 Inter-organisational structure – Sydney Catchment Authority



* DIPNR was created on 29 May 2003 and incorporates the former departments of PlanningNSW and DLWC.

** NPWS and EPA became part of the Department of Environment and Conservation (DEC) on 24 September 2003 but retain their statutory roles.



Table 1.1 Scope of the audit

Licence Part		General requirements	Report section
Part 3	Memoranda of Understanding	Memoranda of Understanding with the Department of Health, the Environment Protection Authority and the Water Administration Ministerial Corporation.	Chapter 4
Part 5	Customer Supply	Including: Sydney Water; other customers; customer complaints; consultative committees	Chapter 5
Part 6	Bulk Water Quality	Including: water supply; monitoring; planning and risk management; environmental quality	Chapter 6
Part 7	Catchment Management and Protection	Including: Catchment Management Special Areas Strategic Plans of Management; Wingecarribee Swamp and Special Area Plan of Management; REPs, SEPPs	Chapter 7
Part 8	Management of Catchment Infrastructure	Including: catchment infrastructure, dam safety; demand management	Chapter 8
Part 9	The Environment	Including; environment plan, environmental and ESD indicators; reporting; environmental flows	Chapter 9

1.4 Structure of the audit report

This report on the 2002/03 Operational Audit has been presented in a format that provides detail directed at different levels of readership to enable an understanding of the SCA's operations and its compliance with specific statutory requirements.

The audit report has been specifically prepared to meet the audit brief and the audit requirements of the Operating Licence. The report is structured in compliance sections that correspond to the key areas (parts) of the Operating Licence (see Table 1.1 above). The findings of the report are not presented in a "prioritised order" or "order of significance". Each compliance section of the report provides the following for each key area:

- ▶ a *compliance summary* at the beginning of each section addressing the principal compliances and any non-compliances relevant to each area of the audit;
- ▶ a *requirements summary* for each section placing in context and summarising the requirements of the Operating Licence against which the performance of the SCA is assessed; and
- ▶ *substantive evidence and findings* for each section that support the assessments of compliance and that are presented in a tabular format, breaking each Licence condition into sub-clauses and including:
 - a statement describing the *level of compliance* with the Licence condition; and
 - an appraisal of the *findings* of the audit based on the evidence provided.

There may be up to two compliance tables in each section:

- ▶ the first table presents compliance with the relevant Part of the Licence for the key area, as described above; and
- ▶ a second table presents the assessment of compliance with any Ministerial requirements for the key area.



This is followed by (where required):

- ▶ a discussion or expansion of compliance comments for each key area;
- ▶ factors affecting compliance for each key area; and
- ▶ recommendations for each key area.

The Ministerial requirements are reported in the relevant key areas, Table 1.2 provides guidance on where these are addressed in this report.

Table 1.2 Ministerial requirements for 2002/03

Ministerial requirement		Report table
M1	<i>Safe yields</i> <i>“While I realise that the SCA will not be able to finalise projections of future safe yields from the catchments until various outstanding matters have been determined, I do wish to be informed of progress. I require that the SCA provide both myself and the Tribunal with quarterly progress reports on this issue. The first report should be made available to me on or before 28 March 2003.”</i>	Table 8.2
M2	<i>Catchment management and protection</i> <i>“I require that the SCA provides both myself and IPART with quarterly reports on the implementation of this [Sydney Water Catchment (Environmental Protection) Regulation 2001] regulation. The report should be made available to me on or before 28 March 2003.”</i>	Table 7.2



2. Audit methodology

2.1 Standards

The Operational Audit was undertaken adopting a methodology consistent with ISO 14011 to meet the specific requirements of IPART. ISO 14011 "*Guidelines for Environmental Auditing*" provides a *systematic approach* to defining the requirements of the audit, planning, interpreting Licence conditions, collecting audit evidence, objectively assessing the evidence, and reporting in a clear and accurate manner. It also ensures that the audit has been conducted in accordance with an established and recognised audit protocol.

2.2 Audit preparation

The audit methodology used in the preparation of this audit is described below.

Draft audit plan

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

Inception meetings

Following the preparation of the draft audit plan, inception meetings were held with SCA's Executive and Chief Executive on 19 and 21 August 2003, respectively. An IPART representative also attended both meetings.

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

Audit questionnaires

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

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

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

2.3 Conduct of the audit

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



Both Sydney Catchment Authority and the auditor have generally adhered to the agreed protocols.

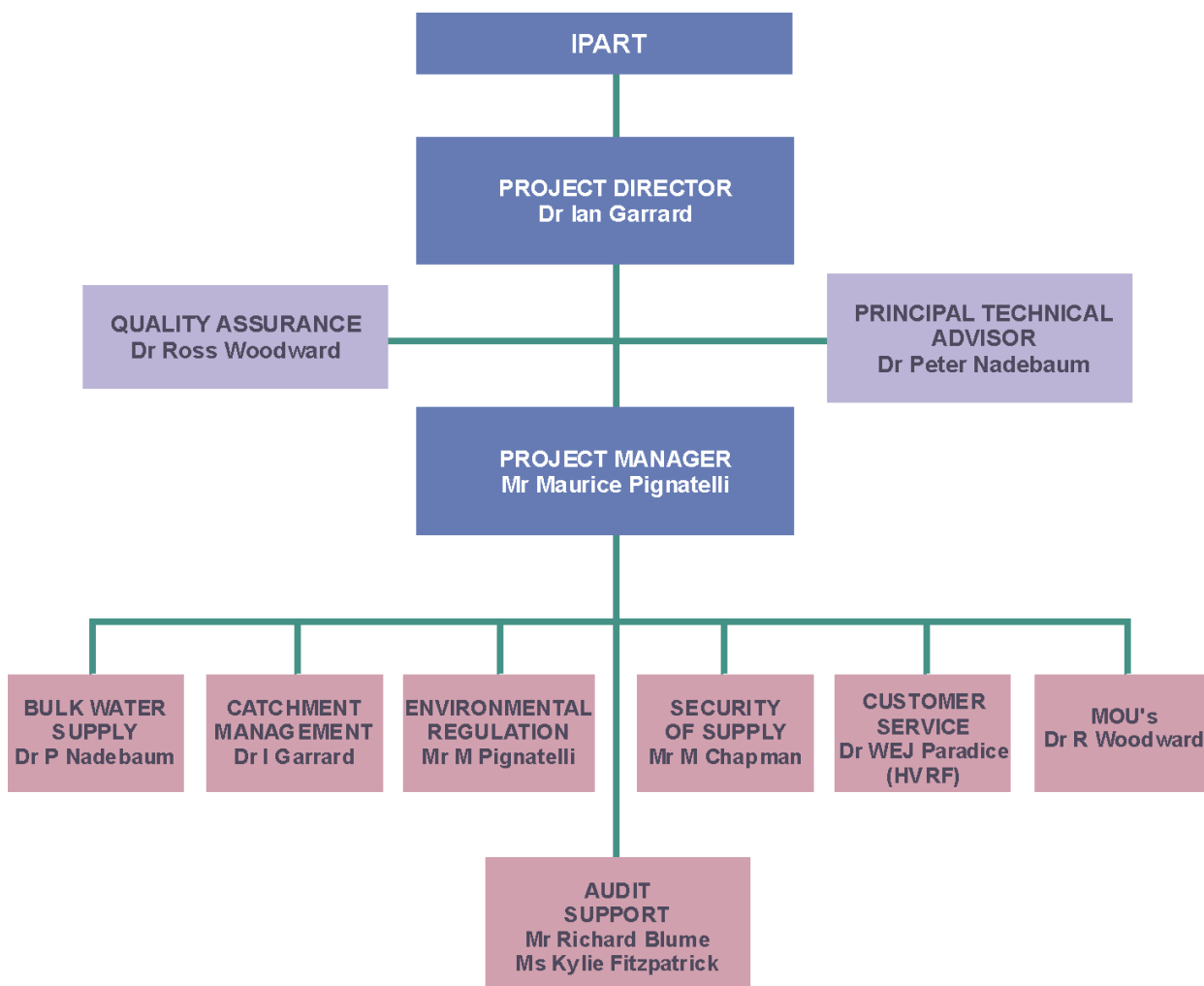
2.4 Audit interviews

Interviews were conducted by the relevant specialist team auditors during September, 2003. The interviews were generally guided, but not limited, by the pre-prepared questionnaires and the SCA was provided the opportunity to present evidence towards demonstrating compliance with the Licence requirements.

2.5 Audit team

The audit team consisted of specialist auditors from GHD Pty Ltd and Hunter Valley Research Foundation. The audit was coordinated by the Project Manager calling on the expertise of the team members for the auditing of key areas as shown below in Figure 2.1.

Figure 2.1 Structure and responsibility of the audit team



3. Regulatory regime

3.1 Introduction

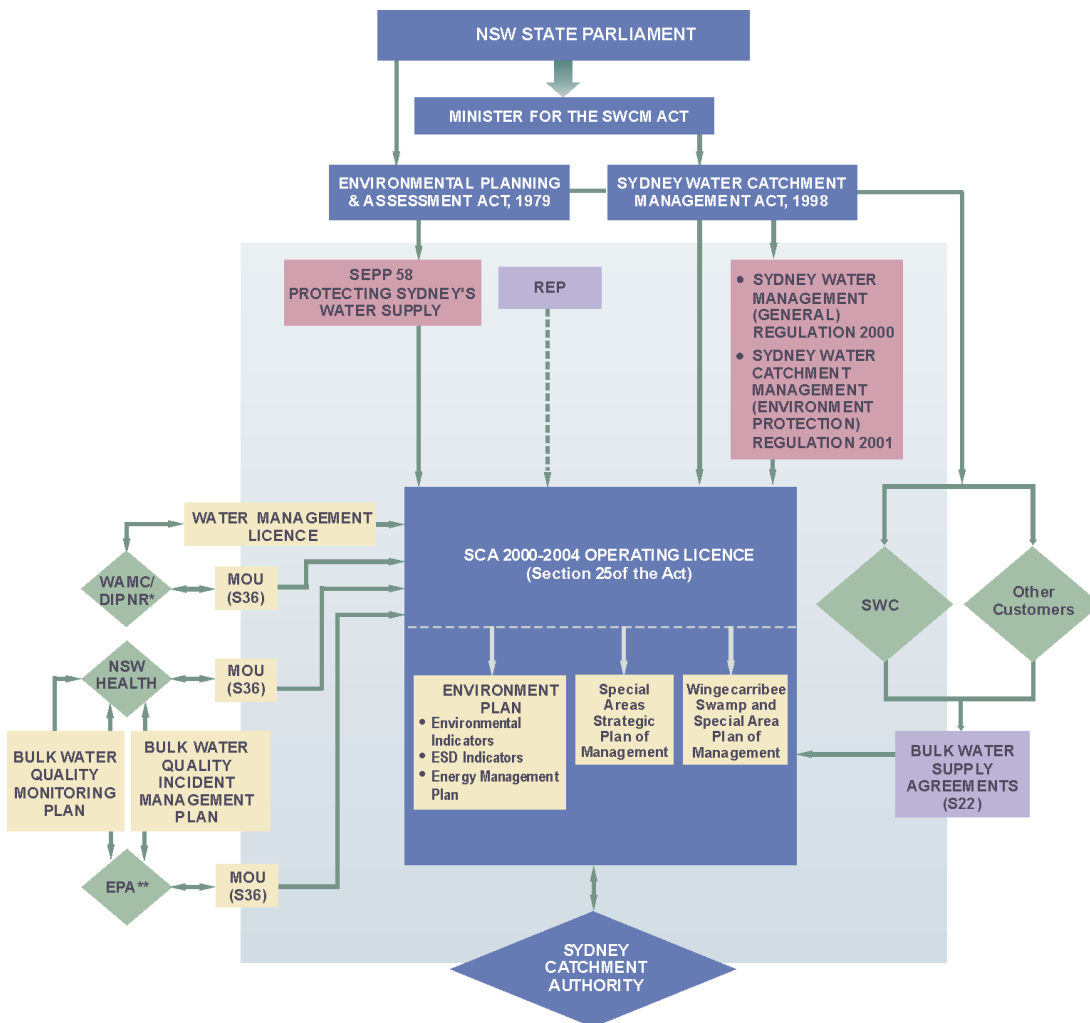
The role and responsibilities of the SCA is established by the provisions of the *Sydney Water Catchment Management Act 1998* and Regulations. The Act establishes a set of sub-ordinate instruments – the Operating Licence, Memoranda of Understanding (MOUs), Regional Environment Plan (REP), and plans of management – to assist in the operation of the SCA.

Such instruments impose compliance requirements upon the SCA, which are measurable and can therefore be audited.

The regulatory framework, within which the SCA operates, is shown schematically in

Figure 3.1. Brief descriptions of the major components of the statutory system are provided below.

Figure 3.1 Regulatory regime of the Sydney Catchment Authority



* DIPNR was created on 29 May 2003 and incorporates the former departments of PlanningNSW and DLWC.

** EPA became part of the Department of Environment and Conservation (DEC) on 24 September 2003 but retains in statutory roles.



3.2 Sydney Water Catchment Management Act 1998

Under section 14(1) of the Act, the principal objectives of the SCA are as follows:

- ▶ To ensure that the Catchment Areas and the Catchment Infrastructure Works are managed and protected so as to promote water quality, the protection of public health and public safety and the protection of the environment;
- ▶ To ensure that water supplied by the SCA complies with appropriate standards of quality;
- ▶ Where the SCA's activities affect the environment, to conduct its operation in compliance with the principles of Ecologically Sustainable Development contained in section 6(2) of the *Protection of the Environment Administration Act, 1991*; and
- ▶ To manage the SCA's Catchment Infrastructure Works efficiently and economically and in accordance with sound commercial principles.

In addition, the SCA has special objectives under section 14(2) regarding:

- ▶ Minimising risks to human health; and
- ▶ Preventing the degradation of the environment.

The Act also establishes:

- ▶ the Sydney Catchment Authority;
- ▶ the functions of the SCA;
- ▶ the area of operations;
- ▶ arrangements with customers, including Sydney Water;
- ▶ the grant of the Operating Licence;
- ▶ the functions of IPART;
- ▶ the operating audit (this document);
- ▶ the preparation and implementation of MOUs;
- ▶ catchment areas and their management;
- ▶ management of infrastructure;
- ▶ offences provisions; and
- ▶ other miscellaneous matters.

3.3 Operating Licence

The SCA must conduct its activities in accordance with an Operating Licence issued under Section 25 of the *Sydney Water Catchment Management Act, 1998*. The current Operating Licence has effect from 1 January 2000 until 31 December 2004.

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

A summary of the requirements of each Part of the Operating Licence is presented in Section 4 to Section 9 of this report.

3.4 SEPP 58 – Protecting Sydney's Water Supply

The State Environmental Planning Policy (SEPP) 58 – Protecting Sydney's Water Supply is an instrument under the *Environmental Planning and Assessment Act, 1979* and commenced on 1 February 1999.



The SEPP aims:

- a) to ensure that development in the hydrological catchment from which Sydney draws its drinking water supply does not have a detrimental impact on water quality;
- b) to provide a concurrence or notification role for the Chief Executive of the Sydney Catchment Authority in relation to development in the hydrological catchment that is likely to have an impact on water quality; and
- c) to ensure that there is a consistent approach to the assessment and control of development in the hydrological catchment that is likely to have an impact on water quality.

In relation to any development or activity proposed to be carried out on land to which this Policy applies, the consent authority must consider the following:

- a) whether the development or activity will have a *neutral or beneficial effect* on the water quality of rivers, streams or groundwater in the hydrological catchment, including during periods of wet weather;
- b) whether the water quality management practices proposed to be carried out as part of the development or activity are sustainable over the long term; and
- c) whether the development or activity is compatible with relevant environmental objectives and water quality standards for the hydrological catchment.

For specified land uses that have a significant potential to pollute waterways and streams and endanger the quality of drinking water supplies, applications for development consent are scrutinised by DIPNR (previously PlanningNSW), as well as the local Council and SCA.

Under the Policy, the consent authorities are the local Councils that include: Blue Mountains, Goulburn, Mulwaree, Tallaganda, Campbelltown, Gunning, Oberon, Wingecarribee, Crookwell, Kiama, Shoalhaven, Wollondilly, Eurobodalla, Lithgow, Sutherland and Wollongong.

3.5 Regional Environmental Plan

Under Section 53 of the Act, the Minister for Infrastructure, Planning and Natural Resources (previously the Minister for Planning) must ensure that one or more REPs are made as soon as practicable (under Division 3 of Part 3 of the *Environmental Planning and Assessment Act 1979*) after the presentation of the report on the first catchment audit.

A REP is to make provision for the following:

- a) Imposing controls subject to which State agencies and local authorities (including the local Council) may take action and make decisions concerning development of the land to which the plan applies;
- b) Setting water quality objectives for that land;
- c) Requiring consent authorities to refuse to grant development consent to a development application unless the consent authority is satisfied that the carrying out of the proposed development would have a *neutral or beneficial effect* on the quality of water;
- d) Requiring the development of action plans to rectify any development of the land that does not have a *neutral or beneficial effect* on the quality of water; and
- e) Declaring that the REP prevails over a local environmental plan.



The REP had not been made as at October 2003.

3.6 Water Management Licence

Water Management Licences are issued by the Department of Infrastructure, Planning and Natural Resources (previously Department of Land and Water Conservation, DLWC) under Part 9 of the *Water Act 1912*, and cover the SCA's water management activities.

A Water Management Licence was issued to the SCA on 23 April 2001 (subsequently reviewed and amended on 11 February 2003) and was current for the 2002/03 audit period. The Licence outlines objectives for the SCA in relation to access to water resources within its area of operations in accordance with ESD principles. The Licence also establishes the platform for environmental flows to be released from SCA infrastructure.

3.7 Memoranda of Understanding

The SCA is required, under Section 36 of the Act and the provisions of the Operating Licence, to enter into Memoranda of Understanding (MOUs) with key regulatory agencies to assist in the formation and development of co-operative relationships between the agencies with a view to furthering the objectives of the Operating Licence and the Act.

In each case, the MOUs are to contain:

- ▶ a framework for achieving a co-operative relationship between the parties;
- ▶ consultative processes between the agency and the SCA to consider operating, strategic and licensing issues;
- ▶ agreement to exchange data and information; and
- ▶ dispute resolution mechanisms.

3.7.1 Water Administration Ministerial Corporation

Objectives

- ▶ This MOU outlines the basis for the co-operative relationship between the Corporation (WAMC) as the manager of the water resources for the State (whose responsibilities are now incorporated into DIPNR) and the SCA as a manager and protector of the inner catchment area and the outer catchment area (the catchment areas) and the catchment infrastructure works, a supplier of bulk raw water, and a regulator of activities within catchment areas.
- ▶ The Corporation's objectives includes ensuring that water and related resources are allocated and used in ways which are consistent with environmental requirements and provide the maximum long-term benefit for the State.

Special functions of the MOU

The principles relating to this MOU are largely reflected in Section 9.4 of the Operating Licence. In addition, the MOU provides that the SCA acknowledges that water released from its catchment infrastructure works will be managed as far as reasonably practical to minimise:

- ▶ Adverse riverine impacts;



- ▶ Environmental impacts;
- ▶ Risk to public health and safety; and
- ▶ Damage to property.

Further the SCA and WAMC commit themselves to work co-operatively towards the management and protection of catchment areas in order to enhance water quality.

3.7.2 NSW Department of Health

Objectives

- ▶ The objective of this MOU is to form the basis for a co-operative relationship between the NSW Health and the SCA including agreed areas of study, research and data exchange and to recognise the roles and responsibilities of the parties.
- ▶ NSW Health has responsibilities in relation to the protection of public health under the *Public Health Act 1991* and other relevant legislation. It also has a role in providing advice to Government in relation to drinking water standards.

Special functions of the MOU

Responsibilities and Accountabilities

- ▶ The SCA will ensure that its customers are adequately informed of the quality of the bulk raw water and the appropriateness of any intended uses of such bulk raw water.
- ▶ The SCA will inform the NSW Health in relation to changes to its processes and procedures that may result from any variation of the water quality standards referred to in the SCA's Operating Licence.
- ▶ The SCA must develop and implement a water quality monitoring program, in consultation with NSW Health and, prepare reports for NSW Health as required by Clause 6.6 of the SCA's Operating Licence.
- ▶ Either party may give notice to the other of the need for review, amendment or replacement of the water quality monitoring plan. Upon reviewing such notice, the parties will co-operate in determining a timetable for such review, amendment or replacement.

Events of Public Health Significance

- ▶ The SCA shall, as soon as practicable, report to the NSW Health any events within its catchment infrastructure works or within its area of operations generally, which may have implications for public health.
- ▶ The SCA shall supply such information in relation to such events as is requested by the NSW Health or as is necessary for either party to make appropriate judgements and take appropriate action in relation to protecting the health of the public and exercising its role under this MOU.

Incident Management and Contingency Planning

- ▶ The SCA must prepare and maintain to the satisfaction of the NSW Health an incident management plan, in accordance with Clauses 6.7.9 to 6.7.12 of the SCA's Operating Licence.
- ▶ The SCA and the NSW Health shall negotiate a twenty four hour incident management contact point for the coordination of responses to any event of public health significance.



- ▶ During incidents that involve a public health risk, both parties will share information and resources as required so as to minimise the severity and consequences and extent of the risk.
- ▶ The SCA and the NSW Health agree that it is desirable for respective officers to undertake training in the situations that simulate public health risks and that such training will be organised to take place at a mutually agreed location and time.

3.7.3 NSW Environment Protection Authority

Objectives

- ▶ This MOU outlines the basis for the co-operative relationship between the EPA (now part of the Department of Environment and Conservation) as environmental regulator and the SCA as a manager and protector of catchment areas, the catchment infrastructure works, a supplier of bulk raw water (as referred to in the Bulk Water Supply Agreement between Sydney Water Corporation and the SCA) and a regulator of activities within catchment areas within the SCA's area of operation.
- ▶ The EPA has responsibility to protect the environment in New South Wales, taking into account community values, scientific and expert knowledge, best practice environmental regulation and economic considerations. As such, it develops environmental policy and programmes, carries out regulatory functions and provides environmental education.

Special functions of the MOU

Responsibilities and Accountabilities

- ▶ The EPA and the SCA will manage their activities in a co-operative and transparent manner to meet their obligations as set out in Section 6(1) of the *Protection of the Environment Administration Act 1991* and Section 14 of the *Sydney Water Catchment Management Act 1998*, respectively.
- ▶ By this MOU, the SCA and the EPA commit to working together to reduce activities causing pollution in the catchment areas of the SCA.

Regulatory Framework

The EPA and the SCA will periodically review and make recommendations to Government on their respective regulatory responsibilities and powers to ensure appropriate actions to prevent or mitigate pollution and ensure appropriate clean up occurs after incidents.



4. Memoranda of Understanding

4.1 Summary of findings

▶ **Maintain MOUs**

The Sydney Catchment Authority (SCA) achieved **Full compliance** for maintaining Memoranda of Understanding (MOUs) with the NSW Environment Protection Authority (EPA), the Water Administration Ministerial Corporation (WAMC) and NSW Health, in accordance with the provisions of the SCA's Operating Licence.

▶ **MOU with NSW Health**

The SCA's performance in implementing the MOU with NSW Health is assessed as **Full compliance**. The MOU provides the structure and processes for cooperative interaction and communication between the SCA and the NSW Health and has been implemented to a high level as evidenced by the Strategic Issues Work Program and joint initiatives in research and management of risks to public health from the catchments and storages.

The development of Strategic Work Plans under the provisions of the MOUs between SCA and NSW Health and the EPA forms a sound basis for addressing both critical and long-term issues affecting Sydney's drinking water supply.

▶ **MOU with Water Administration Ministerial Council (WAMC)**

The SCA's performance in implementing the MOU with the WAMC is assessed as **Partial compliance**. The WAMC and SCA initiated a review of the MOU in April 2001 that was initially to be completed by 21 December 2001. SCA provided an interim draft (on 8 June 2001) and encouraged the then DLWC to complete its review. The process was subsequently put on hold until after the Mid Term Review of the Operating Licence due in September 2002. A decision by the Government in April 2003 to restructure DLWC has further delayed progress to amend the MOU. This review process needs to be completed with the newly formed Department of Infrastructure, Planning and Natural Resources as a priority and a new MOU signed to implement previous audit recommendations and to enhance cooperative interaction between the two agencies. There was little evidence of a strategic work program or effective high-level cooperation.

▶ **MOU with Environmental Protection Authority (EPA)**

The SCA's performance in implementing the MOU with the EPA has been assessed as **Full compliance**. The MOU provides mechanisms for interaction on regulatory issues and for the development of strategic approaches to regulation. Key issues such as implementation of the Environmental Protection Regulation within the catchment has been progressed and a joint Strategic Work Program has been developed. The evidence of a cooperative relationship between the two agencies has increased significantly over the past two audit periods.

4.2 Summary of requirements

The Operating Licence requires the SCA to maintain Memoranda of Understanding with specified key agencies, refer to Appendix D.



Common to all three MOUs are provisions relating to cooperative relationships; consultation processes; data and information exchange arrangements; dispute resolution procedures; and procedures for the review and amendment of the MOU.

Each MOU also contains particular provisions that expand on the relationship between the SCA and the other party that derive from the Act, the Operating Licence and the legislative functions and responsibilities of those other parties.



4.3 Details of compliance

Table 4.1 Part 3: MOU licence conditions – summary of compliance

Clause	Requirement	Compliance	Findings
3.3	Memoranda of Understanding		
3.3.1	Maintain MOUs for Licence term in accordance with s36 of the Act	High compliance	<p>Water Administration Ministerial Corporation (WAMC) – executed MOU sighted. Commencement date 23 December 1999. Agreement for the review and amendment of the MOU was reached 27 April 2001. The MOU review process was subsequently put on hold until after the Mid Term Review of the Operating Licence due September 2002. The Mid Term Review did not recommend any changes to the MOU. Subsequent proposals to amend the MOU were not progressed as a result of a restructure of DLWC in April 2003. The SCA took steps to revitalise the process towards the end of the audit period.</p> <p>Director General of NSW Health – executed MOU sighted. Commencement date 28 November 2001, replacing previous MOU dated 30 December 1999.</p> <p>Environment Protection Authority (EPA) – executed MOU sighted. Commencement date 4 December 2001, replacing previous MOU dated 23 December 1999, as directed by the Minister.</p>
3.3.2	MOU to form the basis for cooperative relationships to further the objectives of this Licence and the Act		
	NSW Health MOU	Full compliance	MOU with Director General of NSW Health adequately enhances the cooperative relationship between the two parties and establishes appropriate processes for the management of relevant public health issues.



Table 4.1 Part 3: MOU licence conditions – summary of compliance

Clause	Requirement	Compliance	Findings
	WAMC MOU	Partial compliance	<p>The WAMC MOU provides the basis for a cooperative relationship that needs to be enhanced by completing a review of the original MOU. The on-going delay to reaching an agreement on the content of an amended MOU is cause for concern. The original MOU established water management principles that were to apply prior to the issue of a Water Management Licence to the SCA. A Water Management Licence was issued on 23 April 2001 and subsequently amended on 11 February 2003. Thus, from April 2001 the MOU needed to be amended to remove obsolete clauses, to add substance and to make commitments to a cooperative relationship between the WAMC and SCA to further the objectives of the Licence and the Act.</p> <p>Discussions to amend the MOU were scheduled for 3 April 2003. However, DLWC was restructured on 2 April 2003 and the meeting was postponed. The meeting was then scheduled for 17 June 2003 but was again postponed. The Chief Executive of the SCA wrote to the Director General of DIPNR on 17 June 2003 to restart the process.</p> <p>The MOU established a Strategic Liaison Group to help target long term strategic issues and policies. However, the matters discussed at the SLG meetings appeared often to be reactive to external triggers or routine and operational more suited for day to day communication and resolution. It was difficult to see evidence of where the SLG was adding value to the resolution of strategic problems and catchment wide water quantity and quality issues.</p> <p>The MOU and the mechanisms it established for cooperative relationships did not appear to be adding value to the resolution of catchment and water issues.</p>



Table 4.1 Part 3: MOU licence conditions – summary of compliance

Clause	Requirement	Compliance	Findings
	EPA MOU	Full compliance	<p>The MOU contains policy statements and structures to facilitate cooperation but fails to identify the many common areas of responsibility and the potential for joint action in those areas, as highlighted in previous audits. However, the two agencies have developed a Strategic Work Program to address issues of common interest affecting water quality. This Program addresses any perceived deficiencies in the MOU and forms the basis of a strong cooperative working relationship.</p> <p>The MOU provides mechanisms for closer interaction on regulatory issues and for the development of strategic approaches to regulation.</p> <p>The cooperative working relationship between the two agencies has developed significantly over the past two audit periods. The further development and implementation of the Strategic Work Program and day to day compliance activities will provide significant benefits to the protection of water quality.</p> <p>In accordance with recommendations from the previous audit, good progress was made on the control of non scheduled activities under the <i>Sydney Water Catchment Management (Environment Protection) Regulation 2001</i> with SCA officers receiving training by the EPA and enforcement activity commencing in the catchments.</p>
3.3.3	Enter into other MOUs at the Direction of the Minister.	No requirement	No direction was made by the Minister for a new MOU.



4.4 Discussion

The tables that detail the SCA's compliance with the specific requirements of the Memoranda of Understanding are presented in Appendix E as follows:

- ▶ Table E1 MOU with the Environment Protection Authority;
- ▶ Table E2 MOU with the Water Administration Ministerial Corporation; and
- ▶ Table E3 MOU with the Director General of NSW Health.

4.5 Other Issues

4.5.1 Amendments to MOUs

Whilst agreement was reached with the WAMC for a review and amendment of the MOU in April 2001, the process has been delayed for a number of reasons and was not completed at the end of the audit period. The MOU is no longer an adequate document that fulfils the requirements of the Licence and the Act. It is of concern that over two years have passed and a satisfactory MOU has not been agreed to. The functions and authorities of the WAMC are critical to the health and yield of the catchments and drinking water quality. An amended MOU between the two agencies should be given a high priority.

4.6 Factors affecting compliance

SCA applied its best endeavours to review and amend the MOU with the WAMC. However the priority of WAMC was such that an MOU was not completed within the audit period. Hence, the recommendations from previous audits and the need to enhance the relationship between the two parties to work cooperatively to achieve sound water management and water quality outcomes in the catchment areas continue to apply.

It is recognised that some audit findings are affected by actions of the other parties with which the SCA maintains a MOU. For example, the review of the MOU with WAMC was significantly delayed (see Clause 3.3 in the MOU with WAMC). Whilst it is recognised that SCA may not have unilateral control over these matters, it is important to highlight that the objective of the MOU is to form the basis for a *cooperative relationship* that requires commitment from both parties involved.

4.7 Recommendations

4.7.1 Key recommendations

That the SCA:

- R4.1 Completes the review of, and renews, the MOU with WAMC to incorporate recommendations identified in previous audits, to enhance the cooperative relationship between the two agencies.
- R4.2 Reports on the Strategic Work Programs developed between the SCA and the regulatory agencies in its Annual Report.



5. Customer and consumer reports

5.1 Summary of findings

► Bulk Water Supply Agreement

The Bulk Water Supply Agreement (BWSA) between Sydney Water Corporation (Sydney Water) and Sydney Catchment Authority (SCA) has been agreed by both parties, and amendments were approved by the Minister on 29 July 2002 and reported in the previous audit. The new agreement was signed on 21 August 2002. The current agreement is valid until 31 December 2005. SCA received **Full compliance** for clauses under the Bulk Water agreement with Sydney Water.

► Agreements with Other Customers

SCA was assessed as **High compliance** for having agreements with other customers. All regular retail customers have now signed agreements, however two bulk customers, Wingecarribee and Shoalhaven Councils have yet to sign an agreement with the SCA. As was the case last year, there are a further 8 potential customers who have not signed agreements but their status as to whether they are a customer of the SCA or regulated by the Department of Infrastructure, Planning and Natural Resources is still being clarified. Legal advice has been obtained about the definition of a customer of SCA with regard to those drawing water from SCA facilities. Both these issues were identified in last years audit. The auditor contacted a sample of SCA customers and while more customers recognised that they had signed agreements with SCA, a higher proportion believed that the SCA could improve services.

► Customer Complaints

SCA's performance under complaint handling clauses was mixed, with rankings from **Partial to Full compliance**. The SCA continues to maintain its complaint handling procedure. However the SCA indicated that as a result of advice from IPART, the only complaints that need to be reported upon are those received from bulk water customers, rather than complaints received from the general community. This has reduced the effectiveness of the audit process for this section of the Operating Licence, given that only 8 complaints were available for auditing, rather than all complaints received, as has been the case in previous years and as requested by the auditor.

► Consultative Committees

The SCA continues to maintain a number of consultative committees and was assessed generally as being **High to Full compliance**. SCA is undertaking a review of the regional committees and has already amalgamated the Northern and Southern Consultative Committees to form one Regional Consultative Committee with the possibility of further restructuring in the coming audit period. The Local Government Reference Panel continues while the Expert Reference Panel which met once, early in the audit period, appears to be now defunct given the terms of the members have expired and no reappointment process appears to have been implemented during the audit period. As the Expert Panel had not been reappointed, the SCA does not have a public health expert appointed on its consultative committee as required under clause 5.4.4. The clause received a **Partial compliance** rating. The SCA will also need to ensure that its future consultative mechanisms are co-ordinated with the proposed Hawkesbury-Nepean Catchment Management Authority.



5.2 Summary of requirements

The objective of Part 5 of the Licence is to ensure that the SCA maintains a focus on the needs of its customers while being mindful of the requirements and expectations of its other stakeholders throughout the community. To meet the requirements of Part 5 of the Licence, the SCA is to:

- ▶ Enter into an agreement with Sydney Water about the supply of bulk water and the associated review process;
- ▶ Enter into agreements with other Customers about the supply of bulk water;
- ▶ Develop a customer and community complaint handling procedure with appropriate communication and reporting mechanisms; and
- ▶ Develop Consultative Committees to obtain input from the various stakeholder groups relevant to the successful performance of the SCA.



5.3 Details of compliance

Table 5.1 Part 5: Customers – summary of compliance

Clause	Requirement	Compliance	Findings
5.1	Provide water to Sydney Water Corporation under a Bulk Water Supply Agreement		
5.1.1	Acknowledgment that a Bulk Water Supply Agreement exists between Sydney Water Corporation and Sydney Catchment Authority	Full compliance	The first BWSA commenced on 15 September 1999 with a term expiring on 30 June 2004. As specified in the Licence, the BWSA can be reviewed (which happened in the previous audit period) and a new BWSA was finalised during this audit period. Amendments to the Agreement were approved by the Minister on 29 July 2002, and signed on 21 August 2002 by the Managing Director of Sydney Water and the CE of the SCA. The terms as required under the Licence have been included in the Agreement.
5.1.2	The terms of the agreement must be reviewed	Full compliance	The SCA participated in a review process, with Sydney Water, in the previous audit period resulting in an amended Agreement. The amendments to the Agreement were documented in an attachment to the letter from the Chairman of IPART to the Minister on 24 June 2002. As mentioned above, the amended BWSA was approved by the Minister on 29 July 2002 and signed by senior executives of the Sydney Water and SCA on 21 August 2002.
5.1.3	Following the review the SCA must use its best endeavours to obtain agreement to amendments from Sydney Water Corporation	Full compliance	Amendments were agreed to by Sydney Water as indicated by its Managing Director signing the Agreement.
5.2	Agreements with other Customers		
5.2.1	The SCA must use its best endeavours to reach agreement with other customers on the supply of bulk water	High compliance	The SCA indicated that 60 “retail” customers have now signed agreements with SCA. Two customers remain who have yet to sign agreements. These are the two local Councils (Wingecarribee and Shoalhaven) that receive bulk water from the SCA. As identified last year there are also 8 other properties that have been drawing water from the SCA area, however their legal status continues to be under review as to whether they are SCA customers or the responsibility of the Department of Infrastructure, Planning and Natural Resources (DIPNR). As a result there are no agreements signed with this group. Agreements for Sydney Water and the 4 largest customers (by consumption) after the local Councils were sighted. The 3 agreements signed in the last year along with 4 agreements signed in previous years were also sighted.



Table 5.1 Part 5: Customers – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>A sample of customers was also contacted by the auditor to assess their perceptions and contact with the SCA. The results are described in the discussion section (5.4) of this chapter.</p> <p>While the SCA has signed up the remaining “retail” customers, the continuing impasse with the two councils is an area of concern. Although the SCA provided evidence of its ongoing negotiation there is an apparent need to put even further effort to achieve a positive outcome, including if necessary, raising the matter higher within Government. It is acknowledged that the clause only requires the SCA to use its “best endeavours”, however it is important that the SCA demonstrates an increased effort each year to resolve this impasse. As a result the compliance level has been downgraded to high compliance.</p>
5.3	Customer Complaints		
5.3.1	Establish a complaints handling procedure for receiving complaints from Customers and the community relating to any of its functions	Full compliance	The SCA has continued with its complaint handling policy and procedure. The policy document has been revised since the last audit and is current as at March 2003. The changes to the previous document have included: the policy statement; aims; key principles; scope, privacy and the release of personal information; and a review of the complaint categories. The procedures for complaints handling are also listed in the document.
5.3.2	Procedure to be based upon AS4269 -1995	Partial compliance	As in previous years, the procedure was tested through an assessment of complainant’s perceptions concerning the performance of the system. The details of the assessment are included in Appendix F. At this stage only 8 complaints were provided to the auditor due to the SCA’s interpretation of advice from IPART that the only complaints relevant to this section of the Licence were those received from customers obtaining bulk water from SCA. It is considered that this interpretation does not acknowledge the requirements of clause 5.3.1, which also refers to complaints from the community, related to any of the range of functions of the SCA. The SCA defines a complaint as “Any expression of dissatisfaction received by the Sydney Catchment Authority” and should therefore include both customer and community complaints. The restriction by the SCA to only provide contact details on complaints from customers rather than complaints from the broader community has limited the ability of the auditor to truly test this clause. In previous years the auditor has been able to randomly select from the full range of complaints received by the SCA to assess how well the SCA implement its procedures according to AS4269-1995. The auditor has assessed this clause as partial compliance and suggests that the SCA provides access in a timely manner to all complaints received by the SCA for future audit periods.



Table 5.1 Part 5: Customers – summary of compliance

Clause	Requirement	Compliance	Findings
5.3.3	Provision of information to the community about the complaint handling procedure	High compliance	<p>The auditor was provided with the pamphlet prepared by SCA titled “<i>How to make a complaint or offer a compliment</i>”, which was available at the previous audit. SCA staff indicated that this pamphlet was sent with an accompanying letter to customers. The auditor was advised that this letter was sent at the end of June 2003.</p> <p>During the previous audit period the SCA had contacted a wide range of stakeholders including grant applicants, consultative committees, expert panel members, tenants and creditors. Given this clause refers to both customers and the community a similar effort to inform the community about the complaint handling procedure would need to be implemented to achieve a full compliance rating as was provided in 2001/02.</p>
5.3.4	Provision of information about the complaint handling procedure to customers once per year and posted on the SCA’s website	Full compliance	As mentioned above, the SCA informed the auditor that letters had been sent to its customers with the associated brochure. The auditor was advised that this letter was sent at the end of June 2003. The auditor has also checked the website to verify that the policies and procedures are publicly available.
5.3.5	Provide details and report about complaints made to the SCA	Partial compliance	SCA provided a report that covered a number of items required under this clause. However, a key part of the report (5.3.5 page 6) is limited to complaints from customers only (people receiving water from SCA). It is the auditor’s view that this section must also report on and analyse complaints received from the community as well as complaints from customers, although the SCA indicates that advice from IPART suggested otherwise. There is limited information provided to “ <i>gain a reasonable understanding of how and how well those complaints were resolved or why complaints were not resolved</i> ”. Table 3 (p4) in the SCA report identifies the number of resolved and unresolved complaints by complaint category but does not give any indication about why complaints were not resolved or how well those complaints were resolved, other than the customer complaints discussed on page 6 of the report.
5.4	Consultative Committees		



Table 5.1 Part 5: Customers – summary of compliance

Clause	Requirement	Compliance	Findings
5.4.1	Establish and regularly consult with Consultative Committees	High compliance	The SCA had previously established two Regional Consultative Committees (RCC's), a Local Government Reference Panel (LGRP) and an Expert Reference Consultative Committee (ERCC). The two Regional Committees met twice in the first 6 months of the audit period as independent committees and then twice as a combined committee. The term of those members willing to continue was extended for 12 months to 31 January 2004 while the role of the Regional Consultative Committee was reviewed. The LGRP met 3 times during the year while the ERCC met once. It would appear that the ERCC membership term expired during the audit period and there appears to be no record of reappointment of the members to this Committee.
5.4.2	The first Committee to be established within 3 months of the commencement date (19 April 2000)	No requirement	This clause was met during the 2000/01 audit period.
5.4.3	Members to be appointed consistent with the Licence	High compliance	While the majority of membership categories listed in the Licence are reflected across the various consultative committees, with the demise of the ERCC the category of public health expert is not represented upon the other committees. While not every category is on each committee, when looking at all committees in combination all membership categories are included with the exception of "public health". While the SCA indicates that it obtains public health advice through other mechanisms, the Licence requires that such expertise needs to be on its consultative committees.
5.4.4	Required groups to be members of the Committee	Partial compliance	Comments as above in clause 5.4.3
5.4.5	The SCA may direct members to serve on various Consultative Committees	No requirement	There was no evidence that the clause had been required or undertaken.
5.4.6	Term of Committee membership, 2+2 years	Full compliance	The term of committee membership is stipulated in the Charter of the committees. Willing members of various committees have been reappointed for their next term, however the Licence specifies that no members can be reappointed for more than one consecutive term.



Table 5.1 Part 5: Customers – summary of compliance

Clause	Requirement	Compliance	Findings
5.4.7	Replacement of Committee member	Full compliance	The replacement of committee members is stipulated in the Charter of the committees. While there has been no conflict to date there is the potential for conflict in requirements between this clause and the previous clause (5.4.6) on the Term of Committee membership. Specifically, if a Council nominates a representative to the Committee it may prefer that this member stay on the committee for more than one consecutive term.
5.4.8	Development of a Consultative Committee Charter	High compliance	Charters were developed in the 2000/01 audit period. However, with the aggregation of the two Regional Committees into one it will be necessary to prepare a charter relevant to this group once the review has been completed. The auditor has been advised that a draft charter has been prepared.
5.4.9	Each Committee must have a Charter	High compliance	Charters were developed in the 2000/01 audit period, although the combined RCC is still to develop a new charter. The auditor has been advised that a draft charter has been prepared.
5.4.10	Provision of information to the Committee by the SCA	Full compliance	A small number of committee members have been contacted and members agree that the required information has been provided by the SCA.
5.4.11	A copy of each Charter must be posted on the SCA's website and at offices	High compliance	The Charters of the various committees have been available for download from the SCA website, although the new amalgamated committees charter had not been formally adopted.
5.4.12	Report on the effectiveness of the Committees and compliance with their Charters	No requirement	As mentioned in the previous audit reports, this requirement relates to the end of term review and as such there is no requirement for this audit period.



5.4 Discussion

5.4.1 Agreements with customers

The SCA and Sydney Water reviewed the Bulk Water Supply Agreement (BWSA) during the previous audit period, however the Minister approved the amendments to the agreement in this audit period on 29 July 2002. The new agreement was signed by the Managing Director of Sydney Water and the Chief Executive (CE) of SCA on 21 August 2002. The amended Agreement expires on 31 December 2005.

To ensure liaison between SCA and Sydney Water on operational matters, the Strategic Operational Interface Committee (SOIC) meets every six weeks to consider issues relevant to the two organizations. The auditor contacted Sydney Water personnel and they indicated that they had no specific issues that need to be addressed through the audit process. They indicated that the monthly reports prepared by SCA for Sydney Water on compliance with the relevant licence requirements have been a positive step and provide timely information on performance.

While all retail customers have been signed up, the two Councils of Wingecarribee and Shoalhaven still have not signed agreements with the SCA. This continues to be an issue, as it would appear that the SCA and the Councils have reached an impasse on a number of clauses in the agreement. This is the second year that the auditor has noted this situation and it would appear that without further initiatives being undertaken it is unlikely that these agreements will be signed. Logs of SCA activity on this subject were sighted and council staff, at both Councils, were interviewed by the auditor. While the relevant clause indicates the need for the SCA to use its "best endeavours", the SCA needs to demonstrate how it has increased its effort each year to resolve this impasse.

To further assess compliance with this clause, 30 customers were selected from the list of those with signed agreements and a brief survey was conducted to obtain their perceptions about SCA and their relationship. From this group, 26 responses were obtained. A summary is listed in Table 5..

Table 5.2 Summary of customer's responses to auditor's questionnaire

Item	Customers responding "Yes"	
	2001/02	2002/03
Have you or your company had any need to contact the SCA over the last 12 months?	52.0%	44.0%
Have you or your company negotiated an agreement with the SCA on the supply of water to your property?	54.2%	45.8%
Have you or your company signed an agreement with the SCA on the supply of water to your property?	56.5%	80.0%
Have you or your company experienced any customer service problems in relation to the SCA in the last 12 months?	24.0%	28.0%
Do you believe the SCA could improve the services it provides to you as a customer?	24.0%	40.0%
Have you received any material about the SCA over the last 12 months?	84.0%	68.0%
Are there any other issues relating to customer service you believe should be raised with the SCA as part of the audit of its license?	12.5%	12.0%



While there has been a decline in the need to contact the SCA or negotiate an agreement (most agreements had been negotiated previously) between the two years the table shows a substantial increase in the proportion of customers who recognised that they had signed an agreement.

However there was also an increase in the proportion of customers who suggested the SCA could improve its services. Of those making comments about how the SCA could improve, a common theme was in the area of communications. Some of these comments had to do with maintenance issues however there seems to be an opportunity for the SCA to further develop a more positive relationship with its customers.

5.4.2 Complaints

The complaint handling process was audited according to the process established over the last four years. However the SCA indicated it received advice from IPART that the only complaint data that could be audited was that relating to complaints received from customers who were receiving bulk water from the SCA. As a result only eight complaints were provided from seven complainants (one person had two complaints). While it was possible to undertake a census of the complaints (all complainants phone numbers were contacted although one complainant was overseas) the confined number of complaints supplied by SCA limited the auditor's confidence that the SCA is complying with the letter and intent of clause 5.3, particularly with regard to complaints received from the community.

Clause 5.3.1 indicates that *"the Authority must establish internal complaints handling procedures for receiving, responding to and resolving complaints it receives from Customers and the community, relating to any of its functions"*. As the community is mentioned specifically it would appear that any complaints received from the general community should also be reported upon under this clause. This clause also implies that complaints may relate to any of the functions performed by the SCA, not just the supply of bulk water.

As was mentioned last year, the SCA will be seen as a key organization in determining activities within the catchment and as such is likely to become subject to complaints regarding development and approval issues. The SCA has indicated to the auditor it believes that if members of the community challenge its "legal decisions" then SCA does not regard this as a complaint but will regard it as an appeal. This does not appear to be consistent with the SCA's own definition of a complaint as described in its policy statement. A complaint as defined by the SCA's policy statement as *"any expression of dissatisfaction received by the SCA"* (page 8 of the SCA's Complaint Handling and Policy Procedure). A further note to the definition indicates, *"For the purposes of this procedure, complaints do not include internal SCA management issues such as 'internal staff grievances' or 'employment issues', but will include all other contacts with SCA that are not considered a compliment or advice."* While such complaints may be the result of the SCA implementing government policy, the SCA, under its Licence, is required to deal with such complaints according to AS4269-1995. As discussed above, given that most of the future complaints against the SCA are likely to be generated by the approval process and associated SCA decisions, it would appear that the most recent interpretation by SCA about its requirements under this clause should be closely assessed by the Licence Regulator.



5.4.3 Consultative Committees

While the Consultative Committees had been established previously they are currently under review. The Committees include two Regional Consultative Committees (RCC) (which cover the north and south of the catchment, respectively), a Local Government Reference Panel (LGRP) and an Expert Reference Consultative Committee (ERCC). While the Northern and Southern Regional Consultative Committees had two meetings as individual committees in the first half of the audit period, they had combined meetings for the last half of the audit period.

As the membership of the Regional Committees expired in January 2003. A briefing note was sent to the Minister for the Environment indicating the SCA's intentions to extend the term of the current members of the Committees by 12 months (to 31 January 2004). The briefing paper states: *"While meeting the specific functions identified in the Operating Licence for the Regional Consultative Committee (RCC), the actual contribution made by the RCC's has been limited by the constraints placed on the committee's activity by the Operating Licence and the less than strategic focus by the SCA which appears to have lead some members to believe that their role should be similar or integrated with the statewide Catchment Board framework"*.

A workshop was conducted on 20 May 2003 with both Regional Committees to establish a framework for the future. This workshop will form the basis for the review and restructuring process to be undertaken over the next audit period.

All members of the RCC's were invited on 23 May 2003 to continue as members of the Committee until 31 January 2004. Thirteen members indicated their willingness to renominate for an extended term.

The LGRP met three times during the audit period and revised the Charter and Procedures of the Committee among other issues. The term of a member remains consistent with the Licence although there was concerns expressed in that these terms may be too restrictive given the nominations are provided by Councils.

The Expert Reference Panel has met once during the audit period and it would appear that terms of the members have expired and no reappointment process has been followed.

While the skills required to be represented on the Committees as specified in the Operating Licence (5.4.4), can be covered across many committees it would appear the only skill not presently covered on any of the Committees is that of public health experts. While the SCA indicated that it obtains its public health advice from other quarters it would appear that the Operating Licence specifically requires that this expertise needs to be on one or more of the SCA's consultative committees.

A further emerging issue will be the need for the SCA to liaise with the Catchment Management Authority that is proposed for the area by the DIPNR.

5.5 Factors affecting compliance

5.5.1 Customers

The SCA appears to have signed agreements with most of the outstanding groups drawing water from the SCA. While the SCA obtained a full compliance rating in 2001/02 there are still two outstanding issues from 2001/02 that have not been addressed. Specifically the signing of agreements with the two Councils and the resolution of whether a small group of "customers" are the responsibility of the SCA or the Department of Infrastructure, Planning and Natural Resources.



While it is acknowledged that, under this clause, the SCA only has to use its “*best endeavours*” to obtain an agreement, it would appear reasonable that further effort needs to be applied to resolve the situation. To demonstrate the use of its “*best endeavours*” SCA has the opportunity to do more to resolve this long-standing situation. For example, during this audit period the SCA logged 8 phone calls, 4 e-mails, 1 meeting with a Council officer and 1 meeting with IPART as its effort to obtain agreement with Wingecarribee Shire Council. It is recognised that resolution may require the intervention of higher levels of government, or possibly ministerial resolution.

Given these issues were outstanding at the end of 2001/02 and remain to be addressed, they will need to be resolved prior to the SCA regaining a “Full compliance” rating.

5.5.2 Complaints

While the SCA provided a report as required under clause 5.3.5 of its Operating Licence at the last minute, the key issue impacting compliance has been the new interpretation of this clause by the SCA to refer only to complaints received from customers receiving bulk water. While the SCA provided eight complaints from seven complainants for auditing purposes, these complaints were only those received from customers of bulk water. This has limited the comprehensiveness of the audit given that a much larger number of complaints are received by the SCA relating to other issues.

5.5.3 Consultative Committees

As the Committees are presently being reviewed there are a number of issues that have a minor impact on compliance.

The Northern and Southern Consultative Committees are being combined into a Regional Consultative Committee which would need to develop its own Charter. While the previous Committees had their own Charter, a Charter for the new committee remains outstanding, although the auditor was informed that a draft has been prepared.

The Expert Reference Panel met at the beginning of the year. It would appear that term of members has expired with no reappointment process conducted. Without these members, the “public health experts” required under the Licence (clause 5.4.4) to be represented on “one or more Consultative Committees” are not present.

5.6 Recommendations

5.6.1 Key recommendations

That the SCA:

- R5.1 Demonstrates a greater commitment to overcome the impasse between the SCA and Wingecarribee and Shoalhaven Councils to obtain a signed agreement for the supply of water to these Councils, over 2003/04 (it is recognised this may require requests for higher level government involvement).
- R5.2 Liaises with the Department of Infrastructure, Planning and Natural Resources and finalises the legal status and responsibility (either SCA or DIPNR) for the unresolved “customers” of the SCA.



- R5.3 Ensures that overall membership of the Consultative Committees include each required categories (in accord with Clause 5.4.4) in the Licence.
- R5.4 Ensures that the review of the Consultative Committees is undertaken in consultation with the Department of Infrastructure, Planning and Natural Resources to avoid conflict with the proposed Catchment Management Authority structure under the Catchment Management Authorities Bill 2003.
- R5.5 Provides full reporting on all complaints (sub clauses 5.3.2 and 5.3.5) received by the SCA according to the requirements of the SCA's Operating Licence (sub clause 10.5.1).



6. Bulk water quality

6.1 Summary of findings

▶ **Water supplied for water treatment**

The Sydney Catchment Authority (SCA) has a well established system for managing bulk water quality. A risk-based approach to the management of water quality is being taken, consistent with recent developments in the water industry for providing assurance that the quality of drinking water will be safe and acceptable. SCA was assessed to be in **Full or High compliance** in regard to the bulk water supplied for water treatment

▶ **Water supplied for other uses**

High compliance was assessed for water supplied for other uses.

▶ **Catchment and System Management**

SCA is undertaking a large body of work that has the objective of properly managing the catchments and ensuring the quality of the water meets the required standards. This has been brought together in a *Healthy Catchments Program 2003 – 2007*. SCA was assessed as being in **Full compliance** for catchment and system management and for water quality monitoring and reporting.

▶ **Review of obligations regarding water quality**

No requirement.

▶ **Water quality monitoring and reporting**

SCA undertakes a program of water quality monitoring in accordance with an Annual Water Quality Monitoring Program that has been developed in consultation with Sydney Water and NSW Health and was assessed as **Full compliance**.

SCA complied with metals and pesticides levels at the inlet to the Water Filtration Plants (WFP) to protect human health.

SCA undertakes routine monitoring of certain aesthetic water quality characteristics of the bulk water supplied to the Water Filtration Plants. The results indicated that some parameters did not comply with the requirements of the Bulk Water Supply Agreement; the most significant of these were exceedences of the numbers of algae in supplies, particularly to the Cascades and Greaves Water Filtration Plants. Sydney Water advised that these exceedences did not cause difficulties with the quality of its supply to customers.

SCA liaises closely with Sydney Water and NSW Health regarding water quality issues. Sydney Water advised that the bulk water quality was acceptable to it and the quality of the treated water supplied to customers by Sydney Water was in accordance with requirements.

In addition to routine monitoring, SCA undertakes a program of pathogen monitoring (particularly *Cryptosporidium* and *Giardia*), and other investigative monitoring. SCA has appointed a Project Manager to ensure that the water quality monitoring program requirements are met. An Annual Water Quality Monitoring Program Report was completed and made available on the web. This



Report provides an excellent discussion of water quality in the supplies, relevant issues and measures that SCA has taken to address these issues.

► **Water quality planning – Risk Management Plan**

SCA is continuing to develop its Water Quality Risk Management Plan that builds on its previously completed Pollution Source Risk Management Plan and Bulk Raw Water Quality Management Plan. To assist in its preparation, the SCA has prepared Environmental Assessment and Site Infrastructure reports on pollution sources in the catchments and has undertaken risk assessments of supply systems with Sydney Water. The Water Quality Risk Management Plan will input into other risk management work that SCA carries out, such as for Catchment Infrastructure and the Healthy Catchments Program. **High compliance** was assigned to preparing a five year Risk Management Plan, as SCA is yet to finalise the Plan; however many attributes relating to the Plan were assessed as **Full compliance**. SCA has prepared an Incident Management Plan in accordance with the requirements of the Operating Licence and has tested and reviewed the Plan during the period.

► **Environmental water quality**

No requirement.

6.2 Summary of requirements

The objective of Part 6 of the Operating Licence is to ensure that the quality of the water supplied by Sydney Catchment Authority meets the requirements for use. Two categories of use apply:

- Bulk water supplied to Sydney Water Corporation, Shoalhaven City Council and Wingecarribee Shire Council for treatment by these organisations and supply to their customers for general purposes including drinking; and
- Bulk water supplied to *other customers*, for uses that have to be agreed with the SCA.

To meet the requirements of Part 6, the SCA is expected to undertake the following.

- Supply bulk water to Sydney Water, Shoalhaven City Council and Wingecarribee Shire Council which meets certain health guideline values for substances which may not be removed in their treatment processes (such as pesticides and certain metals).
- Supply bulk water to Sydney Water that has a quality consistent with the capacity of each water treatment facility to meet the applicable treated water quality standards specified in the Bulk Water Supply Agreement.
- Agree on water quality standards with other customers and advise regarding the need for treatment.
- Manage the catchments in accordance with the requirements of the Australian Drinking Water Guidelines.
- Develop and implement a water quality monitoring program that comprises both routine monitoring and investigative monitoring, and provide the results of the routine monitoring to the customers supplied. The water quality monitoring programs must incorporate effective quality assurance and must be agreed with the relevant stakeholders.
- Develop a database of monitoring results, and prepare a Monitoring Program Report by 30 November each year and place this on the SCA's web site.



- ▶ Prepare a 5 year Risk Management Plan that will identify and assess sources of pollution, and reduce or remove the pollution. Following the 2000/2001 audit, the Minister had required that the Plan be further expanded, and in the 2001/2002 audit it was noted that the Plan had been well advanced but was still to be completed. The Plan is to be reviewed every 2 years, following catchment audits.
- ▶ Prepare an Incident Management Plan to minimise the risk to human health from the Bulk water supplied by the SCA to customers.
- ▶ Meet environmental water quality requirements for any discharges or water releases required under licences issued to the SCA by the EPA or the DIPNR.



6.3 Details of compliance

Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
6.1	Interpretation		
6.1	Definitions: NHMRC/ARMCANZ 1996 Australian Drinking Water Guidelines, health guideline value; water treatment	No requirement	No requirement for the SCA.
6.2	Water supplied for Water Treatment		
6.2(a)	Meet health guideline values in Schedule 4 (for characteristics which may not be removed by subsequent treatment; these include pesticides, selected metals and radiological parameters).	Full compliance	<p>SCA carried out monitoring of the water supplied to customers for treatment, over the audit period, as outlined in the Annual Water Quality Monitoring Program, with pesticides being analysed on a monthly basis over the period, and metals being analysed quarterly or annually. The pesticides include all of those listed in Schedule 4, plus glyphosate and metasulfuron at Wingecarribee WFP. A single sample from the inlet of Prospect Water Filtration Plant (WFP) was analysed for a full scan of pesticides, including diazinon. NSW Health had not requested additional pesticides to be added for monitoring.</p> <p>The results of the monitoring indicated that all of the analyses reported for the health related parameters complied with the health-based targets listed in the Australian Drinking Water Guidelines. The detection limits for the analytes were sufficiently low to confirm that the health-related Drinking Water Guideline values for pesticides were met and were generally better than the detection limits specified in the Drinking Water Guidelines.</p> <p>SCA advised that it had not had any complaints from customers regarding the quality of the water supplied.</p>
6.2(b)	Comply with Bulk Water Supply Agreement (for aesthetic characteristics such as turbidity, colour, hardness, algae).	High compliance	<p>SCA carried out monitoring of the water supplied to Sydney Water for treatment for the characteristics required under the Bulk Water Supply Agreement (BWSA), with sampling and analysis being carried out monthly. SCA advised that the operators of the water filtration plants separately undertake operational monitoring necessary for the proper operation of their treatment plants. The Bulk Water Supply Agreement does not specify monitoring frequency. The SCA's monitoring program specifies monitoring on a monthly basis and has been agreed by Sydney Water.</p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>The results of the monitoring indicated that raw water supplied to the Sydney Water's water filtration plants was broadly similar to that in the previous year (2001/2002), although the level of compliance for algae had improved. The results are summarised in Section 6.4.1 of this report.</p> <p>In assigning a compliance grade, the auditor has taken a similar approach to that taken in the 2001/2002 year, and has assigned a "High" compliance.</p>
6.2(c)	Liaise with customers to which SCA supplies bulk water for treatment and agree on strategies for treatment to protect human health	High compliance	<p>SCA liaises with Sydney Water regarding water quality and strategies to protect water quality. SCA and Sydney Water continue to hold bi-monthly Joint Operational Group meetings in conjunction with NSW Health at which wide ranging discussions on water quality issues, activities involving each organisation and requirements for management and improvement of water quality are discussed. The minutes from these meetings indicate excellent liaison between the parties.</p> <p>In addition, SCA and Sydney Water hold regular Strategic Liaison Group meetings, which provide a higher level forum for discussing issues, which include water quality, and for developing appropriate strategies for dealing with these issues. SCA and Sydney Water also hold other interface meetings at which specific issues relating to the bulk water quality supplied by SCA to Sydney Water (i.e. at the interface) are discussed.</p> <p>SCA advised that it has been negotiating agreements with Shoalhaven and Wingecarribee Councils during the period, but these negotiations had not yet been concluded with agreed strategies for treatment. The negotiations are presently at an impasse.</p> <p>The auditor notes that this is the second year that SCA has not been able to finalise an agreement with these councils. As indicated also under Part 5: Customers, SCA needs to use its "best endeavours", which have not resolved this long standing impasse. Resolution may well require SCA to seek higher level Government intervention.</p>
6.3	Water supplied for other uses		
6.3.1	Best endeavours to reach agreement on water quality standards to apply to water supplied to customers for purposes other than treatment	High compliance	<p>This clause is associated with clause 5.2, which specifies the need for the SCA to reach agreement with customers on the supply of bulk water. However this clause is more specific in that it relates to the quality of the water supplied. As indicated in Clause 5.2, the SCA indicated that 60 "retail" customers have now signed agreements with SCA. Only two defined customers</p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>remain to sign agreements. These are the two local Councils (Wingecarribee and Shoalhaven) who receive bulk water from the SCA. As identified last year, there are also 8 other properties that have been drawing water from the SCA area, however their legal status continues to be under review as to whether they are SCA customers or the responsibility of the Department of Infrastructure, Planning and Natural Resources (DIPNR). As a result there are no agreements signed with this group. Agreements have been sighted and all agreements have a section which describes the “quality of water” supplied.</p> <p>While the SCA has signed up the remaining “retail” customers the continuing impasse with the two councils is an area of concern. While the SCA provided evidence of its ongoing negotiation there is an apparent need to put even further effort to achieve a positive outcome. As a result the compliance level has been downgraded from the previous year with the intention that if the impasse continues in future years the compliance level would need to be further downgraded. Full compliance would be achieved when all customers have a signed agreement specifying the water quality that would apply to the water supplied.</p>
6.3.2	Advise customers of the potential uses for bulk water and need for treatment if used for human consumption	High compliance	As was noted last year, all customers who had signed agreements could be said to have been advised about the potential uses for bulk water and the need for treatment if used for human consumption. The SCA was not given a full compliance rating because of the continuing impasse with the two local councils and the undetermined status of the eight customers who may or may not be the responsibility of the SCA or DIPNR. As the signed agreement appears to be the only time that customers are advised of the potential uses for bulk water and the need for treatment if used for human consumption, it may be appropriate for the SCA to remind customers annually of this information along with information about the complaint handling process.
6.4	Catchment and System Management		
6.4	Comply with 1996 Guidelines relating to catchment management and system management of public water supplies	Full compliance	<p>The 1996 Guidelines have the following major requirements regarding catchment management and system management: understand the individual water supply systems and the ways in which water can be affected through the system; provide multiple barriers to entry and transmission of contaminants and minimise the risk of contamination to raw water supplies; and monitor to confirm compliance. There are also a number of specific requirements such as controlling particular polluting activities such as cattle feedlots and other point sources.</p> <p>As noted in the previous audit, SCA has prepared an overarching document (“<i>Bulk Raw Water</i>”</p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<p><i>Quality Management Plan</i>” June 2001) which brings together the many programs and activities being carried out by SCA relating to catchment management and system management. This Plan provides a good overview of the programs, although it could now be updated to include the most recent work that SCA has carried out and is proposing to do.</p> <p>Further discussion on the SCA’s systems for catchment management is included under Clauses 6.7 and 8.1.1 of this report.</p>
6.5	Review of obligations regarding water quality		
6.5	Licence Review Body to review obligations as part of Mid-term review	No requirement	This has been completed by the Licence Regulator.
6.6	Water quality monitoring and reporting		
6.6.1	<p>Develop and implement a water quality monitoring program that comprises:</p> <p>(a) routine monitoring for compliance with clause 6.2</p> <p>(b) targeted, investigative and event-based monitoring to better define the occurrence of particular characteristics and contaminants in water</p>	Full compliance	<p>Details of the water quality monitoring program are included in the SCA document “<i>Water Quality Monitoring Program, July 2001 to December 2004</i>”. This Program is still current for the audit period.</p> <p>The Program was reviewed in the previous audit and provides information on: water quality standards; monitoring and reporting requirements; routine monitoring programs, targeted, investigative and event-based monitoring; databases; reporting requirements; and assessment of performance. The Program proposed for the forthcoming years is of a high standard and has been endorsed by NSW Health, DIPNR, EPA and Sydney Water. Sydney Water advised the auditor that it is satisfied with SCA’s water quality monitoring.</p> <p>This program includes routine monitoring for compliance with Clause 6.2 and targeted, investigative and event-based monitoring to better define the occurrence of particular characteristics and contaminants in water.</p> <p>An outline of the water quality monitoring program is presented in Section 6.4.2 of this report.</p> <p>While the requirements of this clause are complied with, the observations of the Expert Panel on Water Quality are relevant:</p> <p><i>Monitoring has largely focussed on pathogens (including viability and genotype), reflecting the main area of concern following the 1998 Cryptosporidium event and the program should be</i></p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<i>reviewed to ensure an adequate balance between pathogens, nutrients, and disinfection by-products (DBP) precursors.</i>
6.6.2	Monitoring Plan to include monitoring: (a) against health guideline values (b) aesthetic characteristics under Clause 6.2(b) (c) other characteristics nominated by NSW Health	Full compliance	<p>The Monitoring Plan includes monitoring for the nominated parameters for health guidelines and aesthetic characteristics. NSW Health has not nominated additional parameters.</p> <p>SCA compares the results of the monitoring program (outlined in Clause 6.6.1) with:</p> <ul style="list-style-type: none"> ▶ Australian Drinking Water Guidelines health related guidelines (in case of Clause 6.2(a)); and ▶ Targets related to the aesthetic quality and the performance of WFPs as nominated in Clause 6.2(b). <p>NSW Health advised the auditor that it is satisfied with the Annual Water Quality Monitoring Plan, including the parameters listed in the Plan.</p>
6.6.2	Monitoring Plan to include monitoring: (d) with effective QA	Full compliance	<p>As noted in the 2001/2002 audit, the quality assurance program includes a level of detailed auditing of laboratories that is beyond the practices of other Australian water authorities.</p> <p>An outline of the QA Program including the use of independent experts is presented in Section 6.4.3 of this report.</p> <p>An opportunity for improvement in QA procedures was identified by the 2001/02 Operating Licence audit and also by the audit carried out by the independent experts on behalf of the SCA. It was recommended in the 2001/2002 audit that the Project Manager include a reporting item on the verification of the performance of the laboratories. This was not included in the 2002/03 Project Manager's report.</p>
6.6.2	Monitoring Plan to include monitoring: (e) representative of bulk water	Full compliance	<p>As in the previous year, the monitoring program for Bulk Water involves monthly and quarterly sampling, and this can be expected to provide a reasonably representative characterisation of bulk water in situations where the reservoir is large and well mixed and the measured substance is uniformly distributed throughout the water column (for example, for dissolved substances). The Sydney Water and NSW Health advised that the monitoring program meets their requirements and addresses the requirements of this clause.</p> <p>In respect of algae, SCA undertakes frequent inspections for algae during periods when algal blooms are likely and reports to customers on this basis. As noted in the 2001/2 audit, the SCA</p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>also undertakes studies of nutrient loads and advanced investigative studies of algal occurrence in some reservoirs. The auditor concludes that the algal monitoring program meets the Licence requirement.</p> <p>In respect of pesticides, SCA undertakes monitoring in accordance with the current requirements of NSW Health. During the previous audit, NSW Health advised the auditor that the SCA proposed to undertake further investigations to clarify the requirements for monitoring, and that NSW Health will consider this further information when available.</p> <p>SCA progress towards the further studies is discussed on Section 6.4.4 of this report.</p>
6.6.3	<p>Provide results of routine monitoring as soon as practicable to</p> <p>(a) customers under clause 6.2.</p> <p>(b) NSW Health</p>	Full compliance	<p>SCA provides results of routine monitoring for health related parameters and aesthetic parameters to Sydney Water, Shoalhaven City Council, Wingecarribee Shire Council, NSW Health and DIPNR on a monthly report basis, and Cyanobacteria monitoring on a weekly (summer) or monthly (winter) basis. If there are any exceedences, then the customers are informed of them. Any detections of pathogens are advised immediately to the customers.</p> <p>A comprehensive set of Bulk Water Supply Protocols has been developed by SCA and Sydney Water (November 2001). These Protocols specify requirements for transfer of water quality data as it becomes available. SCA has appointed a Project Manager for water quality data acquisition, transfer and reporting, and this includes auditing to ensure that the requirements are being met. The auditor reviewed the laboratory's reporting procedures, and concludes that these will provide rapid transfer of monitoring results to Sydney Water. Sydney Water advised the auditor that it is satisfied with SCA's water quality reporting.</p> <p>In regard to provision of routine monitoring results to NSW Health, SCA provides monitoring information as follows: pathogen monitoring six days per week; Cyanobacteria concentrations at locations and during periods when recreational Guidelines have been exceeded; and Schedule 4 analytes when Guideline exceedences have occurred. NSW Health has advised that SCA provides the results of routine monitoring to NSW Health in the format and frequency requested by NSW Health.</p>
6.6.4	<p>Provide investigative monitoring under 6.6.1(b):</p> <p>(a) with effective QA to the satisfaction of NSW Health, EPA (now DEC) and former DLWC (now DIPNR).</p>	Full compliance	<p>The SCA has developed a significant program of investigative monitoring as noted under Clause 6.6.1(b) and this is further outlined in the SCA Annual Water Quality Monitoring Program.</p> <p>In regard to QA and the sampling frequencies and locations, similar comments apply as for Clause 6.6.2, namely, it is concluded that the QA is effective and the sampling frequencies and</p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
	(b) with sampling frequencies and locations that produce information to better define the occurrence and factors contributing to water quality, to the satisfaction of NSW Health, EPA (now DEC) and former DLWC (now DIPNR).		<p>locations are adequate. NSW Health, and NSW DEC have confirmed their agreement with the Program.</p> <p>DIPNR advised that it had provided comments on the Program in the previous year, but that the Licence condition did not require DIPNR to provide ongoing assessment of the implementation of the Program and this situation was unsatisfactory. DIPNR advised that it considered that progress to meeting its requirements and the adequacy of actions being undertaken were satisfactory.</p> <p>The comments under Clause 6.6.1 are relevant. SCA should, in conjunction with Sydney Water and NSW Health, review the water quality monitoring program in the light of the findings of the Expert Panel, the priorities identified in the Risk Management Plan, and the requirements for characterising the bulk water for treatment. It is noted, for example, that the Expert Panel suggested that the monitoring program could be modified to provide a better balance between the various key water quality characteristics (for example, pathogens, nutrients (as they affect algae), and organics (as they affect DBPs).</p>
6.6.5	Develop and maintain database of monitoring results	Full compliance	SCA stores all of the routine monitoring data obtained in the Bulk Water Quality Monitoring Program in a "Water Quality Database". This includes both routine and targeted and investigative monitoring results. The laboratory also maintains a primary database of all results.
6.6.6	Prepare Monitoring Program Report by November of each year.	Full compliance	A Monitoring Program Report was prepared and placed on the website by the due date.
6.6.7	<p>The Monitoring Program Report must include the results of routine monitoring and:</p> <p>(a) Summary of monitoring information</p> <p>(b) Description of water quality trends and problems</p> <p>(c) Summary of water quality incidents and action taken to resolve, eliminate or mitigate those incidents or their effect;</p> <p>(d) Steps taken to protect human health.</p>	Full compliance	<p>The Monitoring Program Report has been prepared. It comprises a separate summary report, and a separate section on Monitoring for the Operating Licence. Details of the monitoring results are included as Appendices; these are on the SCA web site and are not included in hard copy form in the report.</p> <p>The Summary Report includes:</p> <ul style="list-style-type: none"> ▶ Helpful background information on the catchments, monitoring program and water quality standards adopted; ▶ Key findings, including results of monitoring and summaries of both water quality incidents and results by system; and



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Details of water quality incidents and the action taken to resolve, eliminate or mitigate those incidents or their effect. <p>The auditor considers that the Report is an excellent document and provides the reader with a good understanding of the results of monitoring and the water quality issues.</p> <p>The auditor has considered whether the practice of making the results of routine monitoring available via the web rather than as part of the hard copy report meets the requirements of this clause. It is considered that this approach meets the requirement of the clause because 6.6.8 requires that the report be placed on the web site and this is becoming a very common basis for disseminating information.</p> <p>The 2001/2 audit suggested that sufficient information be provided to enable the reader to reach a conclusion regarding the integrity of the data (i.e. overall findings of QA work). The report does not include a section or discussion on QA. The SCA carries out a comprehensive program of QA and some information on this would be informative.</p>
6.6.8	Place on SCA's website and made available at its offices free of charge	Full compliance	The report has been placed on the website and is made available at SCA offices if requested.
6.7	Water Quality Planning – Risk Management Plan		
6.7.1	Use findings of Catchment Audit to prepare five-year Risk Management Plan	High compliance	<p>SCA is preparing a Water Quality Risk Management Plan, but has not yet finalised a complete version of the Plan. The Plan builds on the "<i>Pollution Source Risk Management Plan</i>" prepared in 2000/1. The Plan will have a five-year planning horizon.</p> <p>An audit of the catchment was carried out by CSIRO during 2001, with an interim report completed in December 2001. The report was finalised in August 2002 and forwarded to the Minister on 1 November 2002. The findings of the audit are being used in the preparation of the Plan. In addition, more detailed reviews of activities are being systematically carried out by SCA and it is the latter reviews that will form an important input to the Plan.</p> <p>SCA advised that:</p> <ul style="list-style-type: none"> Its Executive has endorsed a scope for the Risk Management Plan and a process for its preparation; and



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> The project team has commenced the categorisation of water quality hazards, contaminant process mapping and a review of water quality for input into the Risk Management Plan. <p>Overall, it is concluded that the SCA is working toward meeting the full requirements of this clause; however, at the end of the audit period the risk management plan was not yet complete. The auditor is concerned that without a firm work program, completion of the plan may continue to be delayed. Therefore compliance with this clause has been reduced from Full compliance in the 2001/02 audit period to high compliance.</p>
6.7.2	<p>The Risk Management Plan must:</p> <p>(a) identify and assess pollution sources, how these are modified between source and water storage, and evaluate impact of pollution on quality of bulk water (as this information becomes available through the Authority's long term research)</p> <p>(b) identify improvements of catchment infrastructure works</p> <p>(c) prepare action plan to improve bulk water quality</p> <p>(d) identify arrangements to address issues outside the power of the SCA</p>	High compliance	<p>In the 2001/2 audit a Full compliance was assigned to this clause in that a Water Quality Risk Management Plan was being developed in accordance with the requirements, as might reasonably be expected at that time, although the Plan had not yet been completed. In that period SCA was also fulfilling the requirements of the Minister relating to the development of the Plan.</p> <p>The auditor considers that although progress has been made and although it can be expected that the Plan as outlined by SCA when completed will satisfy the requirements of this clause, progress to date does not meet the requirement of this clause. Because of this, the compliance rating has been downgraded to a "High compliance". As in the previous year, the auditor is concerned that the approach being taken is too ambitious and detailed, and because of this SCA has not been able to gain a good overview of the important risk issues.</p> <p>It is further noted that the Expert Panel on Water Quality indicated concern that the SCA had not completed consistent pollution budgets for the main catchment pollution sources.</p> <p>Further discussion on progress towards completing the risk management plan is presented in Section 6.4.5 of this report.</p>
6.7.3	<p>In developing the Risk Management Plan, the SCA must:</p> <p>(a) apply AS/NZS 4360:1999 to develop risk action plans</p> <p>(b) consider catchment management principles in the Drinking Water Guidelines</p>	High compliance	<p>The development of the Risk Management Plan is:</p> <ul style="list-style-type: none"> utilising the principles of AS/NZS 4360:1999 in the identification and assessment of risks and in the development of action plans; and taking into account the catchment management principles in the Drinking Water Guidelines in the development of the action plans. <p>Cost-benefit analysis was planned to be carried out in the first half of 2003, but has not been</p>



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
	(c) consider benefits and costs of different management options		carried out. Some cost-benefit activities have been included in sub-studies, such as the Catchment Sewerage Needs Analysis Project completed in 2001.
6.7.4	Engage in public consultation in developing the Risk Management Plan, including comment from NSW Health, EPA and DLWC, exhibit draft Plan for public comment. The Plan must be finalised by 1 January 2001.	No requirement	The initial development of the Risk Management Plan (i.e. the <i>Pollution Source Risk Management Plan</i>) prior to 2001 included consultation in accordance with the requirements of the Licence. The development of the improved Risk Management Plan also involves consultation with NSW Health, EPA, DIPNR, and many organisations involved in or with an interest in the various issues being considered in the development of the Plan.
6.7.5	Review the Risk Management Plan following future catchment audits	Full compliance	SCA is reviewing information from the catchment audits and other investigations in the development of the Risk Management Plan, in accordance with the Ministerial Requirement (2000/1).
6.7.6	At other times the Risk Management Plan may only be amended following public consultation	No requirement	The risk management plan has not been finalised. The SCA advised that prior to finalisation, public comment will be sought.
6.7.7	Need for Risk Management Plan to be reviewed at the Mid term review in 2002.	Full compliance	The need for the Risk Management Plan was reviewed at the Mid term review, and SCA concluded that the Plan was required as part of its normal operational requirements.
6.7.8	Audit performance against actions the SCA is to undertake under the Risk Management Plan	Full compliance	The Bulk Water Division Work Plan (2001/2 – 2005/6) outlines actions to be taken and assigns budgets for this work. These actions include steps to improve bulk water quality, identified from risk assessments. Progress is reported in monthly production reports, and SCA prepares a separate summary of performance against the timing of actions required under the Pollution Source Risk Management Plan. Of 28 actions listed as projects under the Pollution Source Risk Management Plan for which the estimated timing was completion in 2001: <ul style="list-style-type: none"> ▶ 4 were listed as completed; ▶ 4 were listed as deleted because it was determined that the action was not the responsibility of SCA; and ▶ 20 were listed as “commenced, ongoing”.



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			Listing projects as “ongoing” reflects that many of the actions involve setting up programs which are ongoing. A review of the work reported suggests that most of these programs and projects have been well advanced. Because the reporting lists activities as “ongoing” and not as “completed”, this reporting does not now provide a good measure of whether actions are being progressed satisfactorily. It can be expected that a more current set of actions and priorities will be identified when the Risk Management Plan had been completed.
6.7.9	Develop an Incident Management Plan by 1 July 2000 in agreement with NSW Health and in consultation with customers	No requirement	As noted in the 2001/2 audit, a Bulk Water Quality Incident Response Plan was finalised on 28 June 2000. This Plan was prepared in consultation with customers and was agreed with NSW Health. The SCA reviewed and revised the plan in consultation with NSW Health in June 2001.
6.7.10	Purpose of the Incident Management Plan is to minimise the risk to human health from the bulk water supplied by the SCA to customers	Full compliance	The stated aim of the Bulk Water Quality Incident Response Plan is to <i>minimise the impacts of a bulk water quality event on SCA’s customers, ...</i> . The formulation of the Plan includes triggers that are based on the potential for an incident to give rise to impacts on human health of customers.
6.7.11	Incident Management Plan to provide for the coordinated management of water incidents including media and stakeholder liaison and notification of public health advice received from NSW Health to customers.	Full compliance	<p>The Bulk Water Quality Incident Response Plan has been revised during the audit period (September 2002). The Plan provides for the coordinated management of water incidents and includes procedures for media and stakeholder liaison. The Plan includes provision to notify NSW Health immediately upon certain triggers being exceeded, and to provide water quality monitoring results to NSW Health. If NSW Health assesses a risk to public health, NSW Health is to liaise with the customers and issue a boil water notice, if necessary, and to provide input to communications advice issued by the SCA for staff, customers, media and the Minister.</p> <p>SCA has particularly addressed the potential for a major incident to occur, associated with drought breaking rains (as caused the 1998 <i>Cryptosporidium</i> event). SCA advised that it considers that there is potential for a similar event to arise as occurred in 1998 and, although much has been carried out by both SCA and Sydney Water to avoid such a situation, it is possible that a boil water advisory could result. Because of the significance of such an event, SCA has prepared a briefing paper to its Executive. Details of issues are included in JOG and SLG minutes.</p> <p>The Incident Response Plan was subjected to the following tests during the period.</p> <ul style="list-style-type: none"> Actual incident involving the detection of <i>Giardia</i> by Sydney Water (17 July 2003).



Table 6.1 Part 6: Bulk water quality – summary of compliance

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> “Exercise Mary” conducted in March 2003 with Sydney Water and NSW Health. This exercise included a quality incident and terrorism (quantity of supply) events. <p>The SCA’s incident database indicated that of 26 “Major” incidents, there were 6 relating to water quality (high cyanobacteria counts/toxin levels in the Shoalhaven system). A SCA report on incidents indicated that in all cases the SCA response was timely and effective. SCA notes that the cyanobacteria issue is being addressed through a Cyanobacteria Management Strategy.</p> <p>In addition, SCA advised that training has occurred at various levels including a large number of awareness sessions. A detailed 5 day Australian Inter-Agency Incident Management Systems (AIIMS) training course was also held. This training course is nationally accredited.</p> <p>SCA and Sydney Water have developed a Bulk Water Supply Protocol that is a comprehensive summary of the reporting requirements for each organisation. The Protocol also defines the reporting requirements for incidents.</p>
6.7.12	Incident Management Plan to include requirement for the SCA to advise customers if the bulk water it supplies may be a risk to human health	Full compliance	The Bulk Water Quality Incident Response Plan includes an Initial Action Checklist that includes the requirement to notify customers of the incident. The Plan also has the requirement in the event of an incident/emergency/crisis to prepare communications advice for staff, customers, media and the Minister. The Bulk Water Supply Protocols discussed above are also relevant to this clause.
6.8	Environmental water quality		
6.8.1	Meet the environmental water quality requirements for discharges or water releases required under EPA or former DLWC (now DIPNR) licences	No requirement	SCA has no licences with the EPA. The Water Management Licence issued by DIPNR has no requirements in relation to water quality, only water quantity.



6.4 Discussion

6.4.1 Performance against the Bulk Water Supply Agreement

The SCA monitoring against the requirements of the Bulk Water Supply Agreement (BWSA) demonstrated that the SCA attained high compliance. The results were:

- ▶ Turbidity, colour, iron, manganese, aluminium: 100% compliance for 9 supplies;
- ▶ Hardness: 100% compliance for 5 of 9 supplies, 8% for 1 supply, greater than 69% for 3 supplies;
- ▶ Range of pH: 100% compliance for 7 of 9 supplies, greater than 70% for 2 supplies; and
- ▶ Algae: 100% compliance for 5 supplies, greater than 77% for 4 supplies. SCA advised that the algae measured were of the filter blocking type, and did not represent a risk to human health (refer to further comment below).

In understanding the level of compliance, it can also be noted that there was, averaged across all supplies:

- ▶ 98% compliance (flow weight average of all parameters); and
- ▶ 79% compliance (average of the time any one parameter for a supply was in non-compliance, not flow weighted).

SCA advised that it had not received any complaints from Sydney Water regarding the quality of the water supplied. To SCA's knowledge, the exceedences had not caused difficulties in treatment and the main implication of the exceedences lies in reduced revenue associated with water that does not comply with the BWSA. The auditor confirmed with Sydney Water that the non-compliances did not cause difficulties for the WFPs, and did not result in non-compliances with regard to the treated water. The auditor concurs that the exceedences would not be expected to adversely affect the quality of water that Sydney Water supplied to customers.

Of the exceedences, those relating to algae are considered to be the most significant. SCA advised that the potential problems concerning algae in the supplies to the Sydney Water WFPs are operational (filter blocking) rather than the presence of toxins associated with the algae. Incidents involving toxic algae are the subject of separate monitoring and reporting under the SCA's Incident Response Plan. Sydney Water confirmed this situation, but noted that water from the Shoalhaven scheme, where blue-green algae has been observed, is being pumped into systems which supply Sydney Water's WFPs, and Sydney Water is monitoring whether this could give rise to cyanobacteria in the bulk water to Sydney Water's WFPs. Sydney Water advised that to date this has not been a problem.

SCA advised that it proposes to seek a change to the BWSA criteria, because many of the parameters are outside of the SCA's control and do not adversely affect the quality of the treated water.

6.4.2 Water quality monitoring and reporting

The SCA's water quality monitoring program comprises:

- ▶ routine monitoring of metals and pesticides at the inlet to the WFPs to ensure that toxicant concentrations do not pose a risk to human health, in accordance with Clause 6.2(a);



- ▶ routine monitoring of physical and chemical water quality parameters at the inlet to WFPs to ensure physical and aesthetic quality of the supply comply with Clause 6.2(b);
- ▶ routine pathogen monitoring at the inlets to WFPs, dams and other likely dry weather sources to determine pathogen concentrations for operational and planning purposes (this, in particular, includes monitoring for *Cryptosporidium* and *Giardia*);
- ▶ targeted monitoring, including for example hot spot monitoring of biological contaminants, monitoring of biological contaminants in Prospect Reservoir and catchment pesticide monitoring (in 2001/2002 the hot spot monitoring was particularly directed to providing an understanding of the source and distribution of pathogens in the catchments, and the next phase of work is providing more information on variations with time);
- ▶ investigative monitoring (these included, for example, investigations into algae and certain toxins, a Warragamba wastewater investigation, nutrients, taste and odour, and soil samples); and
- ▶ event-based monitoring (eg investigations into certain algal events).

A workshop was held with the Water Quality Program Manager, SCA staff and staff from a range of Government agencies in December 2002 to review the water quality monitoring and management program, and how the program may be improved. This included a review of sampling sites, frequency and analytes. The outcomes of the workshop included recommendations regarding:

- ▶ Further monitoring to address the needs of the Regional Environmental Plan;
- ▶ Additional pesticide monitoring during periods of high pesticide use, and at water filtration plants;
- ▶ Changed monitoring reflecting changed environmental flows;
- ▶ Recommence monitoring at Middle Cascade and Lake Medlow Dams; and
- ▶ Potential for changed alert levels for algal monitoring.

6.4.3 Quality Assurance for the Annual Water Quality Monitoring Program

The QA Program outlined in the Annual Water Quality Monitoring Program includes the following:

- ▶ An independent Project Manager whose responsibilities include the coordination and implementation of the QA/QC program. The Project Manager reports on activities on a monthly basis.
- ▶ Key Performance Indicators assessed every three months to ensure that the laboratories are meeting the contract specifications. Performance is monitored for responsiveness, timeliness, integrity and accuracy.
- ▶ Independent auditing of the sampling and field-based activities (7 audits were completed in 2002/3) and the analytical laboratories (12 audits were completed in 2002/3).
- ▶ Collection of duplicates, trip blanks and field blanks in accordance with normal requirements for sampling and analysing environmental samples. Independent experts were engaged to confirm that the program is being carried out properly, and to provide checks of the QA/QC data.
- ▶ Automated data transfer.

The program includes the use of independent experts to audit specific aspects of the laboratory work. The independent expert panel audit reports were reviewed as part of this audit. The most detailed of these audits were those of the *Cryptosporidium* and *Giardia* laboratory, and the human enteric virus and



F-RNA coliphages laboratory. Professor N. Ashbolt, who is recognised as an expert in this field, undertook these audits. The audits involved a detailed review of the methodologies of the laboratories, and included a review of other audits undertaken (eg surveillance audit against ISO 9001: 2000 and NATA accreditation).

The audits support the conclusion that the analytical methods and procedures used by the laboratories contracted by SCA for monitoring purposes are appropriate and are being properly carried out. The audits identified a number of minor areas for improvement, and noted that actions had been taken on items identified in the previous audit.

In the case of the audits on *Cryptosporidium* and *Giardia*, and viruses, the audits also considered performance (for example, with reference to independent testing and NATA proficiency testing); however, performance did not appear to be considered in the other audits. Important observations are outlined below:

- ▶ The *Cryptosporidium* and *Giardia* laboratory participates in the LEAP scheme, NATA proficiency testing, and carries out internal recovery checks using ColorSeed™. Independent checking is also undertaken by the Australian Water Quality Centre in Adelaide. In addition, blanks and spikes are provided to the laboratory under the SCA contract. This body of control data provides a comprehensive check of the performance of the laboratory, and adds considerably more statistical evidence regarding performance than the relatively limited numbers of analyses included in the proficiency testing undertaken by NATA.
- ▶ The results of this control data provide confirmation of good performance by the laboratory in the analysis of *Cryptosporidium* and *Giardia*.
- ▶ The audit carried out on behalf of SCA noted that not all of the information being obtained from the QA/QC program was being assessed: the results from blanks, duplicates and spikes of random samples were not available to SCA's Project Manager or the laboratory. The Project Manager has requested that the laboratories commence this assessment. GHD is aware from its audit of the laboratory on behalf of NSW Health that this information is now being assessed (eg on blanks), and the laboratory had for example prepared a draft report on the results for various analytes (including biological indicators and some other parameters such as manganese). This assessment shows that the laboratory performance is good, and supports the conclusion that the laboratories used by SCA are carrying out a comprehensive level of QA/QC and are performing well.

It is important that the full body of QA/QC data be assessed. It was recommended in the 2001/2002 Operating Licence audit that the Project Manager include a reporting item on the verification of the performance of the laboratories that would prompt this review; this was not included in the 2002/2003 Project Manager's report and it is recommended again that this be included.

6.4.4 Monitoring for Pesticides

During the 2001/02 audit period, the SCA was required to comply with Ministerial requirement:

SCA must "develop a monitoring program which includes pesticides confirmed by NSW Health, and appropriately characterise the concentrations of pesticides present in the bulk water".

During the 2001/02 audit, the auditor considered that monitoring to date did not provide the required evidence to confirm the absence of particular pesticides and noted that the SCA proposed further studies. The 2001/2 audit, recommended SCA further consider how it can provide better confirmation



that pesticides are not present (with particular reference to diazinon, which is not included in the monitoring required under the Licence, but is used in the catchment).

During this audit period, the SCA advised that it took a single sample from the inlet to the Prospect WFP and analysed it for a broader screen of pesticides (including diazinon), and that no pesticides were detected. The auditor considers that this would not be sufficient to confirm the absence of particular pesticides that were not included in the regular monitoring program. The auditor discussed this issue with Sydney Water, and it advised that it is preparing a report that considers the potential for pesticides (particularly diazinon) to be present and the requirements for monitoring to confirm their absence. This report is likely to be finalised in 2003.

The auditor considers that this issue has not yet been closed off and that SCA should further consider how it can provide better confirmation that all pesticides used in significant quantities in the catchments are not present in the bulk water. The report in preparation by Sydney Water may provide advice in this regard.

6.4.5 On-going development of the Risk Management Plan

During the 2001/02 audit period, the SCA was required to comply with Ministerial requirement:

SCA must "Further expand the Risk Management Plan by working with SCA customers and other regulators of the catchment to incorporate existing knowledge regarding sources of pollution and catchment infrastructure operation, bulk water, and water supplied to customers. The plan must clearly locate where the key controls lie (i.e. at the source, reservoir or water filtration plants); identify the important control requirements, the extent and overall effectiveness of the various controls, and determine whether additional controls are required".

Further, the 2001/2 audit made the following recommendation: *"Continue with the development of the Risk Management Plan. SCA should consider the level of detail regarding source assessment to ensure that the approach being taken is practical".*

In assessing compliance with the Operating Licence and the 2001/02 Ministerial requirements, the auditor has considered the current status of the development of the Plan as follows:

- ▶ Action plans to improve bulk water quality were developed from the Source Pollution Risk Management Plan prepared in 2000/1. One of these was the Catchment Sewerage Needs Analysis Project, which resulted in the Accelerated Sewerage Scheme. This can be expected to be important in reducing the pathogen and nutrient pollution loads within the catchments. SCA provided information that confirms that it is actively progressing with the Scheme.
- ▶ During 2002/3 SCA completed a number of Environmental Assessment of Sites and Infrastructure (EASI) studies for a wide range of pollution sources in the catchment. These have provided a comprehensive identification of pollution sources in various categories (such as sewerage systems, livestock industry sites, mines, quarries, Commonwealth properties, manufacturing facilities, waste disposal sites and intensive horticulture sites). A Pollution Source Database has been created to store and access information gathered from the EASI projects.

It is proposed that point source information will be combined with more detailed land use mapping to determine the extent of diffuse source pollution.

- ▶ During 2002/3, SCA completed *catchment-to-tap* risk assessments of the SCA systems that supply water to the Sydney Water WFPs. These risk assessments were carried out at the broad overview



level and are important in prioritising water quality issues for each filtration plant for input into the SCA water quality risk assessment.

The assessments did not include a detailed consideration of risks that arise from catchment sources (such as individual STPs, which are expected to be some of the important pollution sources), or how the pollution from these sources is modified between source and water storage and their relative impact on the quality of bulk water.

- ▶ The SCA has developed a “Process Map” approach to analysing particular pollution sources and factors important in their control, and this will be helpful in analysing the preferred control strategy.

In addition, during 2002/03 the SCA also demonstrated:

- ▶ Maintenance of the good working relationship between the staff of SCA, Sydney Water and NSW Health;
- ▶ Development of the Healthy Catchments Program which provides for a structured approach to managing actions related to catchment management; and
- ▶ Continued involvement in the CRC for Water Quality and Treatment, which is providing fundamental knowledge about water quality and its management requirements.

The auditor concludes that although SCA has continued to develop the Plan and advance other catchment management tools, important aspects of the Plan have not been completed. Further work is required to understand the relative significance of the main pollution loads (pathogens, nutrients and organics) and their resultant impact on water quality at the WFPs. In this respect, the report of the Expert Panel observed that there were inconsistencies in the estimates of the pollution budgets and that while there was considerable information on pathogens, there was relatively little information on nutrients (such as would affect algal numbers) and organics (such as affect DBPs).

Therefore the comment made by the auditor in the previous audit is still relevant. It was noted in the previous audit that the SCA:

“is developing advanced systems for understanding and managing its catchments and infrastructure to improve the quality of bulk water supplied to its customers. This system development promises to advance SCA beyond the normal practices of the industry. However, the catchment processes are complex and the overall management strategy must be integrated with the requirements of SCA’s customers. The challenge will be for SCA to maintain an overview of the main issues, and to not get lost in the detail. The Risk Management Plan under development is an important tool in this process, in that it can provide an overview of the important management requirements and their integration. SCA is developing the Plan at a detailed level, and may find it necessary to develop a simpler overview or summary Plan that enables the main issues to be understood”.

The potential for poor water quality following drought-breaking rains is an example that illustrates this. It is noted that SCA, Sydney Water and NSW Health through the Strategic Liaison Group (June 2003) have agreed to simulate contamination from a drought-breaking rain event flowing from catchment to Water Filtration Plant to distribution system. This type of work can be expected to provide an overview of the importance of particular sources of contamination and their potential for impact on the quality of water delivered to customers after the barriers of the reservoir and treatment plant are taken into account.



6.4.6 Poor Water Quality arising through Drought-Breaking Rains

SCA, Sydney Water and NSW Health through the Strategic Liaison Group have collectively considered the issues that can arise with drought-breaking rains, and various papers on this matter were provided to the auditor, including the following:

- ▶ A briefing paper *Preparedness for Management of Water Quality During Drought and When it Breaks* (Strategic Liaison Group Agenda Item 5, undated) considers the measures that are in place to prevent and/or minimise the impacts of any adverse raw water quality and for effective management of emergencies in treated water. This paper notes the many initiatives that have been taken: adopting a systems approach to water quality management; systematic planning and improvement with short, medium and long term water quality improvement plans; improved risk management; effective monitoring and transparent reporting; improved catchment management; optimised treatment processes; improved distribution system management; continuing research and development; improved emergency risk management; and improved communication protocols.
- ▶ A briefing paper *Potential Gaps for a Rapid Dam Fill Drinking Water Contamination Event* (Strategic Liaison Group Agenda Item 5, May 2003 update) lists areas where there are potential gaps in preparedness, and the actions that are to be taken to improve preparedness (some of which are now noted to be complete as at November 2003).

The conclusions from this work are (Agenda Briefing Paper 5):

- ▶ Some faecal matter still exists in the catchment and a recurrence of 1998 raw water conditions could occur;
- ▶ No guarantees can be given that raw water conditions will not deteriorate to a level at which available treatment processes and barrier protections become sub optimal;
- ▶ The WFPs have not been designed to cope with high levels of algal toxins or taste and odour compounds from blue green algae, so it is imperative that algal loads be minimised; and
- ▶ All the measures taken for preparedness should however significantly decrease the likelihood of an emergency event in treated water and, if an event does occur, processes and protocols are available to enable SCA, Sydney Water and NSW Health to deal more effectively with the situation.

The issue of drought-breaking rain provides an illustration of a possible water quality risk event, and it is concluded that the work being carried out by the organisations provides confirmation that the organisations do have a risk management systems in place. Importantly, the information provided shows that the organisations have recognised the risk, and are actively working towards understanding, minimising and managing the risk.

6.4.7 Implementing the Risk Management Plan

The Risk Management Plan when complete will need to be integrated with other risk management plans that the SCA has prepared, including the corporate "Management Plan", the Bulk Raw Water Quality Management Plan, and the System Qualitative Risk Assessments and System Management Plans for the major supplies.

The latter System Management Plans include the identification of improvements of catchment infrastructure works and SCA has prepared an action plan to improve bulk water quality. It can be expected that System Qualitative Risk Assessments and System Management Plans will need to be upgraded to incorporate the findings of the Risk Management Plan when complete.



SCA has prepared a Healthy Catchments Program 2003-2007 to address the issues identified in the Risk Management Plan (and the work undertaken to date in the Catchment Audits, Pollution Source Risk Management Plan, and Environmental Assessment of Sites and Infrastructure and EASI projects). The Program provides the mechanisms to identify, understand and rectify impacts to water quality in the catchment. Much of the Program will be delivered through Rectification Action Plans, to be developed under the Regional Environment Plan. The Program is linked to the Business Plan Key Result Areas.

It is concluded that SCA has considered and developed a management strategy for implementing the findings of the Risk Management Plan.

6.5 Factors affecting compliance

SCA has achieved a generally high level of compliance in the field of bulk water quality. Several issues can be noted as outlined below.

- ▶ SCA has a project manager for its monitoring program. This provides a high level of assurance and disciplined management of the program.
- ▶ As noted in the previous audit, SCA does not have full control of the factors which can give rise to poor water quality and the practical management requirement is to apply “best endeavours” to provide the best water quality to its customers. Full compliance with the Bulk Water Supply Agreement is not being achieved at present, and some of the supplies have poor compliance for some parameters, with algae being the most significant of these parameters. It is likely that this situation will continue, at least in the short term. To date this has not caused difficulties to Sydney Water, and Sydney Water’s water filtration plants have been able to accept and treat the water.
- ▶ There has been a drought, and this has resulted in generally improved bulk water quality. It is possible that the occurrence of major rain events could give rise to significant water quality excursions. SCA, Sydney Water and NSW Health have been undertaking planning for such an event, if it should occur.

6.6 Recommendations

6.6.1 Key recommendations

That the SCA:

- R6.1 Reviews the water quality monitoring program in light of the findings of the Expert Panel regarding nutrients and disinfection by-product precursors, the priorities identified in the Risk Management Plan and the requirements for characterising bulk water for treatment, in conjunction with Sydney Water and NSW Health.
- R6.2 Confirms that all pesticides used in significant quantities in the catchments are monitored through its Monitoring Plan and liaises with NSW Health following completion of the Sydney Water review to determine whether additional pesticide monitoring is required.
- R6.3 Includes a reporting item on the verification of the performance of the laboratories that would prompt the review in R6.2.



- R6.4 Finalises the development of the Risk Management Plan in the 2003/04 Licence period and determines the significance of pollution loads with respect to treated water quality and requirements for control.



7. Catchment management and protection

7.1 Summary of findings

► Manage and protect the catchments

Over 2002/03 SCA continued to apply its resources in a targeted manner to achieve Catchment Management and Protection. Increased integration across programs is occurring so higher risk environmental issues, such as pollution sources, are being identified and targeted. However, some programs, even those identified as Ministerial Requirements, remain not actioned or afforded a low priority, for example, establishing a formal mechanism so as to ensure SCA receives from Councils all State Environmental Planning Policy (SEPP) 58 development applications and conditions of consent.

No requirement applied to many clauses in 2002/03 as planning targets had been met in earlier years. **High compliance** was assessed for most of the remaining tasks. However, **Partial** and **Low compliance** were assessed for coordinating and publishing water quality data and a number of 'implementation' tasks including the Special Areas Strategic Plan of Management and Wingecarribee Swamp and Special Area Plan of Management.

SCA's existing catchment management and protection programs were expanded through implementing enforcement activities under the *Sydney Water Catchment (Environmental Protection) Regulation 2001*. SCA is to be congratulated for actively applying this catchment management tool in 2002/03 following a low implementation level in earlier years.

Enforcement activity under the *Sydney Water Catchment Management (General) Regulation* increased over previous year levels (69 Penalty Infringement Notices, \$20,700).

SCA's "best endeavours" to coordinate and collect data on water quality in the catchment continues at a low performance level (particularly in regard to *data collected by other relevant bodies*), as is SCA's performance in making unpublished river health data available to the public.

SCA's expanded liaison with Councils has assisted coordination of compliance and inspection, however a formal link to advise SCA of development commencement (under SEPP 58 powers), as directed by the Minister in 2000/01, was again assessed as a **Low compliance**.

► Special Areas Strategic Plan of Management

SCA finalised an agreement in 2001 with NPWS to implement the Special Areas Plan of Management (SASPoM) through *program plans*. Strategic framework and performance reporting is evident. However, many Key Actions are behind the timetable contained in the Ministerial endorsed Plan of Management (2001). A number of key (SASPoM) actions and *performance indicators* continued not to be met over 2002/03 particularly, viz: appoint an "external, independent, scientific body" and formalise a "charter of public disclosure".

► Wingecarribee Swamp and Special Area Plan of Management

SCA's implementation of the Wingecarribee Swamp and Special Area Plan of Management is well organised, reported and the commitment of staff clearly evident. However, many Key Actions have not met the Ministerial endorsed Plan of Management (2001) timetable and expenditure (*actual costs*) would not appear to have increased to meet the Ministerial requirement (2001/02)



to “*accelerate action*” to implement the Plan.

- ▶ SCA achieved the transfer of a further 18,000ha of Special Areas to NPWS and agreed to a funding basis.

- ▶ **Regional Environmental Plan**

Despite SCA being in its fourth year of operation, the Regional Environmental Plan, “*Sustaining the Catchments*” is yet to be established. Whilst responsibility for the REP rests with DIPNR, an inter-departmental resolution at CEO or Ministerial level may be needed to gain agreement to achieve Gazettal and implementation in 2003/04.

- ▶ **State Environmental Planning Policy**

SCA has continued to develop and apply a professional approach to its catchment planning role (under SEPP 58) and is doing so in partnership with Councils in this regard.

7.2 Summary of requirements

The objective of Part 7 of the Operating Licence is to enable (through regulatory powers) and requires SCA to manage and protect the Catchment Area. The inner catchment comprises lands gazetted as *Special Areas* largely managed by the SCA and the National Parks and Wildlife Service, and the outer catchment comprises a variety of land uses mostly in private ownership.

The requirements of Part 7 may be summarised as follows:

- ▶ Manage and protect the Catchment Area to the full extent to which it is empowered;
- ▶ Co-ordinate and collect data available on water quality in the Catchment Area, including data collected through Memoranda of Understanding, as well as by other relevant persons or bodies;
- ▶ Make unpublished data on river health available to the public;
- ▶ Develop, implement and maintain the currency of the Special Areas Strategic Plan of Management;
- ▶ Develop, implement and maintain the currency of the Wingecarribee Swamp and Special Area Plan of Management;
- ▶ Comply with the requirements, and promote the implementation of, the Regional Environmental Plan (“*Sustaining the Catchments*”); and
- ▶ Comply with the requirements of SEPP 58 “*Protecting Sydney’s Water Supply*”.



7.3 Details of compliance

Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
7.1	Authority to manage and protect		
7.1.1	Manage and protect the catchment area	High compliance	<p>SCA has continued to demonstrate high compliance over 2002/03 as it has:</p> <ul style="list-style-type: none"> ▶ Actively pursued bushfire management over summer. ▶ Developed a regulatory procedural framework, which acts as a manual for regulation and to direct staff training. This framework recognises that SCA is part of a broader regulatory framework (of sixteen Councils and the EPA) for pollution control and therefore the need to minimise overlap. ▶ Built on past catchment audits and pollution source risk information to provide a five year strategic framework (SCA's <i>Healthy Catchment Program 2003-2007</i>) to protect and improve catchment health. ▶ Continued to target high risk areas with improvements in effluent quantity: at (11) dairies; Blue Mountains domestic effluent compliance audit via "Septic Safe" (the report titled <i>Joint Sydney Catchment Authority, Blue Mountains City Council Pilot On-Site Sewerage Management Project</i> (undated) was sighted); mine tailings stabilisation; and on ground remediation and grant programs. ▶ Commenced direct enforcement of the <i>Sydney Water Catchment (Environment Protection) Regulation</i> through: staff training; issue of (10) Penalty Infringement Notices (for littering and clean up (\$2,850); referral of (28) littering matters to EPA; issued (8) clean up or prevention notices; conducted POEO Act breach investigations; and determined its role consistent with the compliance role of EPA and Councils (to avoid duplication). ▶ Enforced the "<i>Sydney Water Catchment Management (General) Regulation 2001</i>", which enables Penalty Infringement Notices to be issued against illegal actions (for example, access, trespass, pollution within the special areas); sixty nine (69) PIN's totalling (\$20,700) were issued. Implemented a Trail Bike Blitz (see Clause 7.5.1). ▶ Expanded its POEO Act compliance (for example, illegal dumping).



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> ▶ Applied its resources, through appropriate conditions of consent, to implement State Environmental Planning Policy 58 and Special Areas Plan of Management (see Clause 7.2 and 7.3). ▶ The Catchment Protection Program (SCA contributed \$620,000 to the \$847,000 State funding expenditure in 2002/03), which focused on erosion and sediment control, landholder contribution and community education. (the <i>Catchment Protection Scheme Annual Report for 2002/03</i> was sighted). Over 4,926ha of land degradation were treated, including contributions by landholders. DIPNR (Appendix G) indicated some 18,000m² of sediment has been retained properties due to the Program over the last 12 months. However, the same quantity was quoted in DIPNR’s comments on last year’s audit. ▶ Completed the transfer of all land (18,000 ha) for conservation protection to the National Parks and Wildlife Service on 28 June 2002. ▶ Working in areas of education (viz: Biodiversity Expo, Bowral, September 2002), training, data, enforcement and policy development. <p>Further improvement is available:</p> <ul style="list-style-type: none"> ▶ SCA is undertaking a diverse range of programs, commonly risk driven. But are these programs effective and deliver improved catchment health? SCA has recognised this need and is seeking to answer this question via its <i>Healthy Catchment Program, 2003-2007</i>, which will be included in next (2003/04) year’s audit. ▶ SCA should formally establish a notification link with Councils to advise development commencement, conditions and compliance. (Note: this need was also a Ministerial Requirement in the 2001/02 audit, which was assessed in that year as ‘low compliance’).
7.1.2	Use its best endeavours to coordinate and collect data on water quality in the catchment area including data collected as a result of the MOUs as well as data collected by other relevant persons or bodies.	Low compliance	<p>The SCA has coordinated and collected data on water quality from a <i>“whole of government”</i> approach however, it has not effectively collated data from <i>other relevant persons or bodies</i>. The latter continues, as with the previous three (3) years, to be a low SCA priority.</p> <p>SCA has worked within a policy framework for the collection of Natural Resource (such as the Natural Resource Information Management Strategy) and Water Quality Data on a <i>‘whole of government’</i> basis. This includes: providing water quality data to Department of Health as it is required, as well as Hawkesbury / Nepean Monitoring Framework;</p>



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>Independent Expert Panel and Management Forum; and State Water Monitoring Committee.</p> <p>Further, SCA had indicated in the 2001/02 audit that it intended to identify its current data sets through a “knowledge audit” and identify information gaps and stakeholder and custodian needs. However, such gaps (or needs) were not identified through the “knowledge audit” program. SCA also indicated it intends to <i>establish</i> a “Catchment Information System” to form the knowledge base or hub for water quality information. This system remains as a framework and has not, as yet, specifically identified the water quality data under this clause.</p> <p>Consistent with previous years, SCA has not:</p> <ul style="list-style-type: none"> ▶ Developed or applied a framework to identify, inventory, record and coordinate the collection of data produced by “<i>other relevant persons or bodies</i>” within its catchment area (and outside the <i>whole of government</i> activity). ▶ Advanced its initiative with Councils to identify water quality data collections and needs. ▶ Demonstrate <i>its best endeavours</i> by encouraging “<i>other relevant persons or bodies</i>”, (viz: Landcare, Universities, Councils, schools etc) who collect water quality data or by coordinating results (perhaps on a web noticeboard), which could be available to SCA and others interested in the catchment area. <p>Rather, SCA’s priorities for water data rests with meeting its internal needs, as expressed through, for example, its Health Catchment Plan. Further, SCA has continued its participation in “<i>whole of government</i>” approaches to water quality data. SCA believes this performance demonstrates its “<i>best endeavours</i>”.</p> <p>In DIPNR’s comments (Appendix G) in relation to SCA’s performance under this clause, it advised:</p> <p><i>“DIPNR has no knowledge of SCA’s actions required under clause 7.1.2 and therefore compliance with the cause can’t be assessed. In (sic) must be noted that SCA participates in the Whole of Government approach (HN IWMF) to water quality undertaken by DIPNR to some extent. Increased or more active participation of a key player like SCA will improve the effectiveness and saleability of the IWMF program.”</i></p>



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
7.1.3	Make unpublished data in relation to river health publicly available	Low compliance	<p>SCA continued in 2002/03 towards compliance with this clause through programs such as the <i>Knowledge Audit</i>, the <i>Catchment Information System</i> and data identification. SCA also responded to requests for data by the Hawkesbury Nepean River Management Forum and the Healthy River Commission. An independent audit of the <i>Hawkesbury Nepean and Shoalhaven Rivers</i> (extract sighted) found that the requirement for SCA to make its unpublished data publicly available, is progressing.</p> <p>SCA also provides data, if and when requested and one such instance was sighted.</p> <p>However, SCA has demonstrated low compliance as:</p> <ul style="list-style-type: none"> ▶ The 'Knowledge Audit' conducted in 2002/03 did not provide a full listing of unpublished data and an alternate means of identifying such data did not commence until later in the audit year. ▶ Similarly, the Catchment Information System remains at a concept stage and has not identified unpublished data. ▶ SCA has not advised the public of the unpublished data on river health it holds. ▶ SCA continued through 2002/03 to operate under the previous year's draft policies viz:- draft policy entitled <i>Publication of River Health Data (Policy No. 66)</i> and draft policy <i>Release of Information (Policy No. 070)</i>. SCA did, however, monitor relevant government policies (for example, NSW Government's <i>Accessing & Pricing NSW Government Held Information Policy</i>). ▶ SCA responded to requests for data from the Hawkesbury Nepean River Management Forum and the Healthy Rivers Commission. <p>Further action is required to:</p> <ul style="list-style-type: none"> ▶ Implement the requirements of this clause; ▶ Finalise the draft data and information publishing policies, consistent with broader NSW information access policies, (for example: <i>Charging for Supplying Information and Natural Resource Information Strategy</i>); and ▶ Identify and produce a consolidated list of unpublished data and make the list available



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>on its website (or other means to make it publicly available).</p> <p>Note: SCA has advised it has targeted January 2004 to have the above package for SCA's Executive consideration.</p>
7.2	Special Areas Strategic Plan of Management		
7.2.1	Definition of Special Areas Strategic Management Plan	No requirement	
7.2.2	Give effect to the Special Areas Strategic Plan of Management in consultation, and wherever possible, collaboration with NPWS.	High compliance	<p>The Special Areas Strategic Plan of Management (SASPoM) was given Ministerial endorsement on 9 May 2001. SCA and NPWS have subsequently applied an implementation model ("<i>Special Areas Strategic Plan of Management Implementation Model</i>") to coordinate the resources within both SCA and NPWS under all five SASPoM strategies.</p> <p>SCA has demonstrated high compliance as it has:</p> <ul style="list-style-type: none"> • Completed the transfer on 28 June 2002 of a total of 18,000 ha of land from SCA to NPWS for management. • Transferred some \$2.1 million to NPWS to fund the management of the transferred special areas in 2002/03. The final payment (\$0.7m) is awaiting improved NPWS accountability with respect to its resource input to SASPoM lands. • Strengthened management, through clearer programs, performance monitoring and reporting and improved NPWS communications. • Fully consulted with NPWS on SASPoM and implemented joint management initiatives, however, NPWS's financial management of grant funds have not been to the rigor sought by SCA. <p>Further improvement is required:</p> <ul style="list-style-type: none"> • Again in 2002/03, SCA has not appointed an "<i>external, independent scientific body</i>", which has meant that, to a large extent, the performance indicators contained in the plan are yet to be independently endorsed. This lack of scientific scrutiny, as required by the Plan, is of concern in not only ensuring SCA's implementation of SASPoM is being



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
			independently measured (through performance indicators) but also that the required level of transparency has not been achieved. <ul style="list-style-type: none"> SCA should finalise and implement a “<i>charter of public disclosure</i>” which, after SCA’s fourth year of operation, remains in a draft form.
7.2.3	Reporting on compliance with the Special Areas Strategic Plan of Management by 1 September each year	High compliance	The <i>Annual Report on Implementation 2002/03</i> and covering letter (30 August 2002) were sighted. The report is concise, more comprehensive than 2001/02 and is well structured. Full transparency has not been achieved, as reporting was not through an “ <i>external, independent scientific body</i> ”, nor “ <i>charter of public disclosure</i> ”, as required by SASPoM.
7.2.4	Review Special Areas Strategic Plan of Management every 5 years	No requirement	There is no requirement for this audit period (this clause was fully complied with during the 2000/01 audit period).
7.2.5	Proposed amendments to the Strategic Plan of Management must be brought to the Minister’s attention for his consideration	No requirement	No amendment to the plan occurred during 2002/03.
7.3	Wingecarribee Swamp and Special Area Plan of Management		
7.3.1	Definition of WSSPoM	No requirement	
7.3.2	Review of Wingecarribee Swamp and Special Area Plan of Management and develop a new plan by 1 December 2000 with NPWS	No requirement	The current plan was adopted by the Minister on 1 May 2001 and no review was undertaken during 2002/03. The Clause was fully complied with during the 2000/01 audit period.
7.3.3	The new or amended Wingecarribee Swamp and Special Area Plan of Management must consider rehabilitation and restoration of the swamp and objectives and strategies consistent with those in the Special Areas Strategic Plan of Management	No requirement	This clause was fully complied with during the 2000/01 audit period. The Plan provides a consistent set of objectives and strategies with the Special Areas Strategic Plan of Management. However, SCA should record its achievements against the Ministerial endorsed Plan of Management, as opposed to SCA’s “Implementation Plan”, timetable.
7.3.4	Give effect to the Wingecarribee Swamp and Special Area Plan of Management.	Partial compliance	SCA has demonstrated solid performance but only partial compliance as it has: <ul style="list-style-type: none"> Completed a third year of <i>Salix</i> (willow) control and undertook an independent audit of its effectiveness within the inner catchments (and achieved 99% success on mature plants).



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>SCA also participated in a Shire wide control program in cooperation with DIPNR and Wingecarribee Shire Council.</p> <ul style="list-style-type: none"> ▶ Completed an Aboriginal heritage study of the Swamp; ▶ Implemented a monthly monitoring program of water quality both entering and exiting the swamp to determine the impact of works within the catchment; ▶ Completed a Field Study centre feasibility study; ▶ Prepared a hydrogeological scoping study; and ▶ Consulted with NPWS in relation to threatened species and Aboriginal heritage matters. <p>Further improvement is available to SCA through:</p> <ul style="list-style-type: none"> ▶ Establishing an “<i>independent expert reference panel</i>” and a “<i>charter of public disclosure</i>”; and ▶ Actions to implement Ministerial Requirements (61 from the 2001/02 audit) in accord with the Plan of Management timetable. The 2002/03 Annual Report indicates a third of Key Actions as being “<i>Partly Complete</i>” or “<i>Pending</i>”, further two thirds as being “<i>Completed</i>”, though some require “ongoing” actions.
7.3.5	Report on compliance with the Wingecarribee Swamp and Special Area Plan of Management by September each year	High compliance	<p>SCA demonstrated high compliance as it:</p> <ul style="list-style-type: none"> ▶ Provided a compliance report by 1 September 2002 covering the period 2001/02. ▶ Provided the <i>Wingecarribee Swamp and Special Areas Plan of Management 2001/02 Annual Report on the Implementation Plan</i> dated August 2003, covering the period to July 2002, and forwarded to IPART (30 August 2003).
7.3.6	Review of Wingecarribee Swamp and Special Area Plan of Management every five years	No requirement	Wingecarribee Swamp and Special Area Plan of Management was to be developed by 1 December 2000 (clause 7.3.2). The Plan was subsequently adopted by the Minister on 1 May 2001 and, as such, a revised plan is not scheduled until 1 December 2005.
7.3.7	The outcomes of the review in 7.3.6 must be brought to the Minister’s attention, for his consideration.	No requirement	See Table 7.1, Clause 7.3.6 above.



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
7.4	Regional Environmental Plan		
7.4.1	Comply with Regional Environmental Plan (REP)	No requirement	The Regional Environmental Plan “ <i>Sustaining the Catchment</i> ” has continued to remain as a draft plan throughout 2002/03.
7.4.2	Promote implementation and awareness of the REP	No requirement	SCA has prepared itself by adopting a regional strategy for the implementation of the REP once it is gazetted. A number of projects promoting REP implementation were undertaken in 2002/03 including: reviewing the ‘ <i>Neutral / Beneficial</i> ’ guidelines; assisting in a pollution offsets scheme, pilot application of the Strategic Land and Water Capability assessment to Wingecarribee and Nattai sub catchments and, with further development, application to Wollondilly and other sub catchments.
7.4.3	Consider and report in matters in 7.4	No requirement	See Table 7.1, Clause 7.4.2 above.
7.5	State Environmental Planning Policy		
7.5.1	SCA to comply with SEPP 58	High compliance	<p>SCA has demonstrated high compliance as it has:</p> <ul style="list-style-type: none"> • Applied a comprehensive and professional planning service, to comply with SEPP 58, and coordinate its role with councils. • Assessed 708 Development Applications (of the 728 DAs received) and monitored the assessment process through a systematic recording and tracking system, viz: the Development Application Register. • Processed 92% (98% in previous year) of DAs within the defined time limits for assessment. It applied a ‘Stop the Clock’ process in about a quarter of DA’s received. Two development applications were refused concurrence. • Completed compliance inspections based on a risk approach (viz: those that are likely to have the greatest impact on catchment health and/or are adjacent to water bodies). During 2002 to 2003 some 105 (or 14%) of Development Applications processed in the year were recorded as being inspected for compliance on one or more occasions and, of these, 16 were determined as non compliant. • Established a Mining Working Group to enhance assessment of mining applications.



Table 7.1 Part 7: Catchment management and protection – summary of compliance

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Continued to develop its <i>Development Application Register</i> (DAR) for internal monitoring and compliance reporting by field officers. Audits of land and water capabilities (for example Wollondilly Shire) and a DA Module (DAM) to estimate the effluent impacts on water quality are being applied. <p>Note: A sample of seven DA assessments were reviewed by the auditor for a variety of developments and found to be in compliance with SCA's responsibilities.</p> <ul style="list-style-type: none"> Ministerial Requirement (M6J 2001/02) required a formal link be established with Councils to ensure it receives all SEPP 58 DA's and advice on commencement to improve compliance inspection. SCA advised such a formal link was not established, due to resourcing difficulties, though it is seeking such links through developing an electronic registration of DA's in concert with Councils. <p>Further improvement is available to:</p> <ul style="list-style-type: none"> Establish a formal system of direct advice to SCA of all DA's submitted to Council (to meet 2001/02 Ministerial Requirements M6J). Note: SCA has programmed electronic notification of DA registration by Councils as a Stage 3 of its DA Register (DAR) and is developing a cooperative approach to such a system. Establish a system of direct advice from Councils with regard to commencement of developments and compliance. Monitor "effectiveness and compliance of development consent conditions". SCA had made budgetary provisions to: monitor effectiveness of DA conditions and check compliance of Councils DA register with SEPP 58 in the 2002/03 Financial Year, however this was not undertaken. Rather SCA further developed communication and support to Councils (via its DAR, DAM and compliance staff).
7.5.2	Licence Regulator to consider and report on matters in clause 7.5	No requirement.	This condition does not invoke a requirement on SCA.



Table 7.2 Ministerial requirements relating to catchment management and protection

ID	Requirement	Compliance	Findings
M2	<i>"I require that the SCA provides both myself and IPART with quarterly reports on the implementation of this [Sydney Water Catchment (Environmental Protection) Regulation 2001] regulation. The report should be made available to me on or before 28 March 2003."</i>	High Compliance	<p>SCA has actively pursued the implementation of the <i>Sydney Water Catchment (Environmental Protection) Regulation 2001</i>, with a comprehensive program of training, establishment of compliance units, investigation of breaches as well as the issuing of Penalty Infringement Notices. Further it has recognised SCA's role needs to be complementary to but not replace those of the EPA or Councils within its areas of responsibility.</p> <p>SCA forwarded its initial quarterly report on the implementation of the Regulation on 5 May 2003 and the second on 30 July 2003. This is a technical non-compliance in that the Minister had requested the document by 28 March and 30 June 2003. Further, SCA's Chief Executive had (29 May 2003) advised IPART that the reports would, in future, be provided <i>'in accordance'</i> with the Minister's Directive, viz: on time. However, SCA Ministerial Briefing Note (M2003/00140) advised that the reports continued to be provided after the required date.</p> <p>The first report sets out clearly and concisely key actions, as outlined above, as well as priorities proposed for the next quarter. The second quarterly report highlighted compliance involving: finalisation of a compliance database; further training of SCA officers in littering enforcement and regulatory training; investigations; clean up notices; and prevention notices. Again, the focus of the following quarter was identified as being a compliance audit program for priority industries under the littering offences component.</p> <p>SCA has delivered a considerably enhanced compliance program in 2002/03 following the low implementation approach of earlier years.</p>



7.4 Discussion

7.4.1 Management and Protection of the Catchment

Catchment area management and protection is covered by Part 7 of the Operating Licence and contains some five clauses.

Clause 7.1.1 requires the “*Authority to Manage and Protect*” the catchment area and is a broad but important Licence condition. The auditor has relied on indicators to assess the SCA’s compliance in catchment management and protection, “*to the full extent to which it is empowered to do so*”.

A variety of land ownership and uses gives rise to at least three operational frameworks in which the SCA must discharge its catchment obligations.

Operational frameworks

In respect of the Special Areas (or “inner catchment”), two operational frameworks apply. Firstly, the SCA has direct catchment management responsibility for land to which it has title. Secondly, where the Special Area is also reserved under the *National Parks and Wildlife Act 1974*, SCA’s responsibility is focussed on matters of water quality and catchment protection. SCA completed the transfer of a total of 18,000ha to NPWS on 28 June 2002.

In the “outer catchment”, a third operational framework applies where the SCA is monitoring, responding to and regulating a variety of public and private land uses in so far as they affect water quality and catchment protection.

Regulations

SCA’s catchment management enforcement largely stems from two Regulations. The first, the *Sydney Water Catchment Management (General) Regulation 2001*, enables Penalty Infringement Notices (PIN’s) to be issued for illegal actions (for example, access, trespass, pollution etc.) within the Special Areas. The procedure for enforcement under this Regulation is familiar to SCA’s authorised officers and is actively implemented.

Secondly, the *Sydney Water Catchment Management (Environment Protection) Regulation 2001* applies across the entire catchment and gives SCA’s authorised officers powers equivalent to EPA officers under the *Protection of Environment Operations Act* but only for activities not licensed by the EPA. Although this regulation came into force 1 March 2001, SCA’s enforcement commenced in earnest over 2002/03, through expanded programs of training and compliance such as the issuing of Penalty Infringement Notices.

Enforcement of the *Environment Protection* Regulation was the focus of a Ministerial Direction (M2: Table B 2002/03) and SCA has responded with much improved performance, particularly compliance activity. However, it also demonstrated enhanced performance through internal structure (a formalised compliance manager), training, expanded powers, promotion and reporting. SCA is to be congratulated on this improved compliance performance.

Achievement in Catchment Management Protection

SCA’s achievements for 2002/03 in Catchment Management have included the following.



- ▶ Increased implementation, jointly with NPWS, of the Special Areas Strategic Plan of Management (see also Section 7.4.2, below);
- ▶ Improving protection at a strategic level including the involvement of SCA in the broader water agency CEO's meetings;
- ▶ Whilst the draft REP (*Sustaining the Catchments*) remains to be finalised, SCA has commenced pilot Rectification Action Plans (for example, Wingecarribee sub-catchment) and developed Strategic Land and Water Capability Assessments (for example, Wollondilly, Upper Wollondilly and Mulwaree sub-catchments);
- ▶ Initiation of riparian planning studies involving aerial photography of Wingecarribee River and ground base support information;
- ▶ Operation of a "community grant programs";
- ▶ Willow control throughout Wingecarribee catchment;
- ▶ Focus on the dairy industry with 11 dairies fully implementing effluent control;
- ▶ Expanded SCA management powers under POEO Act over 2001/02, for illegal dumping and transport controls. However, a formal mechanism for SCA to receive consent conditions (under SEPP 58) is not yet established;
- ▶ SCA's mechanism to register compliance was enhanced as well as 'assisting' Councils to support their planning base;
- ▶ SCA officers also sought to achieve catchment protection and management through integrated operations (with Councils, EPA, DIPNR, NPWS and other government agencies) and in liaison with a broad range of programs (for example, Landcare, bushcare, education awareness such as show and field days, and representation on consultative committees);
- ▶ Effective direct management through chemical collections, test control, rodent control, bushfire maintenance, slashing for fire control, direct conservation of heritage sites along with horticultural best practice management; and
- ▶ Sewerage effluent monitoring through the Blue Mountains pilot program ("Septic Safe" Program).

Coordination of water quality data

Clause 7.1.2 requires SCA to use "...its best endeavours to coordinate and collect data on water quality". However, SCA's focus is almost exclusively on water quality data collected under "whole of Government" programs. Thus, the need to undertake a 'coordinate and collect' role for data not included by this "whole of Government" activity remains outstanding. SCA had, in the previous audit year, contacted some sixteen Councils in regard to water data and this information has become part of a larger Catchment Information System. No further action on this initiative was reported in 2002/03.

Data are collected outside the "whole of Government" area through, for example, research programs and information from specific investigations. Data from "other relevant bodies" includes the work of *Stream-Watch* or universities.

DIPNR (previously DLWC), in its submission (Appendix G), identified that SCA participated in the 'whole of government' water quality data programs "to some extent" and identified the opportunity for "increased or more active participation". These comments largely duplicate those made on SCA's performance in the previous year.



As in previous years, the opportunity remains for SCA to identify data on water quality, and collect and coordinate data consistent with its “*best endeavours*”, including data collected as a result of its MOUs as well as data collected by other relevant persons or bodies.

SCA is required to make its unpublished data on river health publicly available (Clause 7.1.3), and had identified a number of programs (viz: the Knowledge Audit and Catchment Information System) as means of identifying such data in the previous year. However, these programs (viz: being too broad or conceptual, respectively) did not identify a full listing of SCA’s unpublished data, which, combined with the continuing use of draft policies on making data publicly available result in a continuing low compliance in 2002/03.

7.4.2 Special Areas Strategic Plan of Management.

Section 45 of the Act required the Minister to undertake a review of the Special Areas lands to determine whether the objectives of the SCA would be more effectively attained if the land concerned was vested in the Minister administering the *National Parks and Wildlife Act*. The review of these lands was completed and over the last two years SCA has successfully transferred a total of 18,000 ha of land to NPWS.

SCA provides two 2002/03 Annual Reports on implementation: one for the *Special Areas Strategic Plan of Management*; and secondly, the *Wingecarribee Swamp and Special Area Plan of Management 2002/03 Annual Report on the Implementation Plan* (see Section 7.4.3).

Special Areas Strategic Plan of Management (SASPoM).

SCA developed (in 2001/02) a SASPoM Implementation Model to coordinate both SCA and NPWS under all five SASPoM strategies. A *program plan* has been developed (viz:- *research and data, operations, policy and government relations, joint management and public scrutiny, and public education and awareness*) and achievements in 2002/03 were reviewed. The *program plans* are directed to delivery between 2002 and 2007 and thus represent a planning tool for current and forthcoming years.

Some *program plans* do not involve financial allocations (for example, *policy and government relations program plan*) but rather provide a structure to indicate how strategic priorities for the special areas are being managed. It is further noted that the *program plans* do not directly relate to, but rather form a matrix across the five SASPoM strategies, (viz:- *whole of catchment management; ecosystem management; public education and awareness; joint management; and public scrutiny*). However, SCA reports SASPoM implementation against the five key strategies inherent within the Operating Licence in a clear and concise manner.

The 2002/03 *Annual Reports on the Implementation of SASPoM, and the “Financial Statements”* for the two previous years were reviewed (see Table 7.3), and a number of changes in program priority were identified as described below:

- **General Observations:** The SASPoM is a well organised and executed joint SCA-NPWS program to manage Sydney’s drinking water catchments. The “SASPoM” *Annual Report on Implementation 2002-2003* is more comprehensive than previous reports and shows a risk based approach is being implemented. However, implementation has been delayed (for example, Recovery Plans for *E. bethamii* and Southern Brown Bandicoot) or, in some cases incomplete (for example, an Expert Independent Scientific Body or Charter of Public Disclosure, which despite the Plan being in its third year of operation, have yet to be established). Other strategies (for example, ‘Research’ under Strategy Two: Ecosystem Management) have shown significant increases in expenditure and activity.



- ▶ *“Whole of Catchment”*: SCA’s financial statements indicate that expenditure on this strategy dropped some three fold from the previous year, though progress (for example, Rectification Action Plans and Wingecarribee Strategic Land and Water Capability Assessment) was made. This drop relates to a change in accounting where only that expenditure specifically directed to the SASPoM is recorded as opposed to previous years where the total SCA-wide expenditure on that action was recorded.
- ▶ *“Ecosystem Management”*: Continued in 2002/03 with a focus towards assessment and data collection (for example, derelict mine program, threatened species profile and vegetation mapping), which provide a solid information base. It would appear that Fire Management, Research and Salaries/Vehicles received boosts to the detriment of a number of *‘on ground’* catchment management programs (for example, water quality, pest and weed management, soil conservation, cultural heritage management).
- ▶ *“Public Education”*: This program had a decreased expenditure (half) compared to last (2001/02) year, and involved joint sponsoring of websites and community awareness surveys.
- ▶ *“Joint Management”*: Progress continued in 2002/03 through meetings and agreements ranging from management groups to field operatives. Much of the expenditure was directed to supporting a SASM Secretariat (\$387K).
- ▶ *“Public Scrutiny”*: This strategy was enhanced through the requirement to provide annual reports on the implementation of the SASPoM. SCA has met this requirement in the last three years. As indicated, SCA’s *charter of public disclosure* remains to be completed though the original draft was prepared some three years ago (in 1999). Action is required to accelerate the finalisation and adoption of a *charter of public disclosure*. The lack of a *charter of public disclosure* combined with the inability to establish and resource *an external independent scientific body* constrains the public accountability requirements of the Plan. SCA updated its website which received over 66,265 hits, though SCA’s system could not monitor individual pages, such as the SASPoM page.
- ▶ *“Performance Indicators”*: The implementation Plan contains information regarding performance indicators... *“to be measured by an external independent scientific body (as set up by Strategy five)”*. Whilst NPWS and SCA have reached agreement on the performance indicators, their final adoption and scrutiny in the public area remains (as for the previous years) to be ratified. SCA continued its practice in 2002/03 of identifying strategic priorities for the forthcoming years (2002 – 2007) providing confidence in SCA’s forward planning.

The National Parks and Wildlife Service (now part of the Department of Environment and Conservation, DEC) in its comments on SCA’s performance, indicated it holds monthly consultations in regard to the implementation of the Special Areas Strategic Plan of Management (SASPoM). DEC also sets out its role under SCA’s catchment management and protection programs (Part 7) and assessed SCA’s performance under Part 7 as *satisfactory* (refer to Appendix G).



Table 7.3 Financial statements on implementation of the Special Areas Strategic Plan of Management over the last three years.

Strategy	Project description	Expenditure 2000/01 (\$,000)	Expenditure 2001/02 (\$,000)	Expenditure 2002/03 (\$,000)
Strategy One: "Whole of Catchment"				
	Preparation of REP	231	364	386
	Salary and Vehicles		1,402	203
Strategy Two: "Ecosystem Management"				
	Fire Management	1,567	789	1,267
	Water Quality	435	425	100
	Pest and Weed Management	1,092	511	117
	Soil Conservation	593	170	153
	Unauthorised Access Management	692	237	269
	Ecological Assessments	246	456	12
	Cultural Heritage Management	490	169	33
	Geographic Information System	205	125	50
	Rehabilitation	-	235	70
	Research	587	373	1,234
	Miscellaneous	168	326	9
	Salaries and Vehicles	1,092	1,482	2,632
Strategy Three: "Public Education"				
	Education and Awareness Projects	62	101	65
	Salary and Vehicles		126	50
Strategy Four: "Joint Management"				
	SASM Secretariat	64	112	387



Strategy	Project description	Expenditure 2000/01 (\$,000)	Expenditure 2001/02 (\$,000)	Expenditure 2002/03 (\$,000)
	Management Overheads		115	
Strategy Five: "Public Scrutiny"				
	Public Disclosure		10	12
	Web Site	75	5	9
	Annual Report		5	42
Total		7,851	7,523	7,125

(Source: SCA Annual Report on Implementation of SASPoM 2000/01, 2001/02 & 2002/03*)

(Note: NPWS Funding to the agreement could not be confirmed in the 2002/03 Annual Report)



7.4.3 Wingecarribee Swamp and Special Area Plan of Management.

The 2002/03 *Annual Report on the Implementation Plan*, like earlier reports, is clear and comprehensive. The format, scope and nature of the report provide an outline of key actions and SCA's performances.

Solid progress has been made in 2002/03 however, the rate of progress is slower than the timeframe specified in the Ministerial endorsed Plan of Management (2001). SCA reported its performance against an *"Implementation Plan"* (dated November 2001) and not the timetable endorsed by the Minister. The opportunity is available (through Clause 7.4.1) to advise the Minister of changes and request a revised timetable, if considered necessary. The *"Implementation Plan"* contains an extended timetable for many actions.

Notwithstanding the extended timetable, many actions remain *'pending'*, *'partially completed'* or *'ongoing'*. Thus whilst performance is solid the rate of implementation requires to be increased to achieve the Ministerial endorsed timetable.

The opportunities for improvement in reporting lie in meeting the original *timeframes* identified in the Plan of Management and providing a clearer outline of expenditure specific to WSSPoM over the operating year.

A Ministerial requirement (6I) in 2001/02 was for SCA to *"accelerate action"* to give effect to the plan. However, in addition to extended timeframes on some key actions, expenditure would appear to have been reduced, for *"on ground"* management. For example, SCA provide a *"Financial Statement for Implementation of WSSAPoM"* in its Annual Report on the *Implementation Plans*. SCA provided to the Auditor a breakdown on *"Expenditure on the Swamp only"* and *"expenditure on Planning and REP"* (summarised in Table 7.4). The latter recognises that the Swamp could benefit from wider SCA programs. (Note: a clearer picture of SCA's resources allocated to implementing to the plan would be gained by expressing "SCA labour cost" in terms of dollars or Full Time Equivalents.)

'Expenditure on Swamp only' in Table 7.4 would appear not to have increased and may have dropped over the last two years which, appears contrary to the Ministerial requirement (M6I, 2001/02) to *"accelerate action to give effect to Wingecarribee Swamp and Special Area Plan of Management..."*.

SCA's staff are clearly committed to implementing the Plan, and SCA needs to ensure adequate resources are made available to do so.

The *Wingecarribee Swamp and Special Areas Plan of Management* was subject to an implementation review in the 2001/02 operational audit and further details are available in that year's IPART audit report.



Table 7.4 “Copy of Reconciled Details to Reflect Actual Costs for Wingecarribee Swamp” (source: SCA – October 2003)

Strategy	2000/2001		2001/02		2002/03	
	Expenditure on Swamp only	Expenditure on Planning and REP	Expenditure on Swamp only	Expenditure on Planning and REP throughout Wingecarribee Catchment	Expenditure on Swamp only	Expenditure on Planning and REP throughout Wingecarribee Catchment
1. Whole of Catchment Management Approach	-	SCA Labour cost	-	\$1,160,060 + SCA Labour costs	-	\$75,000
2. Ecosystem Management Approach	\$565,000	-	\$572,087	-	\$456,174	-
3. Public Education and Awareness Campaign	-	SCA Labour costs	SCA Labour costs	-	SCA Labour costs	-
4. Effective Joint Management Processes	\$20,000	SCA Labour costs	SCA Labour costs	-	SCA Labour costs	-
5. Public Scrutiny	-	SCA Labour costs	SCA Labour costs	-	SCA Labour costs	-
TOTAL	\$585,000	SCA Labour costs	\$572,087	\$1,732,147	\$456,174	\$75,000



7.4.4 Regional Environmental Plan.

Although this is the fourth Operational Audit of the SCA, the REP “*Sustaining the Catchments*” remains to be finalised or implemented. As indicated by SCA, responsibility for gazettal of the REP lies with DIPNR, the former PlanningNSW (Department of Urban Affairs and Planning). Despite this slow progress, the SCA continues to be an active participant in the development of the Regional Environmental Plan, which will facilitate management and protection programs particularly in the outer catchment. Recognising both the importance of the REP in rectifying existing high risk sources of pollution in the catchment and the time and resources applied to developing the REP, slow progress is a significant concern. Further, SCA was not able to advise a proposed timetable for finalisation or gazettal of the REP. It is recognised that responsibility may lie outside SCA, however resolution at a interdepartmental or Ministerial level is recommended to establish such a timetable.

SCA allocated some \$386,000 (SCA Special Areas Strategic Plan of Management, Annual Report on Implementation 2002 – 2003) towards development of the REP; the bulk of which was paid as a fee to PlanningNSW (now DIPNR).

The inability to finalise the REP after a number of years is a concern. SCA continues to develop and apply (to the extent available in the absence of the REP) catchment protection planning tools (for example, advice to Councils regarding development control, pilot rectification plans, strategic Land and Water Capability Assessments).

Initiatives SCA has taken include:

- ▶ Developed and applied the methodology and piloted the Strategic Land and Water Capability Assessment, for example, piloted the assessment in Wingecarribee and Nattai sub catchments and applied the methodology in Wollondilly, Upper Wollondilly and Mulwaree sub-catchments of the Wollondilly catchment;
- ▶ Pilot Rectification Action Plan (Wingecarribee);
- ▶ Assessed the collection of water quality data on a sub-catchment basis (as opposed to an input output basis) so as to comply with the REP;
- ▶ Utilised the Local Government Reference Panel as a forum to engage Councils and help to establish the above recommended systems; and
- ▶ Linked the Development Application Register (DAR) with a GIS and provided such tools to assist local government.

7.4.5 State Environmental Planning Policy 58

SCA has continued to develop and apply a comprehensive and professional Development Application Register (DAR) and planning (DA Module) capability. SCA's efforts have also been directed to facilitate improved communication and a partnership with Councils by adding value (viz: provision of a GIS base for planning and integrated compliance).

SCA has developed and is applying a Strategic Land and Water Capability Audit to assist DA determinations in regard to effluent disposal in Wingecarribee Shire.

A sample of (7) nominated DA assessments was reviewed and the majority of the DAs were found to be effectively managed with clear and concise summaries, checklists and records of compliance. Two DAs



had incomplete checklists, thus it was not possible to confirm the DA assessment process or for a third DA whether SCA's conditions were included in the consent. A fourth DA indicated the consent was not consistent with SCA's advice but no further details are given as to whether the DA was rejected by Council. A fifth DA did not contain council's Consent Conditions, though these were requested by SCA, thus the consistency with SCA's advice could not be confirmed.

The sampled assessments demonstrated SCA's use of both model (standard) and site specific conditions, as required. It also confirmed the need for SCA to ensure its conditions are being applied firstly, by Council and secondly, in the development, itself. For example, SCA included conditions for enhanced capacity for on-site water treatment plants on a number of DA's. Such requirements are fundamental to SCA achieving protection of water quality.

Both the two previous audits (2000/01 and 2001/02) highlighted the opportunity for a formal notification link to advise SCA of development commencement, conditions and compliance. This issue has also been the subject of a Ministerial Directive (M6J in 2001/02). SCA's field officers continued to rely upon SCA's internal "*Development Assessment Register*". Compliance inspections are targeted to areas of greatest risk. It is noted that SCA had made budgetary provisions in 2002/03 to monitor the effectiveness of development consent conditions and an audit of Council's DA registers for SEPP 58 compliance, however this did not proceed.

SCA's effort has been directed to making its DA Register and planning tools available to Councils. SCA field officers have identified DAs, which had not been forwarded to SCA, thus the need for a formal link to include all DA's under SEPP 58 remains to be fulfilled.

7.5 Factors affecting compliance

The key factor affecting compliance in '*Catchment Management and Protection*' is the dependence on DIPNR to complete the REP "*Sustaining the Catchment*", which remained in draft throughout the 2002/03 year. At a lower level NPWS's (now DEC) performance in joint programs, such as the Special Areas Strategic Plan of Management implementation, influence SCA's compliance.

7.6 Recommendations

7.6.1 Key recommendations

That the SCA:

- R7.1 Secures a specific timetable and agreement of action with DIPNR to gazette and implement the Regional Environment Plan "*Sustaining the Catchments*".
- R7.2 Provides IPART with two progress reports (30 March and 30 June 2004) and an annual progress report (by 1st September 2004) covering the 2003/04 operating year on improving performance in *Catchment Management and Protection* clauses (7.1.2, 7.1.3, 7.2 and 7.3).



7.6.2 Secondary recommendations

That the SCA:

R 7.3

Identifies a definitive list of “other relevant persons and bodies” collecting water quality data in the Catchment area, including under its MOU with EPA, NSW Health and WAMC; collates a list of data collected by the above organisations in the Catchment area; and determine which of the above water quality data will assist it in achieving the objectives of its Operating Licence.

R 7.4 Implements an effective program to *make available unpublished River Health data* (Clause 7.1.3), through finalising its long standing draft policies on data availability, and collating and advising the public of SCA’s unpublished data); and coordinating and defining the output of corporate data programs to meet the needs of its clients, Operation Licence and to determine which unpublished river health data will be made publicly available.

R 7.5 Appoints an *Expert Independent Scientific Body* and finalise its *Charter of Public Disclosure* as required by the Special Areas Strategic and Wingecarribee Plans of Management (Clause 7.2 and 7.3)

R 7.6 Ensures that all Development Applications covered by State Environmental Planning Policy 58 are received by SCA and establish a formal link with Councils so that SCA field officers are advised when such developments have commenced, and report on establishing such a link, commencing by December 2003.

R 7.7 Complies with the Ministerial requirement (M6I, 2001/02) “*accelerate action to give effect to the Wingecarribee Swamp and Special Area Plan of Management, now that the Plan is approved*” and include in the Annual Report on the Implementation of the Wingecarribee Swamp and Special Area Plan of Management, performance against the “*timeframe*” contained in the Ministerial endorsed *Wingecarribee Swamp and Special Areas Plan of Management 2001*.

R 7.8 Publishes data and information on the Wingecarribee Swamp and the implementation of the Plan of Management on the SCA website.

R 7.9 Reports its expenditure specifically on the implementation of the Wingecarribee Swamp and Special Area Plan of Management, including staff costs.



8. Catchment infrastructure and demand management

8.1 Summary of findings

► Catchment Infrastructure - Risk to Human Health

SCA has developed an excellent Catchment Infrastructure management system for managing risk from the bulk water it supplies and demonstrated **Full compliance**. Although the system is in place and fully functional, some additional integration is still to take place with other risk management activities being developed in SCA (for example, the Water Quality Risk Management Plan and the Bulk Water Quality Management Plan discussed under Clause 6.7), as well as those underway in Sydney Water.

► Security of supply

The SCA has attained a **High compliance** rating for action taken to ensure catchment infrastructure works are designed, operated and managed to provide Sydney Water Corporation with long-term standards of service according to Schedule 2 of the Operating Licence. This rating has been assessed recognising that during 2002/03 there was a need for emergency works in the Blue Mountains. It was estimated that there was only about 15 weeks supply remaining in dams supplying water to this area. This position is not consistent with compliance with Schedule 2 criteria. It appears to have arisen because the Blue Mountains supply area is not included as a separate supply/demand system in Sydney Catchment Authorities WATHNET model. This model is used to calculate the Schedule 2 reliability, robustness and security of supply values for the water supply system that it manages. This finding highlights the importance of developing a more detailed understanding of the performance of each element of the water supply system SCA manages. At present the Schedule 2 criteria are calculated only for the major supply systems. There has not been an evaluation of the accuracy of fit the WATHNET model outputs compared to past performance (for example, in terms of monthly water volume variation) of each water storage.

► Dam safety

The SCA has demonstrated **Full compliance** with Dams Safety Committee (DSC) requirements. Minor slippage has occurred against internal SCA programs for production of five yearly surveillance reports, Operational and Maintenance Manuals and the finalisation of the Dam Safety Emergency Plans. However, the DSC confirms that progress on these reports, manuals and plans is within its requirements.

► Demand management

The SCA has demonstrated **Full compliance** with demand management requirements of the Operating Licence. Cooperative arrangements with Sydney Water are evident through joint SCA/Sydney Water membership of agency support groups for the Water CEOs Committee and Expert Water Panel, and through joint research on community views on water conservation.

The SCA has demonstrated a focus on demand management through commissioning and completing a "*Demand Management and Security of Supply Benchmark Study*" (November 2002), which contributes to the development of a "*Demand and Supply Management Strategy*" (due in December 2003) and subsequent "*Bulk Water Supply Plan*".



The SCA is also in the process of arranging for recalibration of flow meters in response to a review of a System Leakage Study.

8.2 Summary of requirements

The conditions of Part 8 of the Operating Licence address the Management of Infrastructure, Dam Safety and Demand Management. The requirements of Part 8 of the Licence may be summarised as follows:

- ▶ Ensure that catchment infrastructure works such as the dams, pipe work, canals and pumping stations are managed to provide minimum long-term standards of service and minimal risk to human health from bulk water supplies; and
- ▶ Comply with the statutory requirements of NSW DSC and the guidelines of the Australian National Committee on Large Dams (ANCOLD).

It is noted that the NSW Dams Safety Committee adopts the ANCOLD guidelines with the exception of some circumstances where, on a case by case basis, the DSC requirements may deviate from the requirements of the ANCOLD guidelines. The DSC is the regulatory authority for large dams in NSW, hence in those circumstances where its requirements deviate from the requirements of the ANCOLD guidelines, the auditor has assessed the SCA to be in compliance with the Operating Licence if the SCA has satisfied the requirements of the DSC.

SCA also needs to comply with the statutory requirements under the Water Management Licence (issued under Part 9 of the *Water Act 1912*).



8.3 Details of compliance

Table 8.1 Part 8: Management of catchment infrastructure works and demand management – summary of compliance

Clause	Requirement	Compliance	Findings
8.1	Management of Catchment Infrastructure Works		
8.1.1	Manage and operate the Catchment Infrastructure works to minimise risk to human health from the bulk water it supplies	Full compliance	<p>SCA has developed an excellent Catchment Infrastructure management system for managing risk to human health from the Bulk water it supplies. Although the system is in place and fully functional, some additional integration is still to take place with other risk management activities being developed in SCA (for example, the Water Quality Risk Management Plan and the Bulk Water Quality Management Plan discussed under Clause 6.7), as well as those underway in Sydney Water.</p> <p>SCA has developed an Asset Management Strategy for managing Catchment Infrastructure in line with NSW Government’s Total Asset Management (TAM) Manual.</p> <p>During 2002/3, the documents which make up the management system were reviewed by the former NSW Department of Public Works and Services (now Department of Commerce), and it was confirmed that the <i>“documents are consistent with the TAM guidelines and will provide the Division with the framework for effective asset planning and management”</i>.</p> <p>In regard to risk management, the management framework comprises the following:</p> <ul style="list-style-type: none"> ▶ Qualitative Risk Assessments for each of the seven supply systems (for example, one such assessment is the <i>“Warragamba Dam Qualitative Risk Assessment”</i>, May 2001). These assessments take a systematic approach to the identification of risks, including water quality and develop action plans for managing the risks. These risk assessments are qualitative, take an overview of issues, and provide a listing of the actions that can be applied to control the risks. ▶ Failure modes, effects and criticality analysis (FMECA) studies for each of the seven supply systems for non-mechanical/electrical assets. They identify failure modes and actions required to avoid failure and focus on the safe and reliable operation of catchment infrastructure. The studies include water quality as a key performance area. ▶ System Management Plans for all seven water supply systems. These plans, among other things, contain actions to minimise and manage all risks (not only water quality) and



Table 8.1 Part 8: Management of catchment infrastructure works and demand management – summary of compliance

Clause	Requirement	Compliance	Findings
			<p>meet customer, stakeholder and regulator requirements. These Plans include all of the main risks identified in the Qualitative Risk Assessments, integrating these operational requirements with other operational requirements in a convenient form for SCA's operators.</p> <p>A large number of Standard Operating Procedures have been developed to assist operations staff in carrying out tasks. The operations staff have been involved in the development, regular testing and revision of the procedures and SCA advises that the operations staff have ownership of them. Procedures reviewed for the audit were current and had been recently revised. The procedures include the findings from scientific studies (for example, lake modelling studies) to ensure the best quality bulk raw water is supplied to customers.</p> <p>A Bulk Raw Water Incident Response Plan is used to address Bulk water quality issues that occur.</p> <p>At July 2003, SCA advised that all of the System Management Plans and supporting systems are now in place for Catchment Infrastructure. These include the above Plans and Procedures, O&M Manuals, Maintenance Management Manuals, Asset Maintenance Management Strategy, and a 5 year Capital Works and Renewals Program. The latter program involves approximately \$200 million of approved works, plus approximately \$150 million of spillway upgrade works.</p> <p>The auditor sought advice from Sydney Water regarding its experience with respect to SCA's management of Catchment Infrastructure during the period. Sydney Water advised that no issues have arisen during the year that indicated mismanagement of the works that may have caused a risk to human health.</p> <p>The overall approach being adopted by SCA is consistent with the application of Hazard Analysis and Critical Control Point (HACCP) principles for drinking water quality management being developed by National Health and Medical Research Council (NHMRC), in that hazards, risks and the various applicable controls at appropriate points in the system are being identified and managed to assure the quality of the Bulk water.</p>
8.1.2	Ensure catchment infrastructure works are designed, operated and managed to provide Sydney Water Corporation (Sydney Water) with long-term standards of service according to Schedule 2 of the Operating	High compliance	In its submission to IPART's midterm review of the Operating Licence, the SCA confirmed that the safe yield of its system is 600,000 ML per year when applying Schedule 2 criteria. This achieves compliance with Sydney Water's forecast (Schedule 2) average annual demand of 584,000 ML/year for 2003 specified by the Operating Licence. It is noted however, that for



Table 8.1 Part 8: Management of catchment infrastructure works and demand management – summary of compliance

Clause	Requirement	Compliance	Findings
	<p>Licence.</p> <p><u>Schedule 2 criteria:</u></p> <p>Reliability of not less than 97%;</p> <p>Robustness of not less than 90%;</p> <p>Security of not less than 5% for more than 0.001% of the time (or 1 month in (99,996 months) 8,333 years);</p> <p>Operate within designated drought conditions; and</p> <p>Sydney Water Corporation's Forecast average annual demand of 584,000 ML/year for 2003.</p>	<p>High compliance</p> <p>High compliance</p> <p>High compliance</p> <p>High compliance</p> <p>High compliance</p>	<p>the year 2002/03 Sydney Water's actual annual demand was 635,000 ML/yr, which exceeds the 600,000 ML/yr system safe yield. This issue is discussed in greater detail in Section 8.4.2 of this report.</p> <p>The SCA uses a water allocation and optimisation model called WATHNET to calculate the safe yield. In previous years, there have been "anomalies" in SCA's WATHNET model resulting in the 2000/01 audit finding of "non-compliance" with the security criteria. The SCA advises that these anomalies have now been eradicated.</p> <p>The SCA commissioned an "<i>Independent Review of SCA's Water Supply Systems Model WATHNET</i>" (June 2003). The review confirmed that the model:</p> <ul style="list-style-type: none"> ▶ Is an accurate representation of the supply system and bulk network operating plan; ▶ Is applied by SCA correctly to good industry practice; and ▶ Required a number of refinements to improve confidence in the model's output (Refer to section of 8.4.2 of this report). <p>However, the independent review <i>did not</i> address issues related to the anomalies previously experienced by the model. The SCA needs to provide written evidence that substantiates that the anomalies have now been eradicated.</p> <p>At a "micro level" the need for urgent supply deficiency work to avoid the emptying of Greave's and Medlow storages, supplying some Blue Mountains townships, may constitute a technical non-compliance with Schedule 2 criteria. It was noted in SCA correspondence at the time that without significant rain the storages would empty in about 15 weeks. This system is not specifically modelled in WATHNET.</p> <p>It is also noted that there is no induction manual or similar staff training/communication document that spells out how Schedule 2 criteria relate to design, operation and management activities across SCA's organisation.</p>
8.1.3	Review performance criteria as part of mid-term review	No requirement	<p>SCA contributed to this review directly through its submission of 5 April 2002 and by cooperation with IPART in a report "<i>Review of the Performance Criteria in Sydney Catchment Authority's Operating Licence</i>" (June 2003). As the review was managed by IPART no compliance rating is relevant to SCA. IPART provided its report on the outcomes of the mid-term review to the Minister in September 2003.</p>



Table 8.1 Part 8: Management of catchment infrastructure works and demand management – summary of compliance

Clause	Requirement	Compliance	Findings
8.2	Dam Safety		
8.2	Comply with the requirements of the NSW Dams Safety Committee and the guidelines of the Australian National Committee On Large Dams (ANCOLD).	Full compliance	<p>The management of dams has demonstrated full compliance with the requirements of the NSW DSC. The SCA provided a copy of the 2002/03 Annual Report on dam safety. This summarised the management activities and the status of dam safety for all the SCA's dams. A review of the report and SCA's files for Warragamba Dam was undertaken.</p> <p>The DSC has confirmed that progress on the required reports, manuals and plans are within the requirements of the DSC. Further discussions of the findings are presented in Section 8.4.4 of this report.</p>
8.3	Demand Management		
8.3.1	Manage demand management consistent with the requirements in the Water Management Licence, issued under Part 9 of the <i>Water Act 1912</i>	No requirement	The Water Management Licence (April 2001) was last modified 11 February 2003. It sets no specific requirements on the SCA for demand management. However, the environmental flow and storage transfer requirements/constraints may impact on WATHNET modelling for compliance with Schedule 2 "safe yield" criteria under clause 8.1.2 of SCA's operating Licence. Also, Clause 1.6 of the Water Management Licence was used during the Audit period to initiate supply deficiency work at Greave's Creek Dam.
8.3.2	As much as SCA is able, manage water conservation consistent with the demand management requirements in the Sydney Water Operating Licence	Full compliance	<p>Cooperative arrangements with Sydney Water are evident via joint SCA/Sydney Water membership of both the Demand Management Working Group supporting the Water CEO's committee, and the Project Control Group supporting the Expert Water Panel.</p> <p>The Leakage Study Paper (outside the audit period) and implementation of joint SCA/Sydney Water research on community views on water conservation (outcomes available October 2003) demonstrate SCA's focus on these important issues. Water Conservation by demand management is also summarised in two SCA brochures and items on its web site. SCA in response to the Leakage Study is putting together a contract to recalibrate its flow meters and define where additional meters should be installed to improve accuracy of leakage estimates. It is noted however, that most meters have not been calibrated since September 1999/February 2000. SCA has also recently reviewed an evaporation reduction product (desk top review) and provided assistance to Sydney Water on modelling of consumption trends (SCA's submission to IPART's mid term review).</p>



Table 8.1 Part 8: Management of catchment infrastructure works and demand management – summary of compliance

Clause	Requirement	Compliance	Findings
8.3.3	In considering augmentation of the Catchment Infrastructure Works, consider any additional scope for cost effective demand management strategies by Sydney Water.	Full compliance	<p>Further discussion of this clause is in Section 8.4.4 of this report.</p> <p>During the audit period no major augmentation work was completed by SCA. Minor supply deficiency work at Greave’s Creek Dam was completed. SCA does not consider clause 8.3.3 applies to this work, as it was temporary in nature and did not increase system yield. Also, the former Department of Land and Water Conservation (DLWC, now DIPNR), according to SCA, did not require approval for these works. However, the auditor notes that without these works the supply to a section of the Blue Mountains would have most likely failed. Such a failure is not consistent with a cost effective demand management strategy.</p> <p>The SCA commissioned and completed a <i>“Demand Management and Security of Supply Benchmark Study”</i> (November 2002). SCA views this study as a reference document which feeds into its <i>“Demand and Supply Management Strategy”</i> to be completed by December 2003. Once this is completed SCA will complete a <i>“Bulk Water Supply Plan”</i>. Neither document was in a form that could be made available to the auditor. The index of each document indicates cost effective demand management (or “Customer side” supply options) are being considered. SCA coordination with Sydney Water for issues relevant to this clause occurs through the Drought Management Committee and Executive Committee.</p> <p>Further discussion on this clause is in section 8.4.2 and 8.4.4 of the report.</p>



Table 8.2 Ministerial requirements relating to demand management

ID	Requirement	Compliance	Findings
M.1	<p><i>“While I realise that the SCA will not be able to finalise projections of future safe yields from the catchments until various outstanding matters have been determined, I do wish to be informed of progress”.</i></p> <p><i>“I require that the SCA provides both myself and the Tribunal with quarterly progress reports on this issue. The first report should be made available to me on or before 28 March 2003.”</i></p>	Full compliance	Quarterly progress report has been provided



8.4 Discussion

8.4.1 Catchment infrastructure – management of risk to human health

SCA has developed an excellent management system for managing catchment infrastructure. Several issues were noted in the previous audit where further improvement was possible. These improvements have been addressed as outlined below.

The Catchment Infrastructure Risk Management system did not confirm that the residual risk (i.e. after application of all controls) is acceptable. A *catchment-to-tap* risk assessment has been carried out in conjunction with Sydney Water. This has provided an overview of these issues and confirmation that the residual risk is acceptable after the application of all controls, and indicates where further controls are required.

The main outstanding issue is the completion of the SCA water quality Risk Management Plan, and its integration with the other risk management tools that SCA uses (such as the Corporate Risk Management Plan and the Catchment Infrastructure Risk Management Plans).

8.4.2 Safe yield

The safe yield of the SCA system is reported as 600,000 ML/yr (+/- 5 to 10%) under current operating rules and compliance criteria. In the short term this is not a high risk situation. However, should a drought sequence continue this could rapidly increase the risk of stringent restrictions and need for greater than desirable Shoalhaven transfers to Nepean and Warragamba reservoirs.

Review of demand forecasts also indicates that unless more aggressive demand management action is undertaken, total demand will continue to rise thus increasing the supply risk. The supply risk is in essence, the risk that insufficient water will be available to meet Sydney's demand for water (Refer to "*Review of Forecasts of Demand for Water Supply*," June 2003). A comprehensive course of action is proposed by the Water CEO's in response to this Review including definition of agreed demand projections, consideration of climate correction to demands and study of "drought hardening" on the effectiveness of long-term water restrictions. This is similar to the recommendations of the independent review of WATHNET ("*Independent Review of Water Supply Systems model WATHNET*", June 2003).

The Greaves Creek temporary transfer works provides a case study that the auditor considers highlights the importance of considering the details of the raw water supply and transfer system. The auditor considers that, under the Licence, the SCA is responsible for the capacity and operation of pipes they manage for raw water transfers between storages. They must be sufficient to avoid non-compliance with Schedule 2 criteria for each supply reservoir. SCA is responsible for ensuring that both the total system and each part of it complies with the security, robustness and reliability requirements of Schedule 2. One reason why this area of the Blue Mountains has required these temporary works was to ensure sufficient supply to the affected area. It also appears that this area is not part of the WATHNET model used to assess the current supply position in terms of schedule 2 criteria.

In line with the Water CEO's response to this Review, the Independent Review of WATHNET and the recent experience at the Greave's Creek-Medlow system the auditor recommends that SCA:

- ▶ Establishes the current performance of the Blue Mountains system against Schedule 2 criteria;



- ▶ Incorporates in WATHNET climate variability for the monthly demand sequences and consider fragmenting demand into its components as, for example, climate affects commercial demand very differently to residential demand;
- ▶ Completes verification runs over historic operating conditions to demonstrate good representation of past behaviour and improve confidence for predicting future behaviour of the system;
- ▶ Reviews the regional split up of demand across the ten demand centres in the WATHNET model; and
- ▶ Considers a range of possible future scenarios including relevant actions and time limits to respond to each scenario outcome that provide a clear view about those factors that have a large detrimental impact on safe yield, and identify the best responses to avoid or recover from the impacts.

Scenarios that could be considered by SCA with regard this last point could include relevant combinations of:

- ▶ Major bushfire generated reduction in stream flow from the catchments during long-term vegetation regrowth period;
- ▶ Less reduction in demand when restrictions are imposed due to demand hardening;
- ▶ Climate variation in monthly unrestricted demand patterns;
- ▶ Variable environmental flow (for example, less releases during droughts and more during wet condition); and
- ▶ Altered Shoalhaven pumping.

The objective of this scenario analysis would be to run say a best, nominal and worst cases supply scenarios against best, nominal and worst case scenario of demand projection and establish how schedule 2 criteria change with time. The findings would help define when supply alternatives must be set in place to prevent the unacceptable risk of running out of water or unacceptable duration/intensity of restriction.

It is also suggested that SCA consider developing a staff training/communication strategy (for example, induction courses) to ensure all relevant staff adequately understand how their work in design, operation and management of Catchment Infrastructure may contribute to standards of service in accordance with Schedule 2 criteria.

8.4.3 Dam safety

The SCA provided a copy of the 2002/03 Annual Report on Dam Safety. This report summarises management activities and the status of dam safety for SCA dams. A summary table of the key requirements and SCA performance in relation to the Dams Safety Committee (DSC) and Australian National Committee on Large Dams (ANCOLD) guidelines is presented as Appendix H. A summary of findings is presented below.

Five-yearly surveillance reports

Nine surveillance reports were due during the audit period. Minor slippage from original due dates set by the DSC occurred during the audit period, however SCA advises that the DSC has since endorsed the submitted reports or approved revised dates for submission. Progress on the surveillance reports due in the audit period is summarised below.



- ▶ Reports for *Upper, Middle and Lower Cascade Dams* were initially due in July 2002 but the DSC granted an extension until November 2002. The reports were submitted on 29 November 2002.
- ▶ Reports for *Lake Medlow Dam, Woodford Creek Dam and Greaves Creek Dam* were due in March 2003. The DSC provided the SCA with an extension to July 2003. The reports were submitted on 25 and 27 July 2003 and accepted by the DSC.
- ▶ The *Prospect Dam* Report was due in February 2003. The DSC provided the SCA with an extension to April 2003 and the final report was submitted to the DSC on 30 April 2003.
- ▶ The *Warragamba Dam* Report was due in December 2001. The DSC provided the SCA with an extension to October 2002 and the final report was submitted to the DSC on 18 October 2002.
- ▶ The *Woronora Dam* Report was due in May 2002. The SCA advised that this program has been delayed to accommodate a request from the DSC to postpone any inspections involving the DSC until September 2002. The DSC provided the SCA with an extension to October 2002 and the report was submitted on 31 October 2002.

SCA has prepared programs for the implementation of recommendations from the surveillance reports and advises that the DSC has endorsed these programs.

The DSC confirms that it has accepted the reports and endorsed the SCA's programs for implementation of recommendations.

Assessments, Inspections, Reviews and Monitoring

SCA reported that all routine inspections and monitoring were undertaken in compliance with DSC requirements. Slight delays were experienced in annual inspections with most being undertaken during 2002/03 and the remainder in July 2003.

The completion of Annual Inspection and Monitoring Reports for 2002/03 is now expected by the middle of November 2003. SCA reported issues of staff resources as the main reason for delays in the annual inspection program and advised that several new positions have been created and recruitment has commenced to ensure that the program for 2003/04 is met.

The status of other assessments, inspections, reviews and monitoring programmed for 2002/03 are as follows.

- ▶ Abridged safety reviews were undertaken for Greaves Creek, Lake Medlow, Woodford Creek, Prospect and Tallowa Dams and form part of the five yearly surveillance reports.
- ▶ A Risk Assessment Study and an Earthquake Stability Review Study of Wingecarribee Dam were due during 2002/03. The studies are ongoing and an external expert panel is reviewing the findings of these studies in September 2003.

Special monitoring of post-tensioned anchors was due at Cataract, Nepean and Warragamba Dams but was not done due to monitoring equipment being damaged during bushfires at Warragamba. Monitoring has been deferred until 2003/04 to allow equipment to be replaced/repaired.

The DSC confirms that the SCA has fully met its requirements in regard to Assessments, Inspections, Reviews and Monitoring.



Dam Safety Emergency Plans

The SCA updated and prepared new Dam Safety Emergency Plans (DSEPs) for all of its high hazard and significant hazard dams during the 2001/02 audit period. In March 2002, the DSC updated its requirements, including modified DSEPs for prescribed dams where non-itinerant persons are not at risk, but where itinerant persons may be at risk. To comply with this requirement, SCA prepared modified DSEPs for its four low hazard dams during the 2002/03 audit period. DSEPs have now been prepared for all SCA prescribed dams.

All DSEPs were updated towards the end of 2002/03 to take account of new external notification protocols, which were finalised by the State Emergency Service in collaboration with the State Emergency Management Committee, the DSC and Police on 30 April 2003. SCA proposes to re-issue the DSEPs by December 2003 following review by the SES and the DSC.

Due to the late finalisation of notification protocols by external parties, testing of DSEPs did not take place in 2002/03. This is the second year testing has been delayed by external parties.

The SCA advised that a joint incidence exercise between SCA, Sydney Water and NSW Health took place in 2002/03 involving a general test of DSEPs and a specific test of the Wingecarribee Dam DSEP.

The DSC confirms that the SCA has fully met its requirements in regard to DSEPs.

Operation and Maintenance Manuals

The SCA has established an internal program for the update of all Operation and Maintenance (O&M) Manuals. Slippage against the program was experienced during the previous audit period and again during the 2002/03 audit period. The program indicated that all O&M Manuals for high hazard and significant hazard dams were due for completion by the end of 2001/02. This target was not met and although progress was made during 2002/03 (including completion of all outstanding manuals for high hazard dams), a number of O&M manuals for significant hazard dams are still outstanding. A revised Five-Year Dam Safety Management Program has now been prepared for 2003/04-2007/08.

The DSC confirms that it has endorsed the revised Five-Year Dam Safety Management Program.

Progress on O&M manuals during June 2003 is summarised below.

- ▶ Operation and Maintenance manuals for two (2) high hazard dams (Fitzroy Falls and Wingecarribee) were finalised and issued in June 2003.
- ▶ Operation and Maintenance manuals for three significant hazard dams (Bendeela Pondage, Glenquarry Cut and Kangaroo Pipeline Control Structures) were finalised and issued in June 2003.
- ▶ Draft manuals for three significant hazard dams (Middle Cascade, Upper Cascade and Greaves Creek) are currently under review and are due to be issued in 2003/04.
- ▶ A draft manual prepared for the Upper Canal (including Broughton's Pass Weir) is currently being reviewed.
- ▶ Warragamba Dam manual was updated by the contractor for the recently completed Auxiliary Spillway Project in order to incorporate the changes in infrastructure at the Dam.

The DSC confirms that the SCA has fully met its requirements in regard to progress on O&M manuals during 2002/03.



8.4.4 Demand management

Clause 8.3.2 of the Operating Licence requires SCA to, where possible, manage water conservation consistent with demand management requirements of Sydney Water's Operating Licence (clause 8.2.4). Evidence of SCA activities during the Audit period which are relevant to this requirement include:

- ▶ Review of the Leakage Study;
- ▶ Completion of a consultant report "*Demand Management and Security of Supply Benchmarking*", November 2002;
- ▶ Brief review of an evaporation reduction product, refer to memorandum to the GM Bulk Water (March 2003);
- ▶ Preliminary report "*Groundwater Investigation for Urban Water Supply in the Sydney Region*", August 2003;
- ▶ Membership of the Agency support groups for the Expert Water Panel and Water CEO's;
- ▶ Social Research on Community views on Water Restrictions – research report (March 2003) and ongoing customer interviews with a report on outcomes later in 2003; and
- ▶ Production of a number of public brochures and web site articles on demand management.

Findings are summarised in Table 8.3.



Table 8.3 SCA demand management with respect to Sydney Water’s Operating Licence

Clause 8.2.4 of Sydney Water Operating Licence (abridged)	Findings in Relation to SCA Management of Water Conservation
<p>(a) Estimate of past, current and projected water use and distinguish between residential, commercial and government use, and projected water uses under these categories.</p>	<p>SCA does not consider how these demands (for example, residential losses (leakage), commercial) or “demand hardening” (reduced water saving impact from imposition of restrictions) may affect “safe yield” estimates. SCA also has not reviewed the split of demand across its ten demand nodes since 1991 that may also impact on safe yield estimates because of internal water system transfer constraints in the WATHNET model. The key issue for SCA is to demonstrate the water supply system provides an equal level of service (security, reliability and robustness) to all systems supplied from SCA sources.</p>
<p>(b) Frequency and magnitude of expected supply deficiencies, including those arising as a result of wastage and loss, drought or emergency.</p>	<p>In Table 1 of its submission to IPART’s Midterm Review of its Operating Licence (5 April 2002), SCA outlined how Schedule 2 criteria change as average annual demand increases. The 2000/01 audit found the security value when demand was 588,000 ML/year was 0.0013%. The WATHNET model was revised to remove “anomalies” and now gives a calculated value of 0.001% at 588,000 ML/year. However, the auditor was not able to confirm the effectiveness of these revisions. To do so SCA would need to provide evidence that shows the nature of the anomalies and how they were corrected by SCA.</p> <p>Also, evidence is required to confirm that regrowth following a major bushfire in the catchments would not significantly reduce the amount of water coming from the affected catchments. In other systems (for example, Melbourne) this is known to be a major long-term cause of “loss” of available water due to increased water utilisation by vegetation during regrowth after a fire.</p> <p>The SCA provided ample evidence of its involvement in determining environmental flows, refer to audit of clause 9.4.8. Finally, SCA has reviewed an evaporation reduction product. SCA’s approach appears to be reactive (for example, reviewing products etc.) in response to initiatives by others such as private industry. A more “proactive” survey of possibilities is suggested, (for example, in reservoir aeration may by reducing surface water temperature during summer stratification periods reduce evaporation loss).</p>
<p>(c) Conservation measures currently adopted and being produced.</p>	<p>Activities undertaken by SCA relevant to this issue during the Audit period included:</p> <ul style="list-style-type: none"> ▶ The Demand and Supply benchmarking report (November 2002); and ▶ Groundwater investigation (August 2003). <p>SCA has also commenced, with Sydney Water, an important comprehensive community opinion survey to gauge attitudes to restrictions. However, the SCA does not as yet appear to have a strategy to educate and then understand community views on the more complex subject of the Schedule 2 levels of service criteria.</p>



Table 8.3 SCA demand management with respect to Sydney Water's Operating Licence

Clause 8.2.4 of Sydney Water Operating Licence (abridged)	Findings in Relation to SCA Management of Water Conservation
<p>(d) Cost and evaluate additional conservation measures</p> <p>(e) Future plans for water conservation and strategies to alter water use practices, including those relating to the installation of more efficient water appliances and devices by users</p> <p>(f) Evaluate plans in terms of the cost, and contrast with the cost of alternative water supplies</p> <p>(g) Prioritise and schedule the implementation of the course of action found to be cost effective</p> <p>(h) Strategies to reduce unaccounted for water losses</p>	<p>SCA undertook a brief financial and operational evaluation of an evaporation reduction product. This product was a chemical that in theory could be dosed to a reservoir. It floats on the surface as a very thin film and has the ability to reduce evaporative losses from the water surface, mainly in summer. However, it has not been tried on large reservoirs, may have undesirable environmental effects and could be disrupted by wave action when winds are high.</p> <p>SCA is about to undertake a review of its flow meters (numbers and calibration) to improve quantification of losses in pipelines. Also the SCA is considering whether there is benefit in constructing test bores for estimation of groundwater recovery potential during dry periods. A report of the Demand Management Task Force presented to the Water CEO's in August 2003 recommended a five-part package. Packages relevant to this section of the SCA's Operating Licence included:</p> <ul style="list-style-type: none"> ▶ Clarification of water entitlements from the SCA system; ▶ A financial incentives program to ensure the best demand reduction measures are implemented; ▶ Make large scale effluent reuse schemes easier to implement; ▶ Mandatory water efficient appliances for new and renovated residential buildings and require water efficiency efforts by industry/commercial customers; and ▶ Water pricing reform. <p>Demand management options listed in this report which are relevant to SCA include:</p> <ul style="list-style-type: none"> ▶ Changes to SCA system performance criteria (medium feasibility); ▶ Increased pumping from Shoalhaven (medium/high feasibility); and ▶ Return treated effluent to Warragamba Dam (low feasibility). <p>The auditor notes there are now five different committees engaged in work related to future planning for water including:</p> <ul style="list-style-type: none"> ▶ Water CEO's; ▶ Hawkesbury Nepean Forum; ▶ Expert Water Panel; ▶ Water Management Committee for Shoalhaven; and ▶ Drought Executive Committee. <p>There may be an opportunity to rationalise these committees to ensure best use of resources.</p>



8.5 Recommendations

8.5.1 Key recommendations

That the SCA:

- R8.1 Completes the following safe yield simulation work with WATHNET:
- ▶ Independently verified “*degree of fit*” runs using historical operating rules and stream/flow/demand data;
 - ▶ Safe yield sensitivity analysis for an agreed set of likely or possible supply-demand-loss scenarios (for example, environmental flows, reduced losses to groundwater/evaporation, climate effects on demand, demand hardening); and
 - ▶ Model the Blue Mountains system for current local demand levels to establish reliability, robustness and security.

8.5.2 Secondary recommendations

That the SCA:

- R8.2 Implements, in coordination with Sydney Water, community education/communication programs focussing on providing an understanding of supply level of service criteria in Schedule 2 (reliability, robustness, security) so that informed views on relevant issues such as critical storage levels triggering restrictions and changes to supply side risk (for example, greater chance of very severe restrictions) can be obtained.
- R8.3 Defines the likely extent of reduction in stream flow following bushfire for SCA catchments and the recovery over time of stream flow from bushfire-affected catchments; if significant, bushfire should be included in scenario assessment using WATHNET.
- R8.4 Considers developing a staff training/communication strategy (for example, induction courses) to ensure all relevant staff adequately understand how their work in design, operation and management of Catchment Infrastructure may contribute to standards of service in accordance with Schedule 2 for supply reliability, robustness and security.



9. Environment

9.1 Summary of findings

► Environmental reporting

The SCA demonstrated **Full compliance** with the reporting requirements for the Environment Plan. The SCA presented the draft *2002/03 Annual Environment Report* and draft *Environment Plan Progress Report* for assessment. The SCA has developed a concise format that presents the essentials of performance against this Plan and is supported by progress tables, data and other information to be made available on the SCA web page.

The SCA demonstrated **High compliance** with the reporting requirements for Environmental and ESD indicators. Whilst the SCA has, for most environmental and ESD indicators, reported in a manner to enable year-to-year comparison of performance against the indicators, for a number of indicators, **Insufficient Information** has been reported to allow objective yearly comparison.

► Compliance with the Environment Plan

The targets and timetables of the Environment Plan for 2002/03 are grouped under the ten environmental objectives of the plan. The audit considered the targets and timetables under each of the plan's objectives and determined that SCA generally demonstrated **Partial to High compliance** with the targets and timetables. **Low compliance** was determined for targets related to *Objective 7 - Reduce consumption of resources and minimise the generation of waste and pollution*. The SCA attributed reduced performance against Objective 7 to the expansion of the Penrith Head Office and pumping of water transfers from the Shoalhaven system to the Warragamba and Nepean storages.

► Performance against the environmental and ESD indicators

The SCA's performance for 2002/03 in relation to the environmental indicators was varied but generally demonstrated to be neutral or trend downwards. This was primarily attributable, by the SCA, to the significant impact bushfire and drought has had on the catchments. Trends for a number of indicators were not objectively reported for the 2002/03 period. **Insufficient Information** was available at the time of the audit for an overall assessment of performance relating to the ESD indicators.

► Environmental flows

The SCA demonstrated **High compliance** regarding the release of environmental flows from storages in accordance with the Water Management Licence issued by DIPNR.

The SCA demonstrated cooperation and assisted the independent expert panel in its charter related to the Hawkesbury Nepean environmental flows.



9.2 Summary of requirements

The objective of Part 9 of the Operating Licence is to ensure that the SCA conducts its operations in an environmentally responsible manner. This includes developing a plan that coordinates the activities of its different business units such that environmental issues are appropriately managed, resourced and reported. Further, the SCA is to ensure that the quality of waters are monitored and measured using environmental and ESD indicators and that the flow of water released from its storages is suitable for maintaining ecological health in receiving waters.

The requirements of Part 9 that apply to this audit period may be summarised as follows:

- ▶ establish a monitoring and reporting system to support the measure of compliance against the Environment Plan and performance against the environmental and ESD indicators;
- ▶ provide regular and accountable annual reporting that allows year to year comparisons and details the performance of the SCA with respect to targets and timetables set, and compliance with environmental and ESD indicators;
- ▶ cooperate with, and provide reasonable assistance to, the Independent Expert Panel which is required to provide advice to Government on the environmental flow regime for the SCA's water supply system ; and
- ▶ release environmental flows in accordance with the requirements of the Water Management Licence.



9.3 Details of compliance

Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
9.1	Environment Plan		
9.1.1	Prepare draft five-year Environment Plan by 31 December 2001. Prepare final five-year Environment Plan by 30 June 2001. Produce an Environment Plan every five years.	No requirement	No requirement this audit period. This clause was fully complied with during the 2000/01 audit period.
9.1.2	Public consultation required to develop draft and final Environmental Plan in clause 9.1.1	No requirement	No requirement this audit period. This clause was fully complied with during the 2000/01 audit period.
9.1.3	The Environment Plan must contain detailed strategies relating to the catchment area, detail strategies relating to infrastructure, environmental aspects of other activities including heritage and compliance with ESD principles. The Environment Plan must be recognised within business plans	No requirement Full compliance	No requirement this audit period. This clause was fully complied with during the 2000/01 audit period although in this audit period, the SCA updated its Business Plan. A review of the SCA's divisional work program for the Environment and Planning Division demonstrated that resources have been broadly allocated to the strategies in the Environment Plan. A copy of the SCA 2002-2007 Business Plan (Version 2- February 2003) was presented for review. The Plan recognises and demonstrates a commitment to the Environment Plan 2000-2005 and therefore complied with this clause.
9.1.4	The Environment Plan must: <ul style="list-style-type: none"> ▶ Set targets and timetables for compliance; and ▶ Utilise the environmental and ESD indicators in clause 9.2 	No requirement	No requirement this audit period. This clause was fully complied with during the 2000/01 and the 2001/02 audit period.
9.1.5	The Environment Plan must include a policy on the management of energy and apply specific targets and include environmental and ESD Indicators.	No requirement	No requirement this audit period. This clause was fully complied with during the 2000/01 audit period.



Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
9.1.6	The Environment Plan is to be readily available on the website, at offices, public libraries and environment centres. Access to the report to be free of charge.	Full compliance	A review of the SCA website confirms that the Environment Plan is available on the website. The Plan is also available from other public offices of the SCA including Penrith, Moss Vale and Goulburn.
9.1.7	Amendments to the Environment Plan may only be made following public consultation.	No requirement	No requirement this audit period. There have been no amendments to the plan.
9.2	Environmental and ESD Indicators		
9.2.1 to 9.2.15	Environmental and ESD Indicators	No requirement	No requirement this audit period. These clauses were complied with during the 1999/00 and 2000/01 audit periods.
9.3	Reporting		
9.3.1	SCA to report annually on the Environment Plan	Full compliance	During the audit period, the SCA published the <i>2001/02 Annual Environment Report (AER)</i> . The AER for the 2002/03 audit period was in the process of being developed.
	Report to enable Licence Regulator to consider and report on the matter as part of the Annual audit	Full compliance	The SCA provided the following draft reports to the auditor, to enable the Licence Regulator to consider and report on the matter as part of the annual audit: <ul style="list-style-type: none"> ▶ <i>Draft Sydney Catchment Authority Annual Environment Report 2002/2003 (draft AER)</i>; and ▶ <i>Draft Environment Plan Progress Report 2002-03 (draft EPPR)</i>, which presents detailed compliance on the implementation of the Environment Plan. These reports are scheduled to be finalised and released to the public by December 2003.
9.3.2	Report SCA progress on meeting the Plan. In particular:		



Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
	a) Compliance with the targets and timetables of Clause 9.1.4	Full compliance	<p>The draft AER presents a summary of progress against the targets and timetables of the environment plan. The draft AER also refers to the draft EPPR for more detail. The draft EPPR provides in greater detail, outcomes specifically related to the timelines and targets of the Environment Plan objectives and strategies.</p> <p>The auditor's review of the draft EPPR is discussed in Section 9.4.1.</p>
	b) Performance in relation to environmental and ESD indicators in the past 12 months.	Full compliance	<p>The draft AER presents a summary of a sustainability performance study, which identifies the performance indicator and the SCA's progress towards sustainability compared to the previous year.</p> <p>For 2002/03, SCA advised that an independent verifier was engaged to verify the data and content for the ESD and environmental indicators.</p> <p>Similarly, for the previous year (2001/02) an independent verifier reviewed the AER. The independent verifier was satisfied with the AER and associated systems. The independent verifier did however identify a higher level of data inaccuracy compared to previous year's report, although these were corrected prior to publication of the report.</p> <p>The SCA advised that it has implemented enhanced documentation procedures to improve performance for the 2002/03 AER. The 2002/03 independent verification confirmed that the level of accuracy identified during the verification process provides confidence on the reporting process.</p> <p>The auditor's review of the SCA's performance against the environmental and ESD indicators is discussed in Section 9.4.2.</p>



Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
9.3.3	<p>Report on environmental and ESD indicators must enable a year-to-year comparison.</p> <p>In particular comparisons are to be made, where possible, using indicators with historical yearly values over at least the previous ten years</p>	High compliance	<p>The SCA has, for most environmental and ESD indicators, reported in a manner to enable year-to-year comparisons of performance against the indicators. For a number of indicators however, “<i>Insufficient Information</i>” has been reported to allow objective yearly comparison. For a number of indicators, the SCA has not provided:</p> <ul style="list-style-type: none"> ▶ Quantified data for the 2002/03 AER that may be objectively compared to data collected in previous years; ▶ A mechanism to objectively compare performance with previous years; or ▶ Data against the specific requirement of the indicator but rather on the activity undertaken by SCA to manage the indicator. <p>Further detail on reporting of environmental indicators is discussed in Section 9.4.1 of this report.</p> <p>Data collected for the majority of these indicators commenced in the 2000/01 audit period therefore, 3 years of data are available and presented in the draft AER.</p> <p>Ten years comparable data are available from Sydney Water for indicators related to <i>Water Quality</i> and may also be available for indicators such as <i>Storages volumes</i> and <i>Temperature of water released</i>. The SCA provides 10 years of <i>water quality</i> data (via the Annual Water Quality Report) however, 10 years of data related to <i>Storages volumes</i> and <i>Temperature of water released</i> has not been reported.</p>



Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
9.3.4	Report to be made available on the website within one month of completion, at SCA premises and at libraries and environment centres free of charge	Full compliance	<p>2001/02 Annual Report Within this audit period, the SCA completed the 2001/02 Annual Environment Report. This report was made available on the website within one month of completion, at SCA premises and at libraries and environment centres free of charge. The AER referenced the 2001/02 Environment Plan Compliance Report (EPCR) and noted that it was available on the SCA web site.</p> <p>The EPCR was available on the SCA web page. Whilst hard copies of the EPCR were not commercially printed, the SCA advised that hard copies would be produced for interested parties upon request. No requests for hard copies of the EPCR report were received by the SCA during the 2002/03 audit period.</p> <p>2002/03 Annual Report The 2002/03 reports are due to be released to the public by December 2003. The SCA proposes to release the AER report in accordance with this clause and the EPPR will be released on the SCA web page only.</p> <p>As an opportunity for improvement, it is suggested that the 2002/03 AER report notes that the EPPR report is available on the SCA web-page and also available in hard-copy, free of charge, to interested parties. This action should assist members of the public without access to the internet.</p>
9.4	Environmental Flows		
9.4.1	SCA to produce a report on trial environmental flows	No requirement	The SCA fully complied with this requirement in the 1999/00 and 2000/01 audit periods.
9.4.2	Report to include environmental flow information from EIS process for the Hawkesbury - Nepean, Woronora and Shoalhaven Rivers.	No requirement	No requirement this audit period. This requirement relates to the draft and final reports required as part of 9.4.1.
9.4.3 to 9.4.7	Independent expert panel on environmental flows may be appointed by the Minister for the Environment.	No requirement	This requirement is not imposed on the SCA.



Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
9.4.8	SCA to cooperate with, and provide reasonable assistance to, the independent expert panel to enable it to perform the tasks assigned to it.	Full compliance	<p>During the audit period, the SCA demonstrated cooperation and reasonable assistance to the Expert Panel. The SCA General Manager - Strategy and Policy is the nominated SCA representative on the Hawkesbury-Nepean River Management Forum and the Forum's Program Support Group (PSG). During the audit period he attended Forum and PSG meetings.</p> <p>The SCA cited over 20 requests from the Expert Panel during the audit period, that were satisfied ranging from:</p> <ul style="list-style-type: none">• Requests for information and data;• Requests for access to SCA controlled sites; and• Requests for presentations, briefings and meetings with SCA staff. <p>The Chair of the Expert Panel confirmed that the SCA has provided assistance as requested, offered additional support and therefore satisfied the requirement of this clause.</p>
9.4.9	Until such time as the SCA is issued with a Water Management Licence, the SCA must meet the environmental flow requirements specified in its Operating Licence.	No requirement	<p>This clause is not invoked during this audit period. The Water Management Licence (WML) was issued to the SCA on the 23 April 2001, prior to the commencement of this audit period. Environmental flows are addressed in Clause 9.4.10.</p>



Table 9.1 Part 9: The environment – summary of compliance

Clause	Requirement	Compliance	Findings
9.4.10	Implement any environmental flow requirements in the Water Management Licence (WML) issued under Part 9 of the <i>Water Act 1912</i> .	High compliance	<p>The SCA reported that it has met all the environmental flow requirements of the WML with the exception of the following non-compliance events:</p> <ul style="list-style-type: none">▶ Warragamba Dam on 7 February 2003 when flow over Penrith Weir averaged 43.5 ML/day not 50ML/day (as required by WML Schedule 5.1(2)); and▶ Tallowa Dam between 28 December 2002 and 1 January 2003. During this period, a shortfall Environmental flow of 549.3 ML occurred. <p>Both these events were promptly report by the SCA to the former DLWC (now DIPNR). The auditor sighted correspondence between the SCA and DLWC in this regard.</p> <p>The WML also requires the SCA to provide monthly environmental flow data to DIPNR. DIPNR has confirmed that based on the data provided, no other non-compliances with environmental flow requirements occurred during the audit period.</p> <p>It is further noted that during the audit period, DIPNR undertook a review of the SCA's environmental flow works and operations. DIPNR confirms that during its site inspections of SCA dams:</p> <ul style="list-style-type: none">▶ flow works and measuring devices were checked; and▶ SCA demonstrated licence compliance with all flow releases.



9.4 Discussion

9.4.1 Reporting on environmental and ESD indicators

The SCA has, for most environmental and Ecological Sustainable Development (ESD) indicators, reported to enable year-to-year comparison of performance against the indicators. For a number of indicators however, “*Insufficient information*” has been reported to allow objective yearly comparison. Examples of such indicators are presented in this section.

For indicators such as *Temperature of water released from the SCA’s major storages as compared to the temperature of receiving water or inflow water*, the SCA presents graphs illustrating performance for 2002/03 but does not provide a mechanism to objectively compare performance with previous years.

For the following indicators, objective reporting has not been provided. The SCA is required to provide quantified data to enable comparison with previous years, up to 10 years:

- ▶ *Extent and intensity of hazard reduction burns on SCA owned and managed lands;*
- ▶ *Extent and condition of native vegetation on SCA owned and managed lands;*
- ▶ *Extent and condition of wetlands on SCA owned and managed lands;*
- ▶ *Extent and condition of native vegetation in the water supply catchment areas;*
- ▶ *Extent and condition of riparian vegetation in the water supply catchment areas;*
- ▶ *Percentage of annual staff retention;*
- ▶ *Community perception with regard to the state of the catchment* (Note: SCA advised that community perception surveys will now be undertaken triennially and therefore data are not available this year); and
- ▶ *Economic ESD indicators* (Note: the AER was in draft form and this information is expected to be provided in the final document).

The SCA advised that for some indicators, data could not be collated due to extenuating circumstances (such as cloud cover interfering with satellite images) and for other indicators, the general condition is not likely to change yearly hence it may not be warranted to report on all indicators on an annual basis.

The SCA has also indicated that it proposes to no longer pursue erosion mapping and the development of associated models due to the significant resources involved. This raises concerns about how the SCA will report objective data in the future against the environmental indicator - *Extent and type of erosion on SCA owned and managed lands*.

Finally, the 2001/02 operational audit report, identified environmental indicator - *Extent of feral pigs on SCA owned and managed lands* where the SCA has not reported data related to the indicator but rather the number of pigs culled by the SCA. Whilst the data provided indicates that the SCA has been active in its management of feral pigs, it cannot be determined from the data provided whether there has been a change in the environmental indicator.

The auditor acknowledges the difficulties associated with the collection of some data for reporting against the environmental and ESD indicators. It is important however that if SCA does not intend to meet the reporting requirements set out in the Operating Licence, factors that are affecting its compliance should be reported to IPART.



9.4.2 Compliance with the Environment Plan

Section 10.2.1(i) of the Operating Licence requires the auditor to assess compliance of the SCA with the Environment Plan. For this purpose, the SCA provided a draft copy of the 2002/03 Annual Environment Report and a draft copy of the 2002/03 Environment Plan Progress Report.

This assessment was based on the information provided by the SCA in the two draft reports. Assessment of compliance with the Environment Plan, for purpose of this audit, was undertaken by grouping the targets and timelines under the ten environmental objectives of the Environment Plan. This enables an objective assessment of the SCA's progress towards meeting the stated objectives of the Environment Plan.

This review has indicated that the SCA targets for 2002/03 are generally being delivered although not always within the specified timeframes. Achievement of targets under each of the environmental objectives are summarised in Appendix I. Generally compliance is High to Partial, although a Low compliance was also determined. Partial compliance was determined for targets associated with:

- ▶ *Objective 2 - Involvement of the community in its decision making processes;*
- ▶ *Objective 3 - Encourage and support the culture and practice of environmental responsibility within its staff and pursue greater environmental standards and performance from its contractors and suppliers; and*
- ▶ *Objective 6 - Minimise any adverse environmental impacts from infrastructure operation, maintenance and construction.*

"Low compliance" was determined for targets related to *Objective 7 - Reduce consumption of resources and minimise the generation of waste and pollution*. The SCA attributed reduced performance against Objective 7 to the expansion of the Penrith Head Office and pumping of water transfers from the Shoalhaven system to the Warragamba and Nepean storages.

9.4.3 Performance in relation to the environmental and ESD indicators

Environmental indicators have been designed to monitor the direct impact of the SCA's activities on the environment. The ESD indicators have been designed to indicate the degree to which the SCA's activities comply with the principles of Ecologically Sustainable Development.

Measuring performance against these indicators is a task of comparing performance against previous years. This is the third year the SCA has collected data against the majority of these indicators, and this has allowed comparison from previous years. For the majority of indicators, data relevant to the indicator is reported. For some indicators it has not been possible to define a performance trend. Table 9.3 represents a summary of the trends related to the environmental and ESD indicators. The environmental and ESD indicators are categorised into groups.

It is noted that the assessment is based on information provided by the SCA. A summary of performance against each indicator is presented in Appendix J.



Table 9.3 Summary of the trends related to the environmental and ESD indicators.

Group of Indicators	Summary of trends for 2002/03
Environmental Indicators	
Operational Performance indicators (for SCA activities)	The SCA has demonstrated: <ul style="list-style-type: none"> ▶ Improved performance relating to impacts on water; ▶ Performance in relation to impacts on land could not be determined with the information provided; and ▶ Reduced performance in relation to energy and resources.
Environmental Condition Indicators	The environmental indicators demonstrate: <ul style="list-style-type: none"> ▶ No change or a deterioration in stream condition (predominantly due to drought and bush fire impacts); ▶ Reduced storage volumes although improved water quality within the storages; and ▶ No change or a deterioration in land condition (predominantly due to drought and bush fire impacts).
ESD Indicators ¹	
Environmental	Overall downward trend in performance relating to the environmental ESD indicators.
Social	Overall neutral trend in performance relating to the social ESD indicators.
Economic	Data not available in draft report for economic ESD indicators.

¹ It is noted that the SCA's ESD indicators should be considered collectively to determine an overall assessment on the SCA performance relating to its ESD indicators. At the time of the audit however, *Insufficient Information* was available for an overall assessment. The performance against ESD indicator categories, see above, presents a summary of performance against the categories for which data was available.

9.5 Recommendations

9.5.1 Key recommendations

That the SCA:

- R9.1 Reports against all environmental and ESD indicators in a manner that fully and specifically addresses the indicator with data and allows objective year to year comparison.
- R9.2 Reports to IPART, for those indicators that the SCA believes it cannot report in a manner that fully and specifically addresses the indicator and that provides data to allow objective year to year comparison,:
- ▶ the limits of the SCA reporting against clause 9.3.3 of the Licence and the reasons for such limits; and
 - ▶ the extent to which the SCA investigated options to meet the full reporting requirements of Clause 9.3.3 and the findings of those investigations.



- R9.3 Undertakes a systematic review of all comparable data available to the SCA in order to report historical values over at least the previous 10 years, where possible, for each environmental and ESD indicator. The review is to include data available from sources other than the SCA, such as Sydney Water.



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
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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
A	M. Pignatelli	I. Garrard		I. Garrard		10/10/03
B	M. Pignatelli	I. Garrard		I. Garrard		7/11/03
0	M. Pignatelli	R. Woodward		I. Garrard		28/11/03
1	M. Pignatelli	I. Garrard		I. Garrard		15/12/03



Appendix A
Audit brief



INDEPENDENT PRICING AND REGULATORY TRIBUNAL
OF NEW SOUTH WALES

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

**THE SYDNEY CATCHMENT AUTHORITY
2002/03 OPERATIONAL AUDIT**

1 BACKGROUND

The Independent Pricing and Regulatory Tribunal of New South Wales (the Tribunal) is seeking suitably qualified auditors to conduct an audit of the Sydney Catchment Authority's (SCA's) performance against its Operating Licence.

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

In accordance with the Sections 25 and 26 of the *Sydney Water Catchment Management Act 1998*, the NSW Government granted an Operating Licence to the SCA. A requirement of the Operating Licence is that an annual Operational Audit be undertaken of the Authority's performance of its obligations under the Licence. A copy of the Operating Licence can be found at www.sca.nsw.gov.au. As part of its regulatory responsibilities, the Tribunal is required to conduct an annual Audit to assess the Authority's performance against the Operating Licence. Information gathered as part of the Audit is used to report on the SCA's performance and make recommendations to the Minister for the Environment.

The Environment Protection Authority, Department of Sustainable Natural Resources and NSW Health continue to regulate the SCA's activities concerning the environment, use of the water resource and public health respectively.

2 OBJECTIVES OF CONSULTANCY

The objective of the consultancy is to advise and report to the Tribunal on the SCA's performance against its Operating Licence for the period from 1 July 2002 to 30 June 2003. In undertaking this task the auditor must:

1. review and assess the level of compliance achieved by the Authority against the Operating Licence;
2. assess and report on progress by the Authority in implementing the Ministerial Requirements set out in Attachment 1;

3. identify any factors that have affected the performance for this period;
4. based upon the performance assessment, make recommendations on how the SCA can improve its performance in the future.

The auditor is required to report on the extent of compliance with the Operating Licence requirements. The audit process should take account of public submissions and the views of stakeholders including environment, social welfare and public interest groups.

The auditor will be responsible for assessing and interpreting the audit requirements and ensuring that the audit process satisfies all statutory requirements. Notwithstanding this, the audit report should reflect the emphasis of the *Sydney Water Catchment Management Act 1998* and the Operating Licence on water quality, system performance and environmental issues.

2.1 Outputs

The main outputs from this consultancy are:

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

The draft reports should be provided in three bound copies, a loose leaf copy and an electronic copy in MS Word. The final written report should be provided in 12 bound copies and 1 loose-leaf copy, as well as in two electronic forms (MS Word and PDF format suitable for web publication).

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

2.2 Format of the Final Report

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

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

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

3 CONDITIONS OF TENDER

3.1 Timing

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

Contract Program		
Month	Date	Activity
August	Mon 18	Start of contract
October	Mon 6	Delivery of first draft Audit Report (First milestone)
	Wed 8	Discussion of first draft with Tribunal Secretariat
November	Mon 3	Delivery of second draft Audit Report (Second milestone)
	Wed 5	Discussion of second draft with Tribunal and/or Secretariat
December	Mon 1	Delivery of final Audit Report (Third milestone)
	Wed 3	Discussion of final Audit Report with Tribunal and/or Secretariat (if required)
		End of Contract

The dates in the table for discussion of drafts and the final report are indicative and will be subject to negotiation between the Tribunal Secretariat and auditor. Weekly, formal progress updates will be required be provided to IPART in writing. Progress meetings in addition to those in the above table are expected. The detailed consultancy work plan should reflect these.

3.2 Fee

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

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

3.3 Proposal

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

3.4 Presentation

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

3.5 Criteria for selection

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

- in-depth understanding and expertise in the areas encompassed in the Operating Licence (bulk water supply, catchment management, environmental regulation and customer service)
- extent of knowledge about bulk water supply management and environmental regulation
- experience in similar auditing projects
- understanding of the SCA's regulatory framework
- proposed consultancy fee
- adequate resourcing and ability to provide results within the stated time frame and guaranteed availability of key staff
- proposed audit and quality assurance procedures
- demonstrated ability to enlist the agencies' cooperation whilst engendering a sense of acceptance of the relevant outcomes.

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

3.6 Acceptance of Tender

The Tribunal reserves the right to:

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

3.7 Disclosure of information on Government Contracts

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

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

3.8 Consultancy Contract

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

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

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

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

4 PARTIES TO THE AUDIT

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

Bob Burford

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

5 LODGEMENT OF TENDER

3 bound copies and 1 loose-leaf copy of the tender should be lodged in a sealed envelope marked '2002/03 SYDNEY CATCHMENT AUTHORITY OPERATIONAL AUDIT' and addressed to:

Ms Meryl McCracken
General Manager
Independent Pricing and Regulatory Tribunal of NSW

at, PO Box Q290
QVB POST OFFICE NSW 1230

or, Level 2
44 Market Street
SYDNEY NSW 2000

so that it is received by no later than 5.00 pm Sydney time, on Wednesday 23 July 2003.

ATTACHMENT 1 SUMMARY OF MINISTERIAL REQUIREMENTS

Summary of Ministerial Requirements arising from the 2002/2003 Operational Audit

Issue	Requirement
Safe yields	<i>"While I realise that the SCA will not be able to finalise projections of future safe yields from the catchments until various outstanding matters have been determined, I do wish to be informed of progress".</i>
	<i>"I require that the SCA provides both myself and the Tribunal with quarterly progress reports on this issue. The first report should be made available to me on or before 28 March 2003."</i>
Catchment management and protection	<i>"I require that the SCA provides both myself and IPART with quarterly reports on the implementation of this [Sydney Water Catchment (Environmental Protection) Regulation 2001] regulation. The report should be made available to me on or before 28 March 2003."</i>



Appendix B
Operating Licence



Appendix B
Operating Licence

Sydney Catchment Authority

Operating Licence

under the

Sydney Water Catchment Management Act 1998

NEW SOUTH WALES



SYDNEY WATER CATCHMENT MANAGEMENT ACT 1998

OPERATING LICENCE AMENDED UNDER SECTION 27 OF THE
SYDNEY WATER CATCHMENT MANAGEMENT ACT 1998

With the advice of the Executive Council, I, the Honourable Gordon Samuels AC, CVO, Governor of New South Wales, hereby amend the operating licence of Sydney Catchment Authority under section 27 of the Sydney Water Catchment Management Act 1998 in the manner set out below.

A handwritten signature in cursive script, appearing to read 'Gordon Samuels'.

Governor of New South Wales

Signed at Sydney, this 19th day of April 2000.

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Introduction

Introduction

- A. The operating licence granted to the Sydney Catchment Authority on 2 July 1999, under section 25 of the *Sydney Water Catchment Management Act 1998*, was renewed on 22 December 1999 for the period from 1 January 2000 until 31 December 2004.
- B. The operating licence renewed under paragraph A is amended with effect from 19 April 2000 (“**Commencement Date**”) by deleting the existing provisions in their entirety and substituting the following:

Part 1

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Definitions and Interpretation

1.1 Definitions

In this Licence:

Act means the *Sydney Water Catchment Management Act 1998* and any regulations in force under it.

Annual audit means the annual operational audit of the Authority as defined in clause 10.1.1.

Area of Operations means the area of operations specified in Schedule 1, which is set out in accordance with section 20 of the Act.

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

Authority means the Sydney Catchment Authority constituted under the Act.

Bulk Water means water supplied by the Authority to Sydney Water Corporation under the Bulk Water Supply Agreement and by the Authority to customers other than Sydney Water Corporation.

Bulk Water Supply Agreement means the Bulk Water Supply Agreement between the Sydney Catchment Authority and Sydney Water Corporation signed on 15 September 1999 and any amendment or replacement of that Agreement.

Catchment Area means Land for the time being declared under the Act to be or be part of the inner catchment area or the outer catchment area.

Catchment Infrastructure Works means the Authority's:

- (a) Water Storages, water mains, or connected or associated works, or
- (b) monitoring devices in, under, over or near any works referred to in paragraph (a), or
- (c) any works ancillary or antecedent to any works referred to paragraph (a) or (b),

and includes anything prescribed by the regulations as being within the definition of "Catchment Infrastructure Works" under the Act, but excludes anything prescribed by the

regulations as being outside the definition under the Act.

Commencement Date means the date specified in paragraph B of the Introduction.

Consultative Committee means a committee referred to in Part 5.4 of this Licence.

County Council means a county council under the *Local Government Act 1993*.

Customer means any person who is supplied water by the Authority, that is,

- (i) Sydney Water Corporation,
- (ii) water supply authorities, prescribed Local Councils or prescribed County Councils, or
- (iii) other persons and bodies, but under terms and conditions that prevent the person or body concerned from supplying the water for consumption by others within the State unless the person or body is authorised to do so under an Act.

Environmental flow means a release of water from storage so as to provide a flow of water in a river, stream, or other natural waterway that:

- (a) mimics natural seasonal flows, and
- (b) restores and maintains the ecology of the waterway concerned.

End of term review means the end of term review of this Licence under clause 2.4.1.

[Note: The End of term review is to commence on or about 1 January 2004].

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

ESD indicators means indicators of ecologically sustainable development practices and principles.

Function includes a power, authority or duty.

Hawkesbury Nepean River Management Forum means the body established to make recommendations to the Minister for Land and Water Conservation and the Minister for the Environment on Environmental flow provisions for inclusion in the Authority's Water management licence.

Healthy Rivers Commission means the Commission established under section 23 of the *Pollution Control Act 1970* to conduct public inquiries and to publish its findings into the health of those NSW river systems referred by the NSW Government.

IPART means the Independent Pricing and Regulatory Tribunal of New South Wales constituted by the *Independent Pricing and Regulatory Tribunal Act 1992*.

Land includes the following:

- (a) the sea or an arm of the sea,
- (b) a bay, inlet, lagoon, lake or body of water, whether inland or not and whether tidal or non-tidal,
- (c) a river, stream or water course, whether tidal or non-tidal,
- (d) a building erected on the land.

Licence means this operating licence granted under section 25 of the Act to the Authority or any renewal or amendment of it, and as in force for the time being.

Licence Regulator means the Sydney Water Corporation Licence Regulator constituted by section 30 of the *Sydney Water Act 1994*.

Licence Review Body means IPART or, if the Minister administering the *Independent Pricing and Regulatory Tribunal Act 1992* directs that IPART is not to undertake the Mid term review or the End of term review (as applicable) following receipt of advice from IPART concerning its workload, a person (other than the Licence Regulator or the Authority) who, in the opinion of the Minister, has suitable qualifications and experience for undertaking a Mid-term review or an End of term review.

Local Council means a council within the meaning of the *Local Government Act 1993*.

Mid term review means the mid-term review of this Licence under clause 2.3.1.

[Note: The mid-term review is to occur on or about 1 January 2002.]

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

NHMRC means National Health and Medical Research Council.

NSW Government Energy Management Policy means the energy management policy of the NSW Government released by the NSW Department of Energy (now the Ministry of Energy and Utilities) in 1998 and updated from time to time.

NSW Health means the NSW Department of Health.

Raw water has the same meaning as Bulk water.

Regional Environmental Plan means the plan or plans referred to in section 53 of the Act.

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

State Environmental Planning Policy 58 (SEPP 58) means the SEPP entitled “Protecting Sydney’s Water Supply” issued under the *Environmental Planning and Assessment Act 1979* as gazetted on 14 December 1998 and as amended, supplemented or replaced from time to time.

Sydney Water Corporation means Sydney Water Corporation constituted as a corporation under the *Sydney Water Act 1994*.

Water Storages means the Authority’s dam walls, pumps and other works used for or with respect to the extraction, and storage, of:

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

Water management committee means a committee established by the Minister for Land and Water Conservation that includes representatives of the community, State and Local government agencies, for purposes including the provision of advice to Government on the management of surface water and groundwater supplies.

Water management licence means a water management licence granted under Part 9 of the *Water Act 1912*.

1.2 Interpretation

- 1.2.1 In this Licence, unless the contrary intention appears:
- (a) the word person includes an individual, a body corporate, an unincorporated body or other entity and one or more of each of them;
 - (b) a reference to a law includes legislation (including the Act) and regulations made under legislation;
 - (c) a reference to regulations includes ordinances, codes, licences, orders, permits and directions;
 - (d) a reference to a law, regulations, guidelines, any Memorandum of understanding, plans, policies or other strategy, standards, or list of indicators includes consolidations, amendments, variations, re-enactments, or replacements of any of them;
 - (e) a reference to a function of the Authority includes a function which is conferred or imposed on the Authority by or under the Act or any other Act or law;
 - (f) a reference to a person includes a reference to the person's executors, administrators, successors, substitutes (including, but not limited to, persons taking by novation) and assigns;
 - (g) a reference to a year means a calendar year that ends on 31 December. "Yearly" has a corresponding meaning; and
 - (h) a reference to a clause or Schedule is to a clause of or Schedule to this Licence.
- 1.2.2 If this Licence requires that something undergo public consultation, it requires as a minimum that:
- (a) notice of that thing and the nature and timing of the consultation be:
 - (i) advertised in a major daily newspaper circulating in the Area of Operations;
 - (ii) communicated to persons to whom it would reasonably be expected notice should be given; and
 - (iii) given to the Licence Regulator; and
 - (b) submissions be sought from the public and that these submissions be considered by the person conducting the review.
- 1.2.3 If any part of this Licence is prohibited, void, voidable, illegal or unenforceable, then that part is severed from the Licence but without affecting the continued operation of the remainder of the Licence.
- 1.2.4 A reference in this Licence to any organisation, association, society, group, or body shall, in the event of it ceasing to exist or being reconstituted, renamed or replaced or if its powers or functions are transferred to any other entity, body or group, refer respectively to any such entity, body or group, established or constituted in lieu thereof or succeeding to similar powers and functions.
- 1.2.5 If there is disagreement between the Authority and the Licence Regulator as to the proper interpretation of any term of this Licence, the matter must be referred to the Minister for resolution by the Minister or a person appointed by the Minister.
- 1.2.6 The italicised explanatory notes in this Licence do not form part of this Licence.

- 1.2.7 Where the Licence Regulator requires some act or thing to be done under this Licence, the Authority must provide reasonable assistance to the Licence Regulator, or other person nominated by the Licence Regulator, with the intent of enabling that act or thing to be done.
- 1.2.8 If there is any inconsistency between this Licence and a Memorandum of understanding (including any interpretation of any provision), or between this Licence and the Bulk Water Supply Agreement (including any interpretation of any provision), this Licence will prevail to the extent of the inconsistency.

Part 2

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Information about this Licence

2.1 Objectives of this Licence

- 2.1.1 The objectives of this Licence are to enable and require the Authority to:
- (a) manage and protect the Catchment Area and Catchment Infrastructure Works;
 - (b) supply Bulk water; and
 - (c) regulate certain activities within the Catchment Area.
- 2.1.2 Consistent with the objectives in clause 2.1.1, this Licence requires the Authority to:
- (a) meet the objectives and other requirements imposed on it in the Act;
 - (b) comply with the quality and performance standards in this Licence; and
 - (c) be subject to the Annual audit of compliance with this Licence.

2.2 Duration of Licence

- 2.2.1 This Licence is for a term that will expire on 31 December 2004.
- 2.2.2 The Governor may renew this Licence in accordance with the Act.

[Note: Section 28 of the Act allows the Governor to renew the licence for a maximum of 5 years at a time.]

2.3 Mid term licence review

- 2.3.1 On or about 1 January 2002, a Mid term review must be undertaken:
- (a) to determine whether this Licence is fulfilling its objectives; and
 - (b) in relation to any matter required to be reviewed by this Licence.
- 2.3.2 The review is to be undertaken by a Licence Review Body appointed by the Minister.
- 2.3.3 The Licence Review Body must engage in public consultation as part of the review.
- 2.3.4 The Licence Review Body is to report to the Minister within six months of commencing the review on the following:
- (a) the findings of the review;
 - (b) any recommendations for amendment to this Licence; and

- (c) any recommendations for amendment to any law that adversely impacts on this Licence.
- 2.3.5 The Licence Review Body's report must be made available to the public by the Authority at the direction of the Minister (which direction must be given within 2 months after the Minister receives the report). Copies are to be placed on the Authority's website on the internet for downloading by the public free of charge and also made available at its offices for access or collection by any person, also free of charge.
- 2.3.6 The Minister may accept or reject any recommendation made by the Licence Review Body.
- 2.3.7 If any recommendation made by the Licence Review Body and accepted by the Minister requires an amendment to this Licence, the recommendation is of no force or effect unless this Licence is relevantly amended in accordance with section 27 of the Act.
- 2.3.8 Any recommendation made by the Licence Review Body that is not accepted by the Minister is of no force or effect.

2.4 End of term licence review

- 2.4.1 An End of term review for the purpose of determining the terms of any renewal of this Licence is to commence on or about 1 January 2004.
- 2.4.2 The review is to be undertaken by a Licence Review Body appointed by the Minister.
- 2.4.3 The Licence Review Body is to engage in public consultation as part of the review.
- 2.4.4 The Licence Review Body is to report to the Minister within 12 months of commencing the review on the following:
 - (a) the findings of the review;
 - (b) any recommendations for amendment to this Licence, including any additional terms to be included in any renewal of this Licence; and
 - (c) any recommendations for amendment to any law that adversely impacts on this Licence.
- 2.4.5 The Licence Review Body's report must be made available to the public by the Authority at the direction of the Minister (which direction must be given within 2 months after the Minister receives the report). Copies are to be placed on the Authority's website on the internet for downloading by the public free of charge and also made available at its offices for access or collection by any person, also free of charge.
- 2.4.6 The Minister may accept or reject any recommendation made by the Licence Review Body.
- 2.4.7 If any recommendation made by the Licence Review Body and accepted by the Minister requires an amendment to this Licence, the recommendation is of no force or effect unless this Licence is relevantly amended in accordance with section 27 of the Act.
- 2.4.8 Any recommendation made by the Licence Review Body that is not accepted by the Minister is of no force or effect.

2.5 Licence amendment

2.5.1 This Licence may be amended by the Governor in accordance with the Act.

[Note: Section 27 of the Act provides that the Governor may amend the operating Licence.]

2.6 Contravention of Licence

The Authority acknowledges that, if the Minister is of the opinion that the Authority has contravened this Licence, the Minister may take action against the Authority under section 29 of the Act.

[Note: Section 29 of the Act provides that, where the Minister is of the opinion that the Authority contravenes this Licence, the Minister may serve a notice on the Authority requiring it to rectify the contravention; or, the Governor may direct that the Authority is to pay a monetary penalty in an amount determined by the Governor.]

2.7 Cancellation of Licence

This Licence may be cancelled by the Governor in the circumstances described in section 30 of the Act.

[Note: Section 30 sets out the circumstances in which the Governor may cancel the licence. These are where the Authority ceases, otherwise than as authorised by the operating licence, to carry out its responsibilities in accordance with the licence or any of them in the area of operations of the Authority for any reason; or where the Authority, in the Minister's opinion, is in material default in compliance with the Licence and has not rectified such default or shown cause why the Licence should not be cancelled; or where the Authority is convicted on more than three occasions within a twelve month period of criminal offences punishable by at least a \$10,000 fine or twelve months' penal servitude or imprisonment if the Authority were a natural person.]

Part 3

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Sydney Catchment Authority's Responsibilities

3.1 Responsibilities of the Authority under this Licence and other laws

The Authority must comply with this Licence and all applicable laws.

[Note: The Authority has obligations under a number of laws including:

- *Protection of the Environment Operations Act 1997;*
- *Public Health Act 1991;*
- *Water Act 1912;*
- *Water Administration Act 1986;*
- *Environmental Planning and Assessment Act 1979;*
- *Independent Pricing and Regulatory Tribunal Act 1992;* and
- *Dams Safety Act 1978.*]

3.2 Responsibility of the Authority under the Sydney Water Catchment Management Act

3.2.1 The Authority acknowledges that its principal objectives under section 14(1) of the Act are:

- (a) to ensure that the Catchment Area and the Catchment Infrastructure Works are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment;
- (b) to ensure that water supplied by it complies with appropriate standards of quality;
- (c) where its activities affect the environment, to conduct its operation in compliance with the principles of ecologically sustainable development contained in section 6(2) of the *Protection of the Environment Administration Act 1991*;
- (d) to manage the Authority's Catchment Infrastructure Works efficiently and economically and in accordance with sound commercial principles.

3.2.2 The Authority acknowledges that its special objectives under section 14(2) of the Act are:

- (a) to minimise risks to human health, and
- (b) to prevent the degradation of the environment.

3.3 Memorandum of understanding

3.3.1 In accordance with section 36 of the Act, the Authority must maintain a Memorandum of understanding with each of the Water Administration Ministerial Corporation, Director-General of NSW Health, and EPA for the term of this Licence.

[Note: Section 36 of the Act requires the Authority enter into separate memoranda of understanding with certain regulatory agencies, being the Director-General of NSW Health, the Water Administration Ministerial Corporation, and EPA. If the Authority and those regulatory agencies are not able to enter into, or agree on a term of, a memorandum of understanding, the memorandum is to be entered into in accordance with procedures determined by the Premier or is taken to be entered into in such terms as are determined by the Premier. A memorandum of understanding entered into by the Authority under section 36 is to be reviewed, and amended or replaced, at such times and in such circumstances as are agreed upon between the Authority, the agency concerned, or as are determined by the Minister. Section 38 deals with public exhibition of memoranda of understanding.]

3.3.2 The purpose of a Memorandum of understanding is to form the basis for cooperative relationships between the parties to the Memorandum with a view to furthering the objectives of this Licence and the Act.

3.3.3 The Authority acknowledges that it may be required by direction of the Minister to enter into a Memorandum of understanding with a person, body or agency under section 37 of the Act.

[Note: Section 37 of the Act provides that the Minister may direct the Authority to enter into memoranda of understanding with the Director-General of National Parks & Wildlife, the Director-General of the Department of Agriculture, local councils, county councils, or any persons, bodies or agencies nominated by Ministerial order communicated to the Authority. The Minister may specify the matters to be dealt with in a memorandum of understanding and the period (within 6 months of the direction) within which the memorandum is to be entered into. Where the Authority and the relevant body are unable to agree, the Premier may determine the terms of the memorandum. Section 38 deals with public exhibition of memoranda of understanding.]

3.3.4 The Authority must consult with the Minister in the six months following the Commencement Date, with a view to the Minister considering exercising his powers under section 37(1) of the Act to direct the Authority to enter into Memoranda of understanding with regulatory agencies referred to in section 35(b) of the Act.

[Note: The regulatory agencies in section 35(b) of the Act are the Director-General of National Parks and Wildlife, the Director-General of the Department of Agriculture, local councils, county councils, and any persons, or bodies or agencies for the time being nominated by order of the Minister communicated to the Authority.]

3.3.5 The Licence Regulator must consider and report on the Authority's implementation of the Memoranda of understanding referred to in clause 3.3 and any other requirements in clause 3.3.

3.3.6 As part of the Mid term review, the Licence Review Body must advise the Minister on whether any obligations in the Memoranda of understanding referred to in clause 3.3 should be incorporated into this Licence.

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Licence Authorisation and Area of Operations

4.1 What the Licence authorises and regulates

- 4.1.1 For the purpose of section 15(1) of the Act, this Licence enables the Authority to exercise any function conferred or imposed on it by or under the Act or any other Act, regardless of whether any such function is conferred or imposed on the Authority by or under the Act or any other Act before or after the Commencement Date.
- 4.1.2 This Licence enables and requires the Authority to provide, construct, operate, manage and maintain efficient and coordinated viable systems and services for supplying Bulk water.
- 4.1.3 The Authority must ensure that the Catchment Infrastructure Works comply with the quality and performance standards required in this Licence or required to be developed under this Licence.

4.2 Powers not limited

This Licence does not restrict the Authority’s power to carry out any functions conferred or imposed under any applicable law.

4.3 Area of Operations

- 4.3.1 This Licence enables the Authority to exercise its functions in or in respect of an area in or outside the Area of Operations.
- 4.3.2 The Area of Operations may only be varied in accordance with section 20 of the Act.

[Note: The Area of Operations for the Authority is listed in Schedule 1 of this Licence. Section 20 of the Act states that subject to certain requirements the Governor may vary the Area of Operations by order published in the NSW Government Gazette.]

4.4 Non-Exclusive Licence

The Licence does not prohibit a person (the “Supplier”) from supplying water (whether Bulk water or otherwise) to a person (including a person that is a Customer) in the Area of Operations, if the Supplier is lawfully entitled to do so.

Part 5

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Customers

5.1 Customer - Sydney Water Corporation

5.1.1 The Authority acknowledges that it has entered into a Bulk Water Supply Agreement with Sydney Water Corporation in compliance with its obligations under section 22 of the Act to enter into an arrangement with Sydney Water Corporation. The terms of the Agreement are as provided for in the Act and include:

- (a) the standard of the quality of the water supplied;
- (b) the continuity of water supply;
- (c) the maintenance of adequate reserves of water by the Authority; and
- (d) the cost to be paid by Sydney Water Corporation for the supply of water to it.

[Note: Division 4 of Part 3 (sections 22 to 24) of the Act specify the arrangements which are to be made with Sydney Water Corporation.]

5.1.2 The Authority must review the terms of the Bulk Water Supply Agreement from time to time in consultation with Sydney Water Corporation to determine its compliance and consistency with:

- (a) the Act;
- (b) this Licence; and
- (c) the operating licence for Sydney Water Corporation.

5.1.3 Following the review in clause 5.1.2, but subject to sections 22(4), 22(5), and 22(8) of the Act, the Authority must use its best endeavours to procure Sydney Water Corporation's agreement to amendments to the Bulk Water Supply Agreement that are necessary to address identified areas of non-compliance or inconsistency with:

- (a) the Act;
- (b) this Licence; and
- (c) the operating licence for Sydney Water Corporation.

[Note: The public consultation requirements set out in section 22(8) of the Act apply to any amendment of the Bulk Water Supply Agreement.]

5.2 Customers - other than Sydney Water Corporation

- 5.2.1 The Authority must use its best endeavours to reach agreement with its other Customers, on the arrangements to apply in relation to Bulk water that the Authority supplies to those Customers. The terms of the arrangements must at minimum include:
- (a) the standard of the quality of the water supplied;
 - (b) the continuity of water supplied;
 - (c) any other terms agreed by the parties; and
 - (d) the costs to be paid by Customers for the supply of water to them.

5.3 Customer complaints

- 5.3.1 The Authority must establish internal complaints handling procedures for receiving, responding to and resolving complaints it receives from Customers and the community, relating to any of its functions.
- 5.3.2 The internal complaints handling procedures of the Authority must be based on the Australian Standard *AS4269-1995 Complaint Handling*.
- 5.3.3 The Authority must make available to Customers and the community information concerning its internal complaints handling procedures which explains how to make a complaint and how the complaints handling procedure works.
- 5.3.4 The Authority must provide information of the nature described in clause 5.3.3 to Customers at least once each year. The Authority must also post this information on its website on the internet for downloading free of charge.
- 5.3.5 The Authority must report each year to the Licence Regulator as part of the Annual audit on the following details concerning complaints made against the Authority which are handled by its internal complaints handling procedures:
- (a) the number and types of complaints received classified into one or more of the following categories:
 - (i) water quality, including health and aesthetic characteristics;
 - (ii) continuity of water supply;
 - (iii) water pressure; and
 - (iv) billing.
 - (b) the number and type of complaints resolved or not resolved in sufficient detail and using sufficient classifications to enable the Licence Regulator to gain a reasonable understanding of how and how well those complaints were resolved or why complaints were not resolved, as the case may be;
 - (c) any problems of a systematic nature arising from the complaints.

5.4 Consultative Committees

- 5.4.1 The Authority must establish and regularly consult with one or more Consultative Committees to enable community involvement in issues relevant to the performance of the Authority's obligations under this Licence.
- 5.4.2 The first Consultative Committee under this Licence in respect of the period after the Commencement Date must be established within three months of the Commencement Date.

- 5.4.3 The Authority must appoint the members of a Consultative Committee, consistent with this Licence.
- 5.4.4 At all times, the membership of one or more Consultative Committees must between them include a representative from at least each of the following:
- (a) local environment groups;
 - (b) peak environment groups;
 - (c) catchment management experts;
 - (d) public health experts;
 - (e) business groups;
 - (f) farming interests;
 - (g) local government; and
 - (h) Customers.
- 5.4.5 The Authority may require a representative under clause 5.4.4 to serve on so many Consultative Committees as it considers it appropriate to best discharge the tasks assigned to him or her.
- 5.4.6 The term of a member of a Consultative Committee will expire two years after his or her appointment. A member will be eligible for re-appointment for one further consecutive term.
- 5.4.7 If a member's place becomes vacant before the expiration of his or her term, the Authority may appoint a suitable replacement for the remainder of that member's term.
- 5.4.8 Within three months of establishing Consultative Committee(s), the Authority must develop in consultation with members of the Consultative Committee(s) a Consultative Committee Charter that addresses the following issues:
- (a) the role of the Consultative Committees;
 - (b) selection criteria on how members will be drawn from the community;
 - (c) information on how the Consultative Committee will operate;
 - (d) a description of the type of matters that will be referred to the Consultative Committee;
 - (e) procedures for the conduct of Consultative Committee meetings, including the appointment of a chairperson;
 - (f) communicating the outcome of the Consultative Committee's work to the Authority;
 - (g) procedures for tracking issues raised and ensuring appropriate follow-up of those issues; and
 - (h) funding and resourcing of the Consultative Committee by the Authority.
- 5.4.9 There must be a Consultative Committee Charter for each Consultative Committee. However, a single Consultative Committee Charter may be expressed to apply to more than one Consultative Committee.
- 5.4.10 The Authority must provide a Consultative Committee with information within its possession or under its control necessary to enable the Consultative Committee to discharge the tasks assigned to it, other than information or documents over which the Authority or another person claims confidentiality or privilege.

- 5.4.11 A copy of each Consultative Committee Charter must be posted on the Authority'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.
- 5.4.12 As part of the End of term review, the Licence Review Body must evaluate and report on the effectiveness of Consultative Committees and compliance with the Consultative Committee Charter.

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Bulk Water Quality

6.1 Interpretation

In this Part:

Drinking Water Guidelines means the NHMRC and ARMCANZ Australian Drinking Water Guidelines 1996 and any amendment, update and supplement of these guidelines from time to time.

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

Water Treatment means treating water by substantially removing or reducing certain contaminants and characteristics prior to the water being used or supplied for use by business and household consumers for human consumption.

6.2 Water supplied for Water Treatment

The following provisions apply to Bulk water supplied by the Authority to Customers for Water Treatment:

[Note: Customers to whom the Authority supplies water for Water Treatment include: Sydney Water Corporation, Shoalhaven City Council and Wingecarribee Shire Council.]

- (a) the Authority must meet the health guideline values in the Drinking Water Guidelines for those characteristics of water that are set out in Schedule 4;

[Note: The characteristics of water that are listed in Schedule 4 are those that may not be substantially removed or reduced through water treatment processes used by the Authority's Customers at the Commencement Date.]

- (b) the Authority must comply with the site specific standards for Bulk water in the Bulk Water Supply Agreement; and

[Note: The site specific standards in the Bulk Water Supply Agreement relate only to the aesthetic characteristics of water, such as turbidity, colour, hardness and alkalinity.]

- (c) the Authority must liaise with Customers to whom it supplies Bulk water for Water Treatment, to cooperate and where possible agree on cost-effective strategies (and the timing of their implementation) to ensure treated water consumed by humans is not harmful to human health.

6.3 Water supplied for other uses

- 6.3.1 The Authority must use its best endeavours to reach agreement with Customers and other persons as to the water quality standards that are to apply to the Bulk water that the Authority supplies to those Customers, or other persons, for purposes other than Water Treatment.

[Note: See clause 5.2.1 of this Licence.]

- 6.3.2 The Authority must advise Customers of the potential uses for the Bulk water it supplies and of the need for Water Treatment if the water is to be used for human consumption.

6.4 Catchment and system management

The Authority must comply with the Drinking Water Guidelines relating to catchment management and system management of public water supplies.

[Note: The Drinking Water Guidelines include catchment and system management practices to minimise the risk of contamination to raw water supplies, for example, the catchment management practices required to minimise the risk of contamination by Cryptosporidium and Giardia.]

6.5 Review of obligations regarding water quality

As part of the Mid term review, the Licence Review Body must review the obligations imposed on the Authority under clause 6.2 and make recommendations as to whether those obligations should be amended and if so the nature of the amendments.

6.6 Water quality monitoring and reporting

- 6.6.1 The Authority must develop and implement a water quality monitoring program (the “Monitoring Program”) that comprises:

- (a) routine monitoring of the quality of Bulk water supplied to Customers for Water Treatment and the Authority’s compliance with clause 6.2; and
- (b) targeted, investigative and event based monitoring of the water in the Catchment Area, to better define the occurrence of particular characteristics and contaminants in water.

- 6.6.2 The Monitoring Program must include at least the following in relation to the routine monitoring required by clause 6.6.1(a):

- (a) monitoring against health guideline values for characteristics of water as required by clause 6.2(a);
- (b) monitoring for the site specific standards as required by clause 6.2(b);
- (c) monitoring for any other characteristics of water nominated by NSW Health;
- (d) an effective system of quality assurance in the monitoring, sampling, testing and reporting processes it employs, which must be to the satisfaction of NSW Health; and
- (e) sampling frequencies and locations that produce results which are representative of the quality of Bulk water supplied to Customers for Water Treatment.

- 6.6.3 The Authority must provide:
- (a) the results of the routine monitoring required by clauses 6.6.2(a), 6.6.2(b) and 6.6.2(c) to the Customers that it supplies Bulk water for Water Treatment, as soon as practicable, in order that these Customers may adjust their Water Treatment processes to manage incoming pollutants; and
 - (b) the results of the routine monitoring required by clauses 6.6.2(a) and 6.6.2(c) to NSW Health, as soon as practicable.
- 6.6.4 The Monitoring Program must include at least the following in relation to the targeted, investigative and event based monitoring required under clause 6.6.1(b):
- (a) an effective system of quality assurance in the monitoring, sampling, testing and reporting processes, which must be to the satisfaction of NSW Health, the Environment Protection Authority and the Department of Land and Water Conservation; and
 - (b) sampling frequencies and locations that produce information to better define the occurrence and factors contributing to the presence of the characteristics in the water, which must be to the satisfaction of NSW Health, the Environment Protection Authority and the Department of Land and Water Conservation.
- 6.6.5 The Authority must develop and maintain a database(s) of monitoring results for the routine, targeted, investigative and event based monitoring.
- 6.6.6 The nature, features and results of the Monitoring Program must be reflected in a report to be prepared by the Authority by 30 November of each year of this Licence (the “Monitoring Program Report”).
- 6.6.7 The Monitoring Program Report must (in addition to the information required under clause 6.6.3) also contain the following information:
- (a) a summary of the monitoring information of the Authority;
 - (b) a description of water quality trends and problems identified as part of the Monitoring Program;
 - (c) a summary of water quality incidents identified since the previous Monitoring Program Report and action taken to resolve, eliminate or mitigate those incidents or their effect; and
 - (d) steps taken by the Authority to protect public health.
- 6.6.8 The Monitoring Program Report must be placed on the Authority’s website on the internet for downloading by the public free of charge and also made available at its offices for access or collection by any person, also free of charge.
- 6.6.9 The Licence Regulator must consider and report on the Monitoring Program and the Monitoring Program Report as part of the Annual audit.

6.7 Water quality planning

Risk Management Plan

- 6.7.1 After completion of the first catchment audit referred to in Part 5 of the Act, the Authority must use the findings of the audit to prepare a five-year Risk Management Plan.

[Note: Section 42(2) of the Act requires catchment audits at intervals of no more than two years.]

6.7.2 The purpose of the Risk Management Plan is to identify and assess sources of pollution in the Catchment Area and to reduce or remove the pollution so as to improve the quality of Bulk water supplied to Customers. To achieve this purpose the Plan must:

- (a) identify and assess pollution sources in the Catchment Area, how pollutants are modified between source and water storage, and evaluate the impact of pollution on the quality of Bulk water supplied to Customers (as this information becomes available through the Authority's long term research);
- (b) identify opportunities to improve the operation of Catchment Infrastructure Works;
- (c) set out actions within the Authority's power to improve the quality of Bulk water supplied to Customers. These actions must be developed as part of the risk action plans in clause 6.7.3(a) and have clear timeframes; and
- (d) identify where the Authority needs to enter into arrangements with agencies to address those problems outside its powers.

[Note: Ideally the Risk Management Plan should form part of a Government catchment planning process. The requirement to produce the Risk Management Plan may be satisfied by plans developed under the Regional Environmental Plan to the extent they incorporate the requirements in clauses 6.7.2 and 6.7.3.]

6.7.3 In developing the Risk Management Plan, the Authority must:

- (a) apply Australian Standard Risk Management: AS/NZS4360:1999 to the quality of Bulk water supplied by the Authority to its Customers. In particular, the Authority must apply this Australian Standard to develop risk action plans referred to above at clause 6.7.2(c);
- (b) have regard to the catchment management principles in the Drinking Water Guidelines; and
- (c) consider the benefits and costs of different management options.

[Note: The Australian Standard on Risk Management provides the generic framework for establishing the context, identification, analysis, evaluation, treatment, monitoring and communication of risk. As the framework in the standard is generic it can be applied to the quality of Bulk water supplied by the Authority to its Customers.]

6.7.4 The Authority must engage in public consultation in developing the Risk Management Plan, and must specifically seek comments from NSW Health, the Environment Protection Authority and the Department of Land and Water Conservation. A draft plan must be exhibited for public comment, with finalisation by 1 January 2001.

6.7.5 On completion of future catchment audits, the Authority must review its five-year Risk Management Plan and make amendments following public consultation.

6.7.6 At other times, the Risk Management Plan may only be amended following public consultation.

6.7.7 The need for this Risk Management Plan must be reviewed at the Mid term review in light of the requirements under the Regional Environmental Plan.

6.7.8 As part of the Annual audit, the Licence Regulator is to audit the Authority's performance against the actions that the Authority is to undertake under the Risk Management Plan.

Incident Management Plan

- 6.7.9 The Authority must prepare, to the satisfaction of NSW Health, an Incident Management Plan, by 1 July 2000 which must remain in place until any new plan is developed in agreement with NSW Health. The Authority must consult with Customers to whom it supplies Bulk water for Water Treatment in relation to the development of the Incident Management Plan.
- 6.7.10 The purpose of the Incident Management Plan is to minimise the risk to human health from the Bulk water supplied by the Authority to Customers.
- 6.7.11 The Incident Management Plan must contain, or incorporate by reference, procedures and protocols for the coordinated management of water incidents including media and stakeholder liaison and any notification of public health advice received from NSW Health to Customers.
- 6.7.12 The Incident Management Plan must include a requirement for the Authority to advise Customers to whom it supplies Bulk water for Water Treatment and NSW Health, if the Bulk water it supplies may be a risk to human health.

6.8 Environmental water quality

- 6.8.1 The Authority must meet the environmental water quality requirements for any discharges or water releases required under licences issued to the Authority by the EPA or the Department of Land and Water Conservation.

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Catchment Management and Protection

7.1 Authority to Manage and Protect

- 7.1.1 The Authority must manage and protect the Catchment Area to the full extent to which it is empowered to do so.
- 7.1.2 The Authority must use its best endeavours to coordinate the collection of data on water quality in the Catchment Area, including data collected as a result of the Memoranda of understanding referred to in Part 3.3 of this Licence between the Authority and each of EPA, Director-General of NSW Health and the Water Administration Ministerial Corporation as well as data collected by other relevant persons or bodies.
- 7.1.3 The Authority must make its unpublished data in relation to river health publicly available, in accordance with Government policies about access to information. The Authority may charge for value adding and the processing and servicing of information requests.

Plans of Management for Water Storage Catchments

7.2 Special Areas Strategic Plan of Management

- 7.2.1 In this clause:

Special Areas Strategic Plan of Management means the Special Areas Strategic Plan of Management as adopted by the Minister from time to time in accordance with section 49 of the Act.

[Note: The Authority exhibited the Special Areas Strategic Plan of Management and supporting background document in September 1999.]

- 7.2.2 The Authority must give effect to the Special Areas Strategic Plan of Management. In doing so, the Authority must consult, and where possible, collaborate with the National Parks and Wildlife Service.
- 7.2.3 By no later than 1 September each year, the Authority must report to the Licence Regulator on its compliance with the Special Areas Strategic Plan of Management for the previous twelve months, to enable the Licence Regulator to consider and

report on the matter as part of the Annual audit.

- 7.2.4 The Authority must review the Special Areas Strategic Plan of Management with National Parks and Wildlife Service every five years.
- 7.2.5 Where the Authority or National Parks and Wildlife Service considers that an amendment, alteration, or substitution of the Special Areas Strategic Plan of Management may be warranted, the Authority must bring the matter to the Minister's attention and request that the Minister consider amending, altering or substituting the Special Areas Strategic Plan of Management in accordance with section 49 of the Act.

[Note: Section 49(7) and (8) of the Act provide that the relevant Ministers may amend, alter or cancel the Special Areas Strategic Plan of Management, or substitute a new plan, at any time. Before so doing, the relevant Ministers may consult with any person or body that the Ministers think fit.]

Section 49(2) to (4) apply to plans of management as well as amendments and alterations to plans of management. In relation to amendments, the joint sponsors must give notice of any proposed amendment or alteration in a newspaper circulating throughout NSW specifying the address of the place of which copies of the plan of management may be inspected, and any proposed amendments, and the address to which representations may be forwarded. Any person may, within 30 days or such longer period as may be specified in the notice, make representations to the joint sponsors concerning the proposed amendment, alteration or substitute plans. The joint sponsors must, on the expiration of that period and before submitting the amendments, alterations or substitution to the relevant Ministers, consider any representations made under that section.]

7.3 Wingecarribee Swamp Plan of Management

7.3.1 In this clause:

Wingecarribee Swamp Plan of Management means the plan of management for the area known as Wingecarribee Swamp, developed by Sydney Water Corporation and National Parks and Wildlife Service.

- 7.3.2 The Authority must review the current Wingecarribee Swamp Plan of Management, and must use its best endeavours to develop a new or amended Plan with National Parks and Wildlife Service by 1 December 2000.
- 7.3.3 The new or amended Wingecarribee Swamp Plan of Management must consider rehabilitation and restoration of the swamp. The objectives and strategies in the new or amended Wingecarribee Swamp Plan of Management must be consistent with objectives and strategies in the Special Areas Strategic Plan of Management referred to in clause 7.2.
- 7.3.4 The Authority must give effect to the new or amended Wingecarribee Swamp Plan of Management and where reasonably possible, in conjunction with other appropriate persons.
- 7.3.5 By no later than 1 September each year, the Authority must report to the Licence Regulator on its compliance with the Wingecarribee Swamp Plan of Management for the previous twelve months, to enable the Licence Regulator to consider and report on the matter as part of the Annual audit.
- 7.3.6 The Authority must review the new or amended Wingecarribee Swamp Plan of Management in consultation with National Parks and Wildlife every five years for the purpose of advising the Minister whether any amendments are required to the Plan.

- 7.3.7 After such review, where the Authority or National Parks and Wildlife Service considers that an amendment, alteration, or substitution of the Wingecarribee Swamp Plan of Management may be warranted, the Authority must bring the matter to the Minister's attention and request that the Minister consider amending, altering or substituting the Wingecarribee Plan of Management in accordance with section 49 of the Act.

[Note: See the Note under clause 7.2.5.]

Catchment Planning Instruments

7.4 Regional Environmental Plan

- 7.4.1 The Authority must comply with any obligations on it under the Regional Environmental Plan consistent with its functions under the Act and this Licence.
- 7.4.2 The Authority must promote implementation and awareness of the Regional Environmental Plan including education of public authorities and other relevant parties in the Catchment Area.
- 7.4.3 The Licence Regulator must consider and report on the matters in clause 7.4 as part of the Annual audit.

7.5 State Environmental Planning Policy

- 7.5.1 The Authority must comply with State Environmental Planning Policy 58, (or if that Policy is supplemented or replaced, that Policy as supplemented or replaced) consistent with its functions under the Act.
- 7.5.2 The Licence Regulator must consider and report on the matters in clause 7.5 as part of the Annual audit.

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Management of Catchment Infrastructure Works and Demand Management

8.1 Management of Catchment Infrastructure Works

- 8.1.1 The Authority must manage and operate the Catchment Infrastructure Works to minimise risk to human health from the Bulk water it supplies.
- 8.1.2 The Authority must ensure that Catchment Infrastructure Works are designed, operated and managed to provide Sydney Water Corporation with a long-term standard of services which accords with the performance criteria set out in Schedule 2.
- 8.1.3 The performance criteria set out in Schedule 2 are to be reviewed as part of the Mid term review.

8.2 Dam Safety

The Authority must comply with the guidelines of the Australian National Committee on Large Dams and the NSW Dams Safety Committee.

8.3 Demand Management

- 8.3.1 The Authority must manage demand management consistent with the requirements in the Water management licence issued to the Authority under Part 9 of the Water Act 1912.
- 8.3.2 To the extent which the Authority is able, it must manage water conservation consistent with the demand management requirements in Sydney Water Corporation's operating licence.
- 8.3.3 In considering any augmentation of the Catchment Infrastructure Works, the Authority must consider as a priority, whether there exists any additional scope for cost-effective demand management strategies by Sydney Water Corporation.

Part 9

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The Environment

9.1 Environment Plan

- 9.1.1 The Authority must prepare a draft five-year Environment Plan by 31 December 2000, and a final five-year Environment Plan by 30 June 2001. After that, the Authority must produce further five-year Environment Plans every five years.
- 9.1.2 The Authority must engage in public consultation in developing both the draft and final Environment Plan referred to in clause 9.1.1. The final Environment Plan must be submitted to the Minister for approval.
- 9.1.3 The Environment Plan must:
- (a) contain details of the Authority's strategies relating to the Catchment Area and the Catchment Infrastructure Works as well as the environmental aspects of its other activities such as heritage;
 - (b) comply with principles of ecologically sustainable development; and
 - (c) be recognised in the Authority's business plans.

[Note: One of the principal objectives of the Authority in the Act is to conduct its operations in compliance with the principles of ecologically sustainable development contained in section 6(2) of the Protection of the Environment Administration Act 1991.]

- 9.1.4 The Environment Plan must set targets and timetables for compliance by the Authority with those targets over the term of the Environment Plan. These targets must utilise the environmental and ESD indicators in clause 9.2.
- 9.1.5 The Environment Plan must:
- (a) include a policy of the management of energy used within the Authority for the performance of its functions in accordance with this Licence;
 - (b) apply the following targets in accordance with the NSW Government Energy Management Policy for energy consumption of buildings:
 - (i) 15% reduction from the 1995 level by 2001;
 - (ii) 25% reduction from the 1995 level by 2005; and
 - (iii) any subsequent targets set by Energy Management Policy; and

(c) include environmental and ESD indicators.

9.1.6 The Environment Plan must be posted on the Authority's website on the internet for downloading free of charge, made available at its premises for access or collection by any member of the public and lodged with environmental centres and public libraries in the Area of Operations, in each case also free of charge.

9.1.7 Amendments may only be made to the Environment Plan following public consultation and the approval of the Minister.

9.2 Environmental and ESD indicators

9.2.1 The Authority must prepare:

(a) a draft list of environmental indicators by 1 July 2000; and

(b) a draft list of ESD indicators by 1 October 2000.

9.2.2 The environmental indicators must allow the Authority to monitor the direct impact of its activities on the environment, whether such activities are carried out by or on behalf of the Authority.

9.2.3 The ESD indicators must indicate the degree to which the Authority's activities comply with the principles of ecologically sustainable development.

9.2.4 The Authority must present final lists of the environmental and ESD indicators to the Minister by 1 January 2001 for the Minister's approval, and if approved, for publication in the NSW Government Gazette.

Environmental indicators

9.2.5 The draft list of environmental indicators must:

(a) include any environmental indicators, from the current list of indicators developed by Sydney Water Corporation, that are relevant to the Authority's functions;

(b) address the ecological health of the Catchment Area (with particular reference to the vegetation cover, riparian zones and water quality) and the impact of the Authority's activities (including polluting activities) on the Catchment Area, in accordance with section 26(1)(c) of the Act;

(c) have regard to physical, biological, chemical and ecological factors, as appropriate, and may include: nutrients; toxic chemicals including heavy metals and organochlorines and flora and fauna species diversity.

9.2.6 The Authority must ensure that its environmental indicators are consistent with any other environmental indicators being prepared for the Catchment Area, for example, indicators to evaluate the outcomes of the Special Areas Strategic Plan of Management.

9.2.7 In preparing the draft list of indicators, the Authority must give consideration to any environmental indicators recommended by the person nominated to conduct catchment audits under s.42 of the Act.

9.2.8 The draft list of environmental indicators developed by the Authority must undergo public consultation where the public has at least 40 days to provide its comments. Specific comments must also be invited from EPA, National Parks and Wildlife Service, Department of Land and Water Conservation, NSW Fisheries, NSW Health, the person nominated to conduct catchment audits under s.42 of the Act, and peak environment non-government organisations.

- 9.2.9 The Authority must commence monitoring and compiling data on the environmental indicators in clause 9.2.4 from 1 March 2001.
- 9.2.10 The Authority must continue monitoring and compiling data from the current list of environmental indicators developed by Sydney Water Corporation, that are relevant to the Authority's functions, until such time as the Authority commences monitoring and compiling data under clause 9.2.9.
- 9.2.11 The environmental indicators developed under clause 9.2.4 are to be reviewed as part of the End of term review.

ESD indicators

- 9.2.12 The draft list of ESD indicators must have regard to:
 - (a) corporate management (including corporate policy and planning, and corporate asset management);
 - (b) management of the Catchment Infrastructure Works; and
 - (c) the planning, design and construction of:
 - (i) new Catchment Infrastructure Works;
 - (ii) the upgrading of existing Catchment Infrastructure Works; and
 - (iii) depots.
- 9.2.13 The draft list of ESD indicators developed by the Authority must undergo public consultation where the public has at least 40 days to provide its comments. Specific comments must also be invited from EPA, National Parks and Wildlife Service, Department of Land and Water Conservation, NSW Fisheries, NSW Health, SEDA, the person nominated to conduct catchment audits under s.42 of the Act, and peak environment non-government organisations.
- 9.2.14 The Authority must commence monitoring and compiling data on the ESD indicators from 1 March 2001.
- 9.2.15 The ESD indicators developed under clause 9.2.4 are to be reviewed as part of the End of term review.

9.3 Reporting

- 9.3.1 The Authority must report annually on the Environment Plan to enable the Licence Regulator to consider and report on the matter as part of the Annual audit.
- 9.3.2 The report must detail the Authority's progress in meeting the Environment Plan. In particular, how the Authority:
 - (a) has complied with the targets and timetables in clause 9.1.4; and
 - (b) has performed in relation to the environmental and ESD indicators compiled under clause 9.2.4 for the previous twelve months.
- 9.3.3 The report in clause 9.3.2(b) on the environmental and ESD indicators must provide information which enables a year to year comparison in relation to the Authority's performance in this area. In particular, the Authority is to use the indicators with historical yearly values over at least the previous ten years where comparable data permits such a compilation.
- 9.3.4 Within one month of its completion, the report must be posted on the Authority's website on the internet for downloading free of charge, made available at its premises

for access or collection by any member of the public and lodged with environmental centres and public libraries in the Area of Operations, in each case also free of charge.

9.4 Environmental flows

9.4.1 The Authority must produce a draft report on trial Environmental flows within one month from the Commencement Date. The Authority must produce a final report on trial Environmental flows within six months from the Commencement Date. The final report must be placed on the Authority's website on the internet for downloading by the public, free of charge and made available at its offices for access or collection by any person, also free of charge.

9.4.2 The report is to include information from the environmental impact statement process regarding Environmental flows for the Hawkesbury-Nepean, Woronora and Shoalhaven rivers and any other information on any other trial Environmental flows in respect of those rivers.

[Note: The Authority is involved in trial releases of water from dams on the Hawkesbury-Nepean River and the monitoring and assessing of the effects of these releases. The results from the trial water release program are due in early 2000.]

9.4.3 An independent expert panel on Environmental flows may be appointed by the Minister for the Environment in consultation with among other persons, the:

- (a) Minister responsible for the Department of Land and Water Conservation; and
- (b) Healthy Rivers Commission.

9.4.4 The independent panel may include experts from relevant fields including, but not limited to aquatic ecology, resource economics, socio-economic assessment, geomorphology and hydrology. The panel may be convened by an independent chair appointed by the Minister for the Environment in consultation with the Minister for Land and Water Conservation. Executive support for the independent expert panel is to be provided by the Department of Land and Water Conservation.

9.4.5 The Minister for the Environment may continue the independent expert panel until such time as Environmental flows are incorporated into the Water management licence issued to the Authority under the *Water Act 1912*, or until such other time that the Minister determines.

9.4.6 The Minister for the Environment may require that the independent expert panel on Environmental flows review the trial monitoring data and the report in clause 9.4.2 and recommend on future trial Environmental flows to the Hawkesbury-Nepean River Management Forum and any Water Management Committee conducting flow trials in the Catchment Area.

9.4.7 If requested by the Minister for the Environment, the independent expert panel must include a socio-economic impact assessment of its environmental flow options in any report.

9.4.8 The Authority must cooperate with and provide reasonable assistance to the independent expert panel to enable it to perform the tasks assigned to it.

9.4.9 Until such time as the Authority is issued a Water management licence, the Authority must:

- (a) operate its Water Storages with the aim of ensuring the flow for riparian purposes of 50 megalitres per day over Penrith Weir;

- (b) release sufficient water from the Tallowa Dam storage to enable the Shoalhaven City Council to meet its actual requirements for water at Burrier, or the amount that would be available if Tallowa Dam did not exist, whichever is the lesser;
- (c) release five thirds (5/3) of the inflow to Wildes Meadow Creek from the Fitzroy Falls Reservoir; and
- (d) release one megalitre per day from the Wingecarribee Reservoir to the Wingecarribee River.

9.4.10 The Authority must implement any Environmental flow requirements in the Water management licence issued to the Authority under Part 9 of the *Water Act 1912*.

[Note: The recommendations of the independent expert panel will be considered by the Hawkesbury Nepean River Management Forum and any Water management committees that are responsible for conducting environmental flow trials in the Catchment area.

Environmental flow requirements are implemented by their incorporation into the Authority's Water management licence, which is issued by the Water Administration Ministerial Corporation under the Water Act 1912. The Minister for Land and Water Conservation will seek the views of the Minister for the Environment prior to the Water Administration Ministerial Corporation issuing the Water management licence.]

Part 10

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Annual Audit of this Licence

10.1 Commission of audits

10.1.1 The Licence Regulator must initiate an operational audit of the Authority as soon as practicable after 30 June each year covering the preceding 12 months, as required by this Part (the “Annual audit”).

[Note: The Licence Regulator is to arrange for the conduct of the Annual audit covering the year to 30 June 2000.]

10.1.2 The Annual audit must be conducted by the Licence Regulator or by a person, other than the Authority, that the Licence Regulator considers is suitably qualified to perform the Annual audit.

10.1.3 As part of the Annual audit, the Licence Regulator must invite members of the public to make submissions to it. The Licence Regulator may also undertake any other public consultation it considers appropriate.

10.2 What the audit is to report on

10.2.1 The Licence Regulator or the person undertaking the Annual audit must investigate and prepare a report on the following:

- (a) the Authority’s performance of its obligations under Memoranda of Understanding, with each of the Water Administration Ministerial Corporation, NSW Health and EPA;
- (b) the effectiveness of the Authority’s complaint resolution scheme under clause 5.3;
- (c) compliance by the Authority with its obligations under clause 5.4 on Consultative Committees;
- (d) compliance by the Authority with its obligations under Part 6 of this Licence; including the preparation of the Risk Management Plan and the Incident Management Plan;
- (e) compliance by the Authority with its obligations under Part 7, including obligations in clauses 7.2 and 7.3 relating to plans of management for water storage catchments;

- (f) compliance by the Authority with the provisions of any Regional Environmental Plan, and of SEPP 58 “Protecting Sydney’s Water Supply” under clauses 7.4 and 7.5;
- (g) compliance by other public authorities with the provisions of any Regional Environmental Plan;
- (h) compliance by the Authority with its obligations under Part 8;
- (i) compliance by the Authority with the Environment Plan under clause 9.1 and reporting obligations under clause 9.3;
- (j) the Authority’s performance in relation to the environmental indicators and ESD indicators compiled under clause 9.2;
- (k) compliance by the Authority with obligations in relation to Environmental flows under clause 9.4;
- (l) any other matter required by this Licence or the Act to be assessed or considered as part of the Annual audit.

10.2.2 Despite clause 10.2.1, neither the Licence Regulator nor the persons undertaking the annual audit may investigate a matter under clause 10.2.1 if the investigation of that matter is ordinarily within the regulatory activities of the EPA, NSW Health or the Department of Land and Water Conservation and the relevant agency has undertaken an investigation of the matter. However, the Licence Regulator may, as part of the Annual audit:

- (a) report on the Authority’s implementation of any Memorandum of Understanding referred to in clause 3.3.1;
- (b) satisfy the requirement in clause 10.2.1 to investigate and report on a matter under clause 10.2.1 by including in its report consideration of the findings, the situation at the end of the licence audit period and the Authority’s response, of any investigation of the matter by the EPA, NSW Health or the Department of Land and Water Conservation; and
- (c) request the Authority to provide information relating to an investigation of a matter by the EPA, NSW Health or the Department of Land and Water Conservation which is ordinarily within their regulatory activities, in accordance with clause 10.5.

10.2.3 The Licence Regulator must ensure that, subject to clause 10.2.2, the report of the Annual audit addresses the matters in clause 10.2.1 and advises the Minister on the following matters:

- (a) any failure of the Authority to meet operational standards or any other requirements imposed on the Authority under this Licence;
- (b) areas in which the Authority’s performance under this Licence may be improved;
- (c) any changes to the Licence that the Licence Regulator considers necessary;
- (d) any penalties or remedial action required as a result of the Authority’s performance under the Licence;
- (e) whether the Minister should recommend that the Authority’s Licence be cancelled by the Governor under section 30 of the Act for reasons identified in the Annual audit report; and

- (f) any other matter relating to the Annual audit or the Licence Regulator's functions that it considers appropriate.

10.3 Reporting of audit

- 10.3.1 The Licence Regulator must ensure that the report of the Annual audit is presented to the Minister within 1 month after its receipt of the audit under section 32 of the Act.
- 10.3.2 If the Annual audit report has identified areas of non-compliance with this Licence, in addition to whatever other action is taken or required to be taken, the Authority must comply with any requirement that may be imposed on the Authority by the Minister to do the following:
 - (a) advertise publicly and notify Customers of the areas in which its performance has not complied;
 - (b) provide reasons for the non-compliance; and
 - (c) identify the measures that will be taken by the Authority to address the non-compliance.

10.4 Additional audits

- 10.4.1 The Licence Regulator must initiate additional audits of the Authority if required by the Minister.
- 10.4.2 An additional audit may address one or more of the matters in clause 10.2.1 or any other matter required by the Minister.
- 10.4.3 The provisions of this Part applying to the Annual audit will apply equally to additional audits under clause 10.4.1 (all necessary changes having been made), to the extent that those provisions are relevant.

10.5 Provision of Information

- 10.5.1 The Authority must provide the Licence Regulator and the person appointed by the Licence Regulator under clause 10.1.2 with all information within its possession or under its control (subject to clause 10.5.5) necessary to the conduct of the Annual audit or an additional audit, including whatever information is requested by the Licence Regulator or the person appointed by the Licence Regulator.
- 10.5.2 The information sought under clause 10.5.1 must be made available within a reasonable time of it being requested.
- 10.5.3 For the purposes of the audit, the Authority must, within a reasonable time of being required by the Licence Regulator or a person appointed by the Licence Regulator, permit the Licence Regulator or the person appointed:
 - (a) to have access to any works, premises or offices occupied by the Authority;
 - (b) to carry out inspections, measurements and tests on, or in relation to, any such works, premises or offices;
 - (c) to take on to or into any such premises, works or offices any other persons or equipment as necessary for the purposes of performing the audit;
 - (d) to inspect and make copies of, and take extracts from, any books and records of the Authority that are maintained in relation to the performance of the Authority's obligations in accordance with this Licence; and

- (e) to discuss matters relevant to the audit with the Authority's employees.
- 10.5.4 If required by the Licence Regulator for the purpose of an audit, the Authority must provide the Licence Regulator with information of any person who performs one or more functions on behalf of the Authority (the third party) under clause 10.5.6, to the extent that the agreement between the Authority and that third party (read together with clause 10.5.5) so permits.
- 10.5.5 The information to be provided by the Authority under clauses 10.5.1, 10.5.3 and 10.5.4 will include information over which the Authority or a third party claims confidentiality or privilege. The Licence Regulator, or the person appointed by the Licence Regulator, must enter into reasonable arrangements with the Authority or such third party to ensure that:
- (a) the confidential information is kept confidential; and
 - (b) the privilege attaching to the information is not waived or prejudiced, or not waived or prejudiced without the prior consent of the person who has the benefit of that privilege.
- 10.5.6 If the Authority is lawfully entitled to have one or more of its functions performed by another person and the Authority chooses to have one or more of its functions so performed by another person (the third party), the Authority must use its best endeavours to ensure that:
- (a) it is able to obtain information from the third party for provision to the Licence Regulator under clause 10.5.4; and
 - (b) the third party does the things specified in this Part that extend to the Authority as if that third party were the Authority.

Part 11

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Pricing

11.1 Sydney Water Corporation

The Authority must set the level of fees, charges, and other amounts payable by Sydney Water Corporation for the Authority's provision of water subject to:

- (a) the Act and any other applicable law;
- (b) this Licence;
- (c) any pricing arrangements in the Bulk Water Supply Agreement; and
- (d) any maximum prices and methodologies for the Authority's supply of water determined from time to time by IPART.

11.2 Other Customers

The Authority must use its best endeavours to reach agreement with its Customers (other than Sydney Water Corporation, because of the application of clause 11.1), as to any pricing arrangements that are to apply in relation to water that the Authority supplies to those Customers. Any such pricing arrangements are subject to:

- (a) the Act and any other applicable law;
- (b) this Licence; and
- (c) any maximum prices and methodologies for the Authority's supply of water determined from time to time by IPART.

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Liability Issues

12.1 Performance of Functions by Person other than Authority

If the Authority is lawfully entitled to have some of its functions performed by another person, the Authority continues to be liable for the performance of those functions by that person, as if those functions were performed by the Authority itself, insofar as the performance of those functions is the subject of this Licence.

12.2 Damage And Compensation to Persons

The Authority is required by section 58 of the Act to do as little damage as practicable in exercising its functions under Part 6 of the Act, and in circumstances specified in that provision, to compensate persons who suffer damage by the exercise of those functions.

Part 13

Notices

Any notice or other communication given under this Licence is to be made in writing addressed to the intended recipient at the address shown in Schedule 3, or the last address notified by the recipient.

Schedule 1

Area of Operations

The Area of Operations of the Sydney Catchment Authority is the inner catchment area and the outer catchment area, as declared by the Governor in accordance with section 41 of the Act.

[Note: On 30 June 1999, the Governor declared that:

The inner catchment area of the Sydney Catchment Authority is:

- (i) The area of land within all the special areas of the Sydney Catchment Authority except the area of land within the Richmond, Windsor, Penrith, O'Hares Creek and Devines Weir special areas; and*
- (ii) the hydrological catchment of the Prospect Reservoir.*

The outer catchment area of the Sydney Catchment Authority is the area of land within the hydrological catchments of:

- (i) the Warragamba River and its tributaries which drain to Lake Burragorang;*
- (ii) the Shoalhaven River and its tributaries which drain to Lake Yarrunga; and*
- (iii) Greaves, Whipcord, Woodford and Cascades Creeks;*

but excluding the inner catchment area described above.

(NSW Government Gazette No. 76, p. 4649)

Special Area

The term Special Area first appeared in the Water Board Act 1987. That Act defined a "Special Area" as land declared under section 21 to be a Special Area.

Section 21(2) of the Water Board Act 1987 provided that "A Proclamation" of a catchment area in force immediately before the commencement of this Act shall be deemed to be an order in force under this section declaring the area to be a "Special Area".

Prior to the enactment of the Water Board Act 1987, the Metropolitan Water Sewerage and Drainage Act 1924 provided a mechanism under section 55 and section 56A for the establishment of inner catchments and outer catchments respectively. Catchment areas, following the enactment of the

Water Board Act 1987 became known as Special Areas. Catchment areas proclaimed under the Metropolitan Water Sewerage and Drainage Board Act were:

- *Warragamba (Inner and Outer Catchments);*
- *Metropolitan (Cataract, Cordeaux, Avon and Nepean storages);*
- *Woronora;*
- *O'Hares Creek;*
- *Shoalhaven;*
- *Wingecarribee;*
- *Fitzroy Falls;*
- *Devines Weir;*
- *Penrith;*
- *Richmond; and*
- *Windsor.*

It is understood only three Special Areas have been proclaimed under the Water Board Act 1987. These Special Areas were:

- *Blackheath;*
- *Katoomba; and*
- *Woodford Special Areas.]*

Catchment Infrastructure Works performance criteria

- (a) Reliability is to be not less than 97%, and is defined as the percentage of months, on average, that the Authority will meet in full Sydney Water Corporation's Forecast Average Annual Demand requirements referred to in paragraph (f) below. This means it is estimated that, on average, restrictions will not need to be applied more often than 30 months in 1,000 months. ("Reliability")
- (b) Robustness is to be not less than 90%, and is defined as the percentage of years, on average, that the Authority will not require a reduction in Sydney Water Corporation's Forecast Average Annual Demand for Bulk Raw Water referred to in paragraph (f) below. This means it is estimated that, on average, not more than 10 years in 100 years will be affected by restrictions. For the purposes of this clause, a "year" is each period of 12 months commencing on 1 July and a year will have been affected by restrictions if in any day of that year a restriction has been applied. ("Robustness")
- (c) Security is to be not less than 5%, and is defined as the level of the Authority's operating storage below which actual storage is not to fall, on average, more often than 0.001% of the time. This means it is estimated that, on average, the level of operating storage will not fall below 5% more often than one month in 100,000 months. ("Security") (Reliability, Robustness and Security together comprise the "System Criteria")
- (d) During drought the System Criteria assume that, contingent upon the Authority giving Sydney Water Corporation reasonable prior written notice of the need to do so, Sydney Water Corporation will reduce its demand for water from the Authority in accordance with the following restriction levels:-
 - Level I. at least a 7% demand reduction, not more than 3% of time;
 - Level II. at least a 12% demand reduction, not more than 1% of time;
 - Level III. at least a 20% demand reduction, not more than 0.5% of time;
 - Level IV. at least a 30% demand reduction, not more than 0.3% of time;
 - Level V. at least a 50% demand reduction, not more than 0.05% of time.("Drought Restrictions")

- (e) Subject to the Authority giving Sydney Water Corporation the reasonable prior written notice referred to above in paragraph (d) the System Criteria may vary to the extent that the variation is caused or contributed to by Sydney Water Corporation not reducing its demands for water from the Authority, during a period of drought, in accordance with the above Drought Restrictions.
- (f) Based on population projections and projected trends in per capita consumption, Sydney Water Corporation's current Forecast Average Annual Demand is estimated to be:-

	Year				
	2000	2001	2002	2003	2004
Forecast Average Annual Demand ('000 ML/yr)	595	588	586	584	583

Schedule 3

Address for Notices

Sydney Catchment Authority

Chief Executive
Level 2, 311 High Street,
Penrith NSW 2750

Licence Regulator

The Licence Regulator
Level 6, 29-57 Christie Street,
St Leonards NSW 2065

Schedule 4

Health related water quality standards

Pesticides

Aldrin	DDT	Lindane
Amitrole	Dieldrin	Molinate
Atrazine	Diquat	Paraquat
Chlordane	Diuron	Picloram
Chlorpyrifos	Endosulfan	Propiconazole
Clopyralid	Heptachlor	Temephos
2,4-D	Hexazinone	Triclopyr

Chemical

Arsenic	Iodide	Selenium
Barium	Mercury	Silver
Boron	Molybdenum	

Radiological

Gross alpha	Gross beta
-------------	------------

[Note: This list has been derived from the NHMRC and ARMCANZ Australian Drinking Water Guidelines 1996 (Drinking Water Guidelines). This list represents characteristics that the Drinking Water Guidelines indicate can be monitored in raw water, but are representative of water quality at the consumer's tap. They are characteristics that may not be substantially removed or reduced through water treatment processes used by the Authority's Customers at the Commencement Date.

The pesticides listed are those which the Drinking Water Guidelines indicate have either been detected on occasions in Australian drinking water, or their likely use would indicate that they may be occasionally detected.

Other pesticides identified as being used in the Catchment area may also be required to be added to the routine monitoring program by NSW Health under clause 6.6.2(c).

The radiological quality of drinking water should be assessed by screening for gross alpha and gross beta activity concentrations. If either of these activity concentrations is exceeded, specific radionuclides should be identified and their activity concentrations determined in accordance with the Drinking Water Guidelines.]



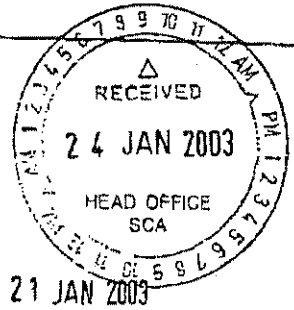
Appendix C
Ministerial requirements



NEW SOUTH WALES

ATTORNEY GENERAL
MINISTER FOR THE ENVIRONMENT
MINISTER FOR EMERGENCY SERVICES
MINISTER ASSISTING THE PREMIER ON THE ARTS

ATT 1000 Burford
IPART.



Mr John Whitehouse
Chair
Sydney Catchment Authority
PO Box 323
PENRITH BUSINESS CENTRE NSW 2751

Dear Mr Whitehouse

Operational Audit of Sydney Catchment Authority 2001-2002

I am writing to you about the Operational Audit of the Sydney Catchment Authority (SCA) for the period from 1 July 2001 to 30 June 2002. As the Minister responsible for overseeing the SCA's performance against the requirements of its Operating Licence, I have considered the advice provided to me by the Independent Pricing and Regulatory Tribunal on the audit findings.

I will table the final audit report and a copy of this letter in the NSW Parliament in accordance with section 33 of the *Sydney Water Catchment Management Act 1998*.

The report details the findings of the third audit of the SCA since its inception on 2 July 1999.

I am pleased that the independent auditor found that the Authority achieved high or full compliance with most of the requirements of the Operating Licence.

On the basis of the audit report and advice from the Tribunal, I have decided that no penalties will be imposed on the SCA. However, I agree with the Tribunal that there are some areas where the SCA's performance can be improved. In respect of these matters, I make the following comment.

Supply Demand Balance

I share the concerns of the Tribunal and the auditor concerning the balance between recent demand trends and the SCA's projections for safe yield of water from the catchments.

The safe yield estimate currently used by the SCA is based on system performance criteria established in the Operating Licence, together with current environmental flows and inter-basin transfers. As you would be aware, many of these variables are currently under review by the Government. While I realise that the SCA will not be able to finalise projections of future safe yields from the catchments until various outstanding matters have been determined, I do wish to be informed of progress.

Pending resolution of the safe yield from the catchments, I require that:

- The SCA provides both myself and the Tribunal with quarterly progress reports on this issue. The first report should be made available to me on or before 28 March 2003.

Bulk Water Quality and Risk Management plan

The auditors note that the SCA has well established systems for managing bulk water quality and that the risk based approach to water quality management provides assurance that the quality of drinking water is safe and acceptable.

The auditors have noted that metal and pesticide levels in water supplied to the Water Filtration plants complies with standards to protect human health. In response to my requirement resulting from the 2001 audit, the SCA is developing a monitoring program that includes pesticides confirmed by NSW Health. The SCA has proposed further pesticide studies to ensure that pesticides, after appropriate treatment, do not present a risk to public health.

I regard this an important risk management issue and I look forward to hearing of the results of this work in the 2003 audit process.

Enforcement of Catchment Protection

The auditors have awarded the SCA "high compliance" for the management and protection of the catchment area. In particular the auditors praised its efforts in preventing potential water quality impacts arising from the December 2001 bushfires.

Notwithstanding these actions, I share the Tribunal's concern that the SCA has not been able to provide the auditors with evidence that the *Sydney Water Catchment (Environmental Protection) Regulation 2001* has been vigorously enforced. This resulted in a "low compliance" being awarded against this Ministerial Requirement for the 2001/02 operational audit.

I regard the *Sydney Water Catchment (Environmental Protection) Regulation 2001* as an important component of the SCA's toolkit for effective management and protection of catchment areas.

While I understand that the SCA has taken several steps to prepare for the effective implementation of this Regulation, I require that

- The SCA provides both myself and IPART with quarterly reports on the implementation of this regulation. The report should be made available to me on or before 28 March 2003.

Other Matters

The Licence requires the auditor to make recommendations in areas in which the SCA's performance under the Licence can be improved. In this regard, the auditor has provided comment on a variety of issues. I expect that these matters raised by the auditor will be addressed by the SCA.

Please pass on my appreciation to your staff for their efforts over the past year. I look forward to seeing a continuation of the trend of improvement in future audits.

Yours sincerely,



Bob Debus



Appendix D

Memoranda of Understanding



Appendix D
Memoranda of Understanding



MEMORANDUM OF UNDERSTANDING

between

SYDNEY CATCHMENT AUTHORITY

and

**THE WATER ADMINISTRATION
MINISTERIAL CORPORATION**

INTRODUCTION

This Memorandum of Understanding (MOU) is entered into by the Sydney Catchment Authority (Authority) and the Water Administration Ministerial Corporation under Section 36 of the Sydney Water Catchment Management Act 1998 (the Act).

In accordance with the requirements of the Authority's Operating Licence, the Authority acknowledges that the purpose of this MOU is to form the basis for co-operative relations between the Water Administration Ministerial Corporation (Corporation) and the Authority, including agreed areas of study and data exchange.

The MOU outlines:

- A framework for achieving a co-operative relationship between the parties;
- Consultative processes between the Corporation and the Authority to consider operational, strategic and licensing issues;
- The exchange of data and information; and
- Dispute resolution mechanisms.

MEMORANDUM OF UNDERSTANDING

between

SYDNEY CATCHMENT AUTHORITY

and

**WATER ADMINISTRATION MINISTERIAL
CORPORATION**

1. Objectives

- 1.1 This MOU outlines the basis for the co-operative relationship between the Corporation as the manager of the water resources for the State of New South Wales and the Authority as manager and protector of the inner catchment area, outer catchment (catchment areas) and the catchment infrastructure works, a supplier of bulk raw water, and a regulator of activities within catchment areas within the Authority's area of operation.
- 1.2 The Corporation's objectives include that it ensure that water and related resources are allocated and used in ways which are consistent with environmental requirements and provide the maximum long-term benefit for the State.
- 1.3 The Authority's objectives are to ensure that the catchment areas and catchment infrastructure works are managed and protected so as to promote water quality, and the protection of public health, public safety and the environment. The Authority is also obliged to manage its infrastructure works efficiently and economically, and in accordance with sound commercial principles and in conformity with principles of ecologically sustainable development. In complying with its objectives, the Authority must comply with its Act and its Operating Licence and any water management licence issued by the Corporation from time to time.

2. Purpose

- 2.1 The purpose of this MOU between the Authority and the Corporation is:
 - (a) To facilitate and encourage effective interaction between the parties;
 - (b) To set out effective processes and co-operative arrangements between the Authority and the Corporation to achieve sound water management and water quality outcomes in the catchment areas within the Authority's area of operations.
- 2.2 Nothing in this MOU is to be read in diminution of any obligation imposed on the Authority by common or statute law or any instrument made thereunder.

3. Term

- 3.1 Subject to clauses 3.2 and 3.3 this MOU commences on the date of endorsement by the respective parties.
- 3.2 This MOU must be reviewed, and amended or replaced upon either party to this MOU giving notice to the other of its desire to see the MOU reviewed, replaced or amended.
- 3.3 The process to review, and amend or replace this MOU must be undertaken within a timeframe agreed to by both parties at the commencement of that process.

4. Principles

4.1 Water Management

- 4.1.1 The Water Act 1912 and the Act provide for the Authority to be subject to a Water Management Licence granted by the Corporation.
- 4.1.2 Until the Authority is granted a Water Management Licence by the Corporation, the Authority has the right to the use and flow and to the control of waters on behalf of the Corporation for the purposes referred to in Section 25(1) of the Act and for the purposes of extraction and transportation of water.
- 4.1.3 Pending the grant to the Authority of a Water Management Licence, and thereafter subject to and in accordance with the terms of that Licence, the Authority shall release sufficient water from the Tallowa Dam storage to enable the Shoalhaven City Council to meet its actual requirements for water at Burrier, or the amount that would be available if Tallowa Dam did not exist, whichever is the lesser.
- 4.1.4 Pending the grant to the Authority of a Water Management Licence, and thereafter subject to and in accordance with the terms of that Licence, the Authority shall release five thirds (5/3) of the inflow to Wildes Meadow Creek from the Fitzroy Falls Reservoir and 1 megalitre per day from the Wingecarribee Reservoir to the Wingecarribee River
- 4.1.5 Without limiting any obligation it may have under the Act, or any Water Management Licence granted to it, the Authority acknowledges that in carrying out its functions, water released from the Authority's catchment infrastructure works will be managed as far as reasonably practical to minimise:
 - Adverse riverine impacts;
 - Environmental impacts;
 - Risk to public health and safety;
 - Damage to property.

4.2 Catchment Areas and Water Quality

- 4.2.1 The Authority and the Corporation recognise the importance of the management and protection of catchment areas in order to enhance water quality. The parties commit themselves to work co-operatively towards this objective in the application of their various functions and powers.

5. Structures and Processes

5.1 Chief Executive Officer (CEO) Meetings

- 5.1.1 The Chief Executive of the Authority or his deputy and, on behalf of the Corporation, the CEO of Department of Land and Water Conservation, or his deputy, shall meet on a regular basis, but in any event, not less than twice per calendar year to discuss matters of mutual concern and which may include matters referred by the Strategic Liaison Group.

5.1.2 CEO meetings may be initiated by either party as required.

5.1.3 All agreements entered into between the Authority and the Corporation will be in the public domain.

5.2 Strategic Liaison Group (SLG)

5.2.1 The Department of Land and Water Conservation, on behalf of the Corporation, and the Authority will, as soon as practicable after the execution of this MOU, establish a SLG.

5.2.2 The role of the SLG will be to consider those issues determined by the group to be relevant, but must include long-term strategic issues and policies with regard to water management and allocation, catchment areas management' licensing issues and to identify areas for co-operative research and joint initiatives.

5.2.3 5.2.3 The SLG shall report to their respective CEOs on significant issues in the catchment areas of the Authority that relate to the functions of the parties.

5.2.4 The membership of the SLG will be as agreed between the parties from time to time.

5.2.5 The SLG shall determine the frequency and procedure for calling meetings and the manner in which business is to be conducted at those meetings.

6. Exchange of Information and Data

6.1 In recognition of the spirit of co-operation embodied in this MOU and so as to enable both parties to more effectively carry out their statutory functions, each party must share or supply relevant data and information and provide updated information where necessary.

6.2 In addition to requirements specified in any water management licence supplied to the Authority, the Authority will provide the Corporation with adequate notification of any planned activity which is likely to impact upon the Corporation's activities or, in case of a reactive unplanned activity, as soon as possible thereafter.

6.3 Data and information shared or supplied by the parties under this MOU shall be on such terms as agreed between the parties.

6.4 Disputes between the Authority and the Corporation in relation to data and information sharing and exchange arising from the implementation of this MOU shall be referred to the SLG for consideration and resolution.

7. Joint Programmes And Initiatives

7.1 The Authority and the Corporation will develop joint programmes, initiatives and undertake research to meet their respective objectives as referred to in Clause 1.

8. Dispute Resolution

8.1 Any difference or dispute which arises between the parties under this MOU may be referred by either party to the SLG for consideration and resolution.

9. Amendment

9.1 Any amendments to this MOU shall be exhibited in accordance with the requirements of the Act.

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is made between the Department and the Sydney Catchment Authority on the

day of 1999.

SIGNED for and on behalf of the **Water Administration Ministerial Corporation**

.....
Bob Smith, Director-General, Department of Land and Water Conservation

.....
Witness to the above signature

.....
(Print name)

.....
(address)

SIGNED for and on behalf of the **Sydney Catchment Authority**

.....
Jeff Wright, Chief Executive

.....
Witness to the above signature

.....
(Print name)

.....
(address)

**Memorandum of Understanding
between the
Sydney Catchment Authority
and the
Environment Protection Authority**



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1. INTRODUCTION

This Memorandum of Understanding (MOU) was prepared by the Environment Protection Authority (the EPA) and the Sydney Catchment Authority (the SCA) to fulfil their obligations under Section 36 of the Sydney Water Catchment Management Act 1998.

The purpose of the MOU is to serve as the basis for co-operative relations between the EPA and the SCA in fulfilling their responsibilities to protect catchment areas, water quality, public health and the environment.

The MOU outlines:

- A framework for achieving a co-operative relationship between the parties;
- Consultative processes between the EPA and the SCA to consider operational, strategic and regulatory issues;
- The exchange of data and information; and
- Dispute resolution mechanisms.

2. Objectives

- 2.1. This MOU outlines the basis for the co-operative relationship between the EPA as environmental regulator and the SCA as manager and protector of catchment areas, the catchment infrastructure works, a supplier of bulk raw water and a regulator of activities within catchment areas within the SCA's area of operation.
- 2.2. The EPA has responsibility to protect the environment in New South Wales, taking into account community values, scientific and expert knowledge, best practice environmental regulation and economic considerations. As such, it develops environmental policy and programmes, carries out regulatory functions and provides environmental education.
- 2.3. The SCA's objectives are to ensure that the catchment areas and catchment infrastructure works are managed and protected so as to promote water quality, protect public health, public safety and the environment, and to ensure that water supplied by it complies with appropriate standards of quality. The SCA is also obliged to manage its infrastructure works efficiently and economically, and in accordance with sound commercial principles and in conformity with principles of ecologically sustainable development. In complying with its objectives, the SCA must comply with the Sydney Water Catchment Management Act and its Operating Licence.

3. Purpose

- 3.1. The purpose of this MOU between the SCA and the EPA is:
 - 3.1.1. To facilitate and encourage effective interaction between the parties;
 - 3.1.2. To set out effective processes and co-operative arrangements between the SCA and the EPA to achieve sound environmental and water quality outcomes in the catchment areas of the SCA;
 - 3.1.3. To form the basis for co-operative relationships between the parties with a view to furthering the objectives of relevant legislation administered by both agencies as well as the Sydney Catchment Authority's Operating Licence.
- 3.2. This MOU accords with the requirements of the EPA's and the SCA's governing legislation. Nothing in this MOU alters any legislative obligations imposed on the EPA or the SCA.

4. Term

- 4.1. Subject to clauses 4.2 and 4.3 this MOU commences on the date of endorsement by the respective parties.
- 4.2. This MOU must be reviewed, and amended or replaced upon either party to this MOU giving notice to the other of its desire to see the MOU reviewed, replaced or amended.
- 4.3. The process to review, and amend or replace this MOU must be undertaken within a timeframe agreed to by both parties at the commencement of that process.

5. Principles

- 5.1. Responsibilities and Accountabilities.
 - 5.1.1. The EPA and the SCA will manage their activities in a co-operative and transparent manner to meet their obligations as set out in Section 6(1) of the Protection of the Environment Administration Act 1991 and Section 14 of the Sydney Water Catchment Management Act 1998, respectively.
 - 5.1.2. The SCA acknowledges the EPA as the primary environmental regulator for the State of New South Wales.
 - 5.1.3. The EPA acknowledges that the SCA has a role in the regulation of activities in catchment areas, which affect water quality and are likely to impact on public health and safety and the environment.
 - 5.1.4. The EPA is the appropriate regulatory authority under the Protection of the Environment Operations Act 1997 for activities undertaken by the SCA, as a public authority.
 - 5.1.5. By this MOU, the SCA and the EPA commit to working together to reduce activities causing pollution in the catchment areas of the SCA.
 - 5.1.6. The SCA acknowledges that it must meet any obligation imposed on it by the EPA or by environment protection legislation in regard to discharges to the environment from water transportation systems within its control.
- 5.2. Regulatory Framework
 - 5.2.1. The EPA and the SCA will periodically review and make recommendations to Government on their respective regulatory responsibilities and powers to ensure appropriate actions to prevent or mitigate pollution and ensure appropriate clean up occurs after incidents.

- 5.2.2. Compliance monitoring and reporting by the SCA is to be undertaken as specified in regulatory instruments issued by the EPA. Compliance with relevant environmental protection legislation and requirements in environment protection licences and other regulatory instruments will be assessed and independently audited where appropriate by the EPA where the EPA is the appropriate regulatory authority.
- 5.2.3. The EPA will take into account any unforeseeable emergency conditions when considering regulatory action in relation to the SCA.
- 5.3. Water Quality and Quantity
 - 5.3.1. The EPA and the SCA recognise the importance of having water quality objectives which are linked to river flow objectives which set the context for the formulation of both catchment management plans and environmental regulation.

6. Structures and Processes

- 6.1. Chief Executive Officer (CEO) Meetings
 - 6.1.1. The CEOs of both the EPA and the SCA shall meet on a regular basis, but in any event, not less than twice per calendar year to discuss matters of mutual concern and which may include matters, which are referred by the Strategic Liaison Group.
 - 6.1.2. CEO meetings may be initiated by either party as required.
- 6.2. Strategic Liaison Group (SLG)
 - 6.2.1. The EPA and the SCA will maintain a SLG.
 - 6.2.2. The role of the SLG is to consider longer term strategic issues and policies and innovative regulatory solutions to pollution in the SCA's catchment areas and to identify areas for co-operative research ventures In addition, the SLG will explore avenues for co-operation in areas including but not limited to: environmental education, enforcement, training, data acquisition, monitoring and policy development.
 - 6.2.3. The SLG shall report to their respective CEOs significant issues in catchment areas that relate to the functions of the parties.
 - 6.2.4. The membership of the SLG will be as agreed between the parties from time to time.

6.2.5. The SLG shall determine the frequency and procedure for calling meetings and the manner in which business is conducted at those meetings.

7. Exchange of Information and Data

- 7.1. In recognition of the spirit of co-operation embodied in this MOU and so as to enable both parties to more effectively carry out their statutory functions, each party agrees to share or supply the data and information to protect water quality in the catchment areas.
- 7.2. Other data and information gathered or collected by the SCA may also be made available to the EPA on such terms as agreed between the parties.
- 7.3. The EPA, in relation to licenced premises, as defined in the Protection of the Environment Operations Act (PoEO) and within the catchment areas of the SCA's area of operations will provide the SCA with the following information:
- 7.3.1. Copies of all licences issued or amended;
 - 7.3.2. Copies of any notices served;
 - 7.3.3. Notification of significant pollution incidents;
 - 7.3.4. Notification of legal proceedings instituted by the EPA;
 - 7.3.5. Particulars in relation to penalty notices issued by EPA Officers;
 - 7.3.6. Details of notifications of pollution incidents under Part 5.7 of the PoEO Act; and
 - 7.3.7. Where relevant the above information will be provided via the EPA's Public Register as required under Section 308 of PoEO Act.
- 7.4. The SCA, in relation to non-scheduled activities, as defined in the Protection of the Environment Operations Act (PoEO) and within the catchment areas of the SCA's area of operations will provide the EPA with the following information:
- 7.4.1. Copies of any notices served;
 - 7.4.2. Notification of significant pollution incidents;
 - 7.4.3. Notification of legal proceeding instituted by the SCA;
 - 7.4.4. Particulars in relation to penalty notices issued by SCA Officers; and
 - 7.4.5. Details of notifications of pollution incidents under Part 5.7 of the PoEO Act.

8. Dispute Resolution

8.1. Any difference or dispute, which arises between the parties under this MOU, is to be referred to the SLG for resolution. Such matters unresolved by the SLG will be referred to the CEOs for resolution.

9. Amendment

9.1. Any amendments to this MOU are required to be placed on public display pursuant to Section 38 of the Sydney Water Catchment Management Act 1998.

This Memorandum of Understanding is made between the **Environment Protection Authority** and the **Sydney Catchment Authority** on the

day of 2001.

SIGNED for and on behalf of the Environment Protection Authority

.....

Lisa Corbyn, Director-General

.....

Witness to the above signature

.....

(Print name)

.....

(address)

SIGNED for and on behalf of the Sydney Catchment Authority

.....

Graeme Head, Acting Chief Executive

.....

Witness to the above signature

.....

(Print name)

.....

(address)

**Memorandum of Understanding
between the
Sydney Catchment Authority
and
New South Wales Health**



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1. Introduction

This Memorandum of Understanding (MOU) was prepared by NSW Health and the Sydney Catchment Authority (the SCA) to fulfil their obligations under Section 36 of the Sydney Water Catchment Management Act 1998.

The purpose of the MOU is to serve as the basis for a co-operative relationship between NSW Health and the SCA in fulfilling their responsibilities to protect water quality and public health and to outline each agencies roles and responsibilities.

The MOU outlines:

- A framework for achieving a co-operative relationship between the parties;
- Consultative processes between NSW Health and the SCA to consider operational and public health issues;
- The exchange of data and information;
- Dispute resolution mechanisms; and
- A consultative process to identify agreed areas of study.

2. Context

- 2.1 The objective of this MOU is to form the basis for a co-operative relationship between NSW Health and the SCA including agreed areas of study, research and data exchange and to recognise the roles and responsibilities of the parties.
- 2.2 NSW Health has responsibilities in relation to the protection of public health under the Public Health Act 1991 and other relevant legislation. It also has a role in providing advice to Government in relation to drinking water standards.
- 2.3 The SCA is a statutory authority representing the Crown. The role of the SCA is to manage and protect catchment areas and catchment infrastructure works; to be a supplier of bulk raw water to Sydney Water Corporation and other customers within the SCA's area of operations.
- 2.4 The SCA acknowledges that it is committed to supplying bulk raw water having regard to the health of the public.

3. Interpretation

- 3.1 "Act" means the Sydney Water Catchment Management Act 1998.
- 3.2 Operating Licence means the operating licence granted to the SCA under Section 25 of the Act or any renewal of it in force for the time being.
- 3.3 Unless otherwise specified, terms in this MOU shall have the same meaning as provided by the Act and the Operating Licence.
- 3.4 "Bulk Raw Water" means the water supplied by the SCA to Sydney Water Corporation under the Bulk Water Supply Agreement.
- 3.5 The Director-General of the NSW Department of Health is specified as a "regulatory agency" under section 35 of the Act. The SCA's Operating Licence requires it to enter into a Memorandum of Understanding with the Director-General of NSW Health. For clarification, it is agreed that NSW Health will fulfil the Director-General's responsibilities under the Act and shall act as the regulatory agency in accordance with the Memorandum.

4. Purpose

- 4.1 The purpose of this MOU between the SCA and NSW Health is:
- 4.1.1 To facilitate and encourage effective interaction between the parties;
 - 4.1.2 To set out effective processes and co-operative arrangements between the SCA and NSW Health to achieve fulfilment of each party's statutory obligations in relation to the protection of public health.
- 4.2 Nothing in this MOU is to be read in diminution of any obligation imposed on the SCA by common or statute law or any instrument made thereunder.

5. Term

- 5.1 Subject to clauses 5.2 and 5.3 this MOU commences on the date of endorsement by the respective parties and remains in force for the term of the SCA's Operating Licence.
- 5.2 This MOU must be reviewed, and amended or replaced upon either party to this MOU giving notice to the other of its desire to see the MOU reviewed, replaced or amended, or on the renewal of the SCA's Operating Licence.
- 5.3 The process to review, and amend or replace this MOU must be undertaken within a timeframe agreed to by both parties at the commencement of that process.

6. Principles

- 6.1 Responsibilities and Accountabilities
- 6.1.1 NSW Health shall provide advice to the SCA on the supply of bulk raw water and on other public health issues in regard to water quality.
 - 6.1.2 NSW Health acknowledges that the SCA is a supplier of bulk raw water from its catchment infrastructure works to the SCA's customers.
 - 6.1.3 The SCA is responsible for supplying bulk raw water to Sydney Water Corporation and such other organisations and persons referred to in Section 16 of the Sydney Water Catchment Management Act 1998 to the water quality standards referred to in the SCA's Operating Licence.

- 6.1.4 The SCA will ensure that its customers are adequately informed of the quality of the bulk raw water and the appropriateness of any intended uses of such bulk raw water.
- 6.1.5 The SCA will inform NSW Health in relation to changes to its processes and procedures that may result from any variation of the water quality standards referred to in the SCA's Operating Licence.
- 6.1.6 The SCA must develop and implement a water quality monitoring program, in consultation with NSW Health and, prepare reports for NSW Health as required by Clause 6.6 of the SCA's Operating Licence.
- 6.2 Either party may give notice to the other of the need for review, amendment or replacement of the water quality monitoring plan. Upon reviewing such notice, the parties will co-operate in determining a timetable for such review, amendment or replacement.

7. Events of Public Health Significance

- 7.1 The SCA shall, as soon as practicable, report to NSW Health any events within its catchment infrastructure works or within its area of operations, which may have implications for public health.
- 7.2 NSW Health shall, as soon as practicable, inform the SCA of any events within the SCA's area of operations, which may have implications for public health.
- 7.3 The SCA and NSW Health shall supply such information in relation to such events as is requested by either party or as is necessary for either party to make appropriate judgements and take appropriate action in relation to protecting the health of the public and exercising its role under this MOU.

8. Incident Management and Contingency Planning

- 8.1 The SCA must prepare and maintain to the satisfaction of NSW Health an incident management plan, in accordance with Clauses 6.7.9 to 6.7.12 of the SCA's Operating Licence.
- 8.2 The SCA and NSW Health shall negotiate a twenty four hour incident management contact point for the coordination of responses to any event of public health significance.

- 8.3 During incidents that involve a public health risk, both parties will share information and resources as required so as to minimise the severity and consequences and extent of the risk.
- 8.4 The SCA and NSW Health agree that it is desirable for respective officers to undertake training in the situations that simulate public health risks and that such training will be organised to take place at a mutually agreed location and time.

9. Structures and Processes

9.1 Strategic Liaison Group (SLG)

- 9.1.1 The SCA and NSW Health will maintain a SLG.
- 9.1.2 The SLG consists of senior officers nominated by their respective Director-General or Chief Executive. The SLG shall meet regularly to discuss those issues determined by the group to be relevant, including long term strategic issues and policies with regard to catchment management and protection of raw water. As required, the SLG will define and implement processes for the exchange of strategic information.
- 9.1.3 The Director-General of NSW Health and the Chief Executive of the SCA will from time to time attend meetings of the SLG to discuss issues of mutual concern. At least two SLG meetings per year must be attended by the Director-General and the Chief Executive.
- 9.1.4 The SLG shall report to the Director-General of NSW Health and the Chief Executive of the SCA, significant issues in drinking water catchments that relate to the functions of the parties.
- 9.1.5 Where appropriate, tripartite meetings with Sydney Water Corporation and other customers will be held.
- 9.1.6 The SLG shall determine the frequency and procedure for calling meetings and the manner in which business is conducted at those meetings.

9.2 Joint Operational Group (JOG)

- 9.2.1 The SCA and NSW Health will maintain a JOG.
- 9.2.2 The role of the JOG will be to consider those issues determined by the SLG to be relevant, but must include strategic and operational issues. The JOG will also be responsible for developing data and information sharing programs and proposing collaborative initiatives including research and community

education to be undertaken to meet contemporary public health objectives in relation to catchment management.

- 9.2.3 The JOG shall report to the SLG significant issues that relate to the functions of the parties.
- 9.2.4 The membership of the JOG will be as agreed between the parties from time to time. Where appropriate, tripartite meetings with Sydney Water Corporation and other customers should be considered.
- 9.2.5 The JOG shall establish its own procedures to determine the frequency and procedure for calling meetings and the manner in which business is conducted at those meetings.

10 Exchange of Information and Data

- 10.1 In recognition of the spirit of co-operation embodied in this MOU, and so as to enable both parties to carry out their statutory functions, each party must share or supply the data and information referred to in clauses 10.2 and 10.3.
- 10.2 The SCA and NSW Health will exchange any information, data, reports and studies that are relevant to both parties' activities and relate to raw water quality and public health.

This may include:
 - 10.2.1 Information required by the SCA's Operating Licence.
 - 10.2.2 Information required by the SCA's and NSW Health's Incident Management Plan.
 - 10.2.3 NSW Health's information related to public health issues relevant to the SCA's operations.
 - 10.2.4 Any agreement reached between the parties.
- 10.3 The parties shall co-operatively exchange information.
- 10.4 The SCA shall participate in appropriate research and development on emerging public health issues related to drinking water so as to enable informed judgements to be made regarding action to be taken in relation to the SCA's activities.

11 Dispute Resolution

- 11.1 Any difference or dispute which arises between the parties under this MOU is to be referred to the Director- General and Chief Executive for resolution.

12 Amendment

- 12.1 Any amendments to this MOU are required to be placed on public display pursuant to Section 38 of the Sydney Water Catchment Management Act 1998.

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding is made between the **Director-General of NSW Health** and the **Sydney Catchment Authority** on the day of _____ 2001.

SIGNED by the Acting Director-General of NSW Health

.....
Robert McGregor, Acting Director-General

.....
Witness to the above signature

.....
(Print name)

.....
(address)

SIGNED for and on behalf of the Sydney Catchment Authority

.....
Graeme Head, Acting Chief Executive

.....
Witness to the above signature

.....
(Print name)

.....
(address)



Appendix E
MOU compliance tables



Table E.1 Environment Protection Authority (EPA) MOU

Clause	Requirement	Compliance	Findings
3.1	Purpose of the MOU is to facilitate effective interaction and cooperative arrangements to achieve sound environmental and water quality outcomes.	High compliance	The amended MOU provides a foundation, albeit somewhat limited, for a cooperative relationship to achieve sound environmental and water quality outcomes. The two parties have demonstrated a cooperative relationship over the audit period. The relationship has commenced to focus on strategic issues on a catchment wide basis, such as enforcement of environmental regulation in the catchment. The development and implementation of the Strategic Work Program should improve the focus of cooperative efforts and assist in overcoming any perceived deficiency of the MOU.
4.1	Date of MOU commencement.	Full compliance	The Government Gazette and signed MOU that commenced on 4 December 2001 were sighted.
4.2	Review and amendment of the MOU.	No requirement	The amended MOU was signed on the 4 December 2001, only six months prior to the commencement of the audit period.
4.3	Review and amendment of the MOU must be within an agreed timeframe.	No requirement	No review was required.
5.1.1	Manage activities in a cooperative and transparent manner to meet legislative obligations.	Full compliance	<p>Cooperation between both parties is coordinated through the Strategic Liaison Group (SLG) as detailed below. Transparency was achieved through discussion of strategic issues and presentation of projects at SLG meetings and through collaboration on joint projects. Progress has been achieved in meeting legislative obligations through joint involvement on regulatory issues. An SCA officer is now working closely with the EPA and Councils on strategic compliance and enforcement issues.</p> <p>A requirement arising from the 2001/02 Audit was that the SCA expedite the enforcement of the <i>Sydney Water Catchment (Environment Protection) Regulation 2001</i> so that it is operational by March 2003 and that the Minister be provided with quarterly progress reports. To implement the Regulation, the SCA has:</p> <ul style="list-style-type: none"> • recruited experienced compliance officers, • provided training for catchment officers by the EPA, • implemented delegations and authorisations to enforcement officers, • issued 7 penalty infringement notices, 5 clean up notices and 1 prevention notice,



Table E.1 Environment Protection Authority (EPA) MOU

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> ▶ considered prosecution of one major operator, and ▶ commenced developing compliance audit programs for priority industries, such as sewerage treatment plants.
5.1 5	Commit to work together to reduce activities causing pollution in the catchment areas.	Full compliance	<p>Evidence of cooperative work was sighted from SLG minutes and programs outside the SLG. Examples of cooperation include: sewerage strategic planning; derelict mines strategy, draft REP, water quality risk management, EPA Licence reviews and rationalising water quality monitoring between the two agencies. Collaboration is evident through joint meetings, inspections, training; research and review; and comment on pollution related initiatives.</p> <p>A Strategic Work Program has been drafted that identifies strategic issues to be considered in a three to five year structured program. SLG minutes provided evidence that this will be addressed in regular SLG and CEO meetings.</p> <p>Strategic Issues listed for discussion or collaboration include: Mining in the Catchment; Enforcement of Compliance; Water Quality Risk Management; Research; Statutory Planning, Pollution Offsets Pilot Scheme; Sewerage Management; Diffuse Pollution Sources, Education and Review of the <i>Protection of Environment Operations Act 1997</i> (POEO Act).</p> <p>It is noted that catchment wide initiatives are included in the collaborative program; this has been a deficiency in previous years.</p> <p>Specific incidents that were jointly investigated included a wool scour plant at Goulburn, a STP, a sewerage pumping station and illegal waste dumping at a mine site.</p> <p>The SCA completed the chemical collection program in conjunction with local Councils and in liaison with the EPA.</p> <p>The SCA and EPA collaborated on the assessment of major development proposals in the catchments including Bowral STP, Lithgow STP, Goulburn STP, Lithgow Waste Management Facility, etc.</p>
5.1.6	Meet any obligation imposed by the EPA or environmental legislation for discharges from water transportation systems.	Full compliance	<p>The SCA has no discharges licensed by the EPA.</p> <p>SCA has adopted the Sydney Water 'Discharge Protocols' for the discharge of water to the environment or receiving waters from maintenance activities on the water supply system.</p>



Table E.1 Environment Protection Authority (EPA) MOU

Clause	Requirement	Compliance	Findings
			The SCA prepares a Review of Environmental Factors before undertaking any major release of water from a storage dam.
5.2.1	Regulatory responsibilities and powers to be periodically reviewed and recommendations made to Government to prevent pollution and ensure clean up after incidents.	High compliance	<p>No recommendations for amendments to legislative instruments over the audit period were sighted.</p> <p>The SCA held discussions with the EPA concerning the review of the POEO Act.</p> <p><i>Sydney Water Catchment (Environment Protection) Regulation 2001</i> came into force 1 March 2001 providing for the empowering of SCA officers under the POEO Act for the purpose of “protecting and enhancing the quality of water in catchment areas”. The SCA commenced a program of activities during the audit period to implement the provisions of the Regulation (see clause 5.1.1 above). The EPA assisted in this program, especially in relation to training, the provision of legal advice and the provision of laboratory analytical services.</p>
5.2.2	Compliance monitoring and reporting to be undertaken as required in EPA regulatory instruments.	No requirement	SCA reports that no regulatory instruments have been issued by the EPA to the SCA.
6.1.1	CEOs to meet at least twice per calendar year and discuss matters of mutual concern and which may include matters referred by the Strategic Liaison Group (SLG).	Full compliance	<p>Three meetings occurred in the audit period:</p> <ul style="list-style-type: none"> • 10 September 2002, • 14 April 2003 to discuss mining related issues; and • 17 June 2003 to discuss management of the Hawkesbury - Nepean River. <p>Minutes from the meetings were not available. Note that the clause requirement is over a calendar year, which is not consistent with the Audit period.</p>
6.2.1	Strategic Liaison Group to be maintained.	Full compliance	SLG was maintained and minutes were sighted from the four meetings held over the audit period: 26 September 2002, 5 December 2002 and 27 February 2003. The meeting scheduled for 23 May 2003 was postponed to 10 July 2003.
6.2.2	Strategic Liaison Group to consider long term strategic issues and policies and innovative regulatory solutions to pollution; to identify	Full compliance	The preparation of a Strategic Work Program has been a significant step in developing joint activities to help ensure the protection of water quality in the storages. The elements of the Strategic Work Program have been identified above. Much of the work completed to date has



Table E.1 Environment Protection Authority (EPA) MOU

Clause	Requirement	Compliance	Findings
	cooperative research ventures; to explore avenues for cooperation in area's including but not limited to: environmental education, enforcement, training, data acquisition, monitoring and policy development.		involved identifying issues that will benefit from joint efforts and drafting papers outlining options and programs for action. The programs address the issues of environmental education, enforcement, training, data acquisition, monitoring and policy development. The Strategic Work Program was agreed to by both agencies on 27 February 2003.
6.2.3	Strategic Liaison Group to report to respective CEOs any significant issues in the catchment areas.	Full compliance	No significant issues were reported (beyond normal reporting requirements) by the SLG to CEOs.
6.2.4	Strategic Liaison Group membership to be agreed between the parties.	No requirement	The membership was agreed outside the audit period.
6.2.5	Strategic Liaison Group to determine the frequency and meeting procedures.	Full compliance	Meeting procedures consistent with those determined previously. Three meetings held in audit period, one postponed to after audit period; the meeting program is established each December for the following year.
7.1	Parties agree to share or supply data and information to protect water quality in the catchments.	Full compliance	Data/information were shared between the agencies, including information on enforcement, Licences, Strategic Work Program, water monitoring and education. Information is exchanged through SLG meetings, presentations and through joint projects.
7.2	Other SCA data may be made available to the EPA on terms as agreed.	Full compliance	Operational information and event reporting are regularly communicated to the EPA, with ensuing action from both parties (see examples from above).
7.4	In relation to non-scheduled activities, the SCA will provide the EPA with; copies of Notices served; notification of significant pollution incidents and legal proceeding instituted by the SCA; particulars in relation to penalty notices issued by SCA officers; and details of notifications of pollution incidents under Part 5.7 of the POEO Act.	Full compliance	Copies of Environment Protection Notices and Penalty Infringement Notices (PIN) issued by the SCA under <i>Sydney Water Catchment (Environment Protection) Regulation 2001</i> for the audit period were provided to the EPA on 21 July 2003. This included five PINs and seven Notices. The SCA notified the EPA of a pollution incident at Prospect Reservoir on 24 June 2003. The SCA was reshaping Prospect Reservoir spillway when stormwater flows exceeded the capacity of the pollution control works that had been constructed. This resulted in turbid water entering the wetlands upstream of Prospect Creek. SCA took action to prevent the incident recurring.
8.1	Differences or disputes under the MOU are to be	No requirement	No disputes were reported by the SCA.



Table E.1 Environment Protection Authority (EPA) MOU

Clause	Requirement	Compliance	Findings
	referred to the Strategic Liaison Group, and if unresolved by SLG will be referred to the CEOs.		
9.1	Any amendment of the MOU is to be publicly displayed.	No requirement	No amendments were proposed.



Table E.2 The Water Administration Ministerial Corporation [WAMC] MOU

Clause	Requirement	Compliance	Findings
2.1	Purpose of the MOU is to facilitate and encourage effective interaction and processes and cooperative arrangements to achieve sound water quality and management.	Partial compliance	<p>The MOU, when originally developed, laid the basis for cooperative relationships and the requirements for certain water management regimes including flows and water use. The Water Management Licence incorporated these latter issues into its provisions. The MOU no longer provides a mechanism for the effective interaction and cooperative arrangement to manage water quality to the extent it could.</p> <p>The review and amendment of the MOU should better reflect the cooperative relationship between the agencies and enhance their ability to manage the strategic issues in relation to the catchments and water quality. The MOU should be amended in accordance with the recommendations from the 1999/2000 audit. Development of a Strategic Work Plan would enable efficient use of resources to prioritise and address strategic issues shared by the agencies.</p>
3.1	MOU commences on date of endorsement.	No requirement	The executed MOU commenced on 23 December 1999 and was sighted.
3.2	Either party may give notice to review, amend or replace the MOU.	No requirement	Agreement for the review and amendment of the MOU was reached in an earlier audit period on 27 April 2001. The MOU review process has not been completed as detailed below.
3.3	Review of the MOU must be undertaken to an agreed timetable agreed at the commencement of the process.	Low compliance	<p>SCA and DLWC agreed to a timeframe for the review: public exhibition to commence 29 September 2001 and implementation to commence 21 December 2001.</p> <p>SCA prepared a draft MOU and submitted it to DLWC for review on 8 June 2001. SCA contacted DLWC to obtain comments from DLWC during June and July 2001. DLWC presented a revised draft on 23 October 2001, with considerable changes, and undertook to provide another draft on the 7 December 2001, following discussion with SCA. DLWC provided a draft on 15 February 2002 and indicated that it was still awaiting comments from a staff member. DLWC advised on the 28 March 2002 that there were no further changes to the document and that SCA should consider this as the final draft. SCA circulated the draft internally.</p> <p>In July 2002, the SCA and DLWC agreed to postpone further work until completion of the Mid Term Review of the Operating Licence (30 September 2002). The Review did not recommend any changes to the MOU. Discussions to progress the MOU were arranged for 3 April 2003. On 2 April 2003, DLWC was restructured and the meeting was not held. The meeting was rescheduled for 17 June 2003, but as a result of ongoing changes to the restructure of DLWC</p>



Table E.2 The Water Administration Ministerial Corporation [WAMC] MOU

Clause	Requirement	Compliance	Findings
			responsibilities, the meeting was again postponed. The Chief Executive of the SCA wrote to the newly formed Department of Infrastructure, Planning and Natural Resources on 17 June 2003 to revitalise the process and appoint a new SLG. Consideration periods were prolonged beyond the agreed time frames.
4.1.1 & 4.1.2	Legislation provides for the SCA to be subject to a Water Management Licence. Until the Licence is issued the SCA has the right to the use, flow and control of waters on behalf of the WAMC.	No requirement	A Water Management Licence was in place for the entire audit period, being issued on 23 April 2001 and following a review was subsequently amended on 11 February 2003.
4.1.3	Release of water from Tallowa Dam for use of Shoalhaven City Council.	High compliance	Release of water is now subject to the Water Management Licence. This requirement is found in Clause 9.4.10 of the Operating Licence and was audited under that provision. The audit findings are detailed in Table 9.1, Clause 9.4.10 of this report.
4.1.4	Until a Licence is granted, SCA to release 5/3 of the inflow into Wildes Meadow Creek from Fitzroy Falls Reservoir and 1 ML/day from Wingecarribee Reservoir into Wingecarribee River, and then in accordance with the Water Management Licence.	Full compliance	This requirement is found in the Operating Licence and was audited under that provision. The audit findings are detailed in Table 9.1, Clause 9.4.10 of this report.
4.1.5	Water released from SCA infrastructure will be managed as far as reasonably practicable to minimise adverse riverine impacts, environmental impacts, risks to public health and safety, and damage to property.	Partial compliance	Water releases from SCA infrastructure must be in accordance with the conditions of the Water Management Licence (WML) issued by the WAMC on 23 April 2001. A formal review of the Licence was undertaken and amendments were issued on 11 February 2003. The objective of the Licence is to manage the SCA's access to water resources within its area of operations in accordance with the principles of ESD, therefore providing a good framework for managing releases to minimise environmental impacts. The WML requires the SCA to provide to DLWC, within twelve months of the granting of the Licence, an independent assessment of the environmental impact of bulk water releases from specified storages, based on terms of reference provided by DLWC. DLWC provided the Terms of Reference for the Upper Nepean Storages to SCA on the 17 May 2002 and provided draft Terms of Reference for Warragamba. The independent assessment formally evaluates SCA's efforts to minimise adverse riverine and environmental impacts. The



Table E.2 The Water Administration Ministerial Corporation [WAMC] MOU

Clause	Requirement	Compliance	Findings
			<p>SCA provided DIPNR (which incorporated the licensing sections of DLWC) with an independent assessment of environmental impacts of bulk water supply releases from the Upper Nepean storages by 17 May 2003, as required by clause 2.1 of the Water Management Licence.</p> <p>The SCA prepares a review of environmental factors prior to water releases from its infrastructure. This identifies measures to be taken to minimise impacts on the environment and property. An environmental assessment has also been completed for bulk water transfers for the metropolitan storages.</p> <p>The SCA is currently reviewing the Shoalhaven transfer strategy for its environmental effectiveness and is evaluating the impact of current transfers.</p> <p>SCA has a low compliance in demonstrating how water releases are managed to minimise 'risks to public safety' and 'damage to property'. SCA demonstrated that impact and risk to public health is incorporated into the risk ranking process within the 'Risk Management Plan', and stated that "<i>there has been no legal action commenced against the SCA in relation to damage to property</i>". This does not demonstrate that the 'risk to public health and safety' and potential for 'damage to property' associated with the release of water from catchment infrastructure works has been assessed and is being appropriately managed. The SCA has been notified of a potential damages claim as a result of a release from the Wingecarribee Reservoir. DLWC noted in its submission that the SCA should be required under the Operating Licence to undertake monitoring to identify its impact in the catchments downstream (of its reservoirs).</p>
4.2.1	Parties commit to cooperative work to manage and protect the catchments in order to enhance water quality.	Full compliance	<p>Cooperative work is undertaken as evidenced by:</p> <ul style="list-style-type: none"> ▶ Accelerated Sewerage Program; ▶ Catchment Protection Scheme, (costing \$4.026M); ▶ Representation by SCA members on Water Management Committee's, Catchment Management Boards and Technical Advisory Groups; and ▶ SCA working with DIPNR (formerly DLWC) on the development of daily flow models for Hawkesbury-Nepean and Shoalhaven catchments. <p>The Accelerated Sewerage Program, a five-year program involving a \$20M contribution from SCA to enhance the Town & Country Sewerage Program, is a further example of cooperation between the agencies.</p>



Table E.2 The Water Administration Ministerial Corporation [WAMC] MOU

Clause	Requirement	Compliance	Findings
5.1.1	CEOs to meet at least twice per calendar year and consider matters referred by the Strategic Liaison Group (SLG).	Full compliance	Meetings between the CE of the SCA and the Deputy Director General of DLWC took place as part of the SLG meetings on 26 July 2002 and 25 October 2002. Note that the clause requirement is over a calendar year, which is not consistent with the Audit period.
5.1.2	CEO meeting to be initiated by either party as required.	No requirement	See clause 5.1.1.
5.1.3	All agreements entered into between the Authority and the Corporation will be in the public domain.	No requirement	No agreements were entered into.
5.2.1	Strategic Liaison Group to be established as soon as possible after execution of the MOU.	No requirement	SLG was established in a previous audit period. The SLG was maintained in the current audit period. Three meetings were held for the year on 26 July 2002, 25 October 2002 and 5 February 2003. Minutes of the three meetings conducted in audit period were sighted. The SCA initiated the formation of a new SLG with DIPNR on 17 June 2003.
5.2.2	Strategic Liaison Group must consider long term strategic issues and policies with regard to water management and allocation, catchment areas management, licensing issues, and identify cooperative research ventures and joint initiatives.	Partial compliance	The SLG considered some long term strategic issues but made little progress on the development of a Strategic Work Program. The SLG agreed on 26 July 2002 that it would benefit from a more strategic agenda and that this would assist better integration of programs between the agencies. SCA were to identify key strategic issues. No progress was identified by the October 2002 SLG meeting and the item did not appear on the agenda of the meeting in February 2003. The matters discussed at the SLG meetings appeared often to be reactive to external triggers or routine and operational more suited for day to day communication and resolution. It was difficult to see evidence of where the SLG was adding value to the resolution of strategic problems and catchment wide water quantity and quality issues.
5.2.3	SLG to report to respective CEOs any significant issues in the catchment areas.	No requirement	No significant issues reported to CEOs.
5.2.4	Strategic Liaison Group membership to be agreed between the parties.	Full compliance	The membership of the SLG was formally changed through an exchange of letters between the CE of the SCA and the Deputy Director General of DLWC during July 2002. The Chief Executive of the SCA initiated the formation of a new SLG with DIPNR in



Table E.2 The Water Administration Ministerial Corporation [WAMC] MOU

Clause	Requirement	Compliance	Findings
			correspondence dated 17 June 2003.
5.2.5	Strategic Liaison Group to determine frequency of meetings and meeting procedures.	High compliance	Annual schedule of meetings was established at the beginning of 2002. No meetings of the SLG took place after February 2003. Consequently only three meetings were held in the Audit period.
6.1	Parties must share or supply and update relevant data and information.	High compliance	<p>Information sharing and/or supply have occurred throughout the audit period through SLG meetings, joint involvement on projects and/or direct information requests. Examples include: information on finalising Catchment Blueprints; information on proposed implementation of proposed REP; information on Rectification Action Plans concerning progress on the Wingecarribee pilot; mid term review of the SCA Operating Licence; and information exchange on Hawkesbury Nepean River Management Forum.</p> <p>The SCA continues to contribute to the Integrated Water Monitoring Framework and CANRI Framework (information database), data on blue-green algae management in the Shoalhaven system was provided by SCA and reports required by the Water Management Licence were provided by SCA.</p>
6.2	Notification of planned and unplanned activities likely to impact on the WAMC.	Full compliance	<p>The SCA reported that it has met all the environmental flow requirements of the WML licence with the exception of the following non-compliance events:</p> <ul style="list-style-type: none"> ▶ Warragamba Dam on 7 February 2003 when flow over Penrith Weir averaged 43.5 ML/day not 50ML/day (as required by WML Schedule 5.1(2)); and ▶ Tallowa Dam between 28 December 2002 and 1 January 2003. During this period, a shortfall Environmental flow of 549.3 ML occurred. <p>Both these events were promptly report by the SCA to the former DLWC (now DIPNR). The auditor sighted correspondence between the SCA and DLWC in this regard.</p>
6.3	Data to be shared on such terms as agreed by the parties.	Full compliance	<p>While there are no formally agreed terms for data sharing between the parties, data is shared on an “as –requested” basis. Data issues are being considered as part of a review of science and research within the SCA.</p> <p>DIPNR has direct access via telemetry to temperature monitoring in the Shoalhaven River by SCA.</p>
6.4	Disputes regarding data and information sharing	No requirement	No disputes reported or referred to the SLG.



Table E.2 The Water Administration Ministerial Corporation [WAMC] MOU

Clause	Requirement	Compliance	Findings
	and exchange to be referred to SLG.		
7.1	Joint programs, initiatives and research to be undertaken.	Full compliance	<p>A joint agreement on how to measure inflows to each storage is being finalised.</p> <p>Joint programs and initiatives include the Blue Green Algae Management Strategy; Statements of Joint Intent for the Hawkesbury Nepean River System, Shoalhaven River and Georges River Botany Bay System; Catchment Protection Scheme; and development of daily flow models for the Hawkesbury Nepean and Shoalhaven Catchments.</p> <p>SCA provided \$620K to the Catchment Protection Scheme with overall program funding expenditure of \$847K for the year.</p> <p>SCA entered into a five-year agreement with DLWC in 2002 to contribute \$4M annually to Sewage Treatment Plant improvements under the Accelerated Sewerage Scheme (the Scheme was transferred to the Ministry of Energy & Utilities in 2003 under the government restructure).</p> <p>The agencies also collaborated on the delivery of outcomes arising from the Hawkesbury Nepean River Management Forum.</p> <p>Collaborative research programs include:</p> <ul style="list-style-type: none"> ▶ An extensive cyanobacterial toxicity testing program; ▶ A project to investigate the public health significance of skin exposure to cyanobacterial blooms; ▶ Sharing of information from the pathogen and carbon enrichment modelling work undertaken by the SCA; and ▶ Discussions on export rate estimation for the proposed Pollution Offset Scheme.
8.1	Differences or disputes under the MOU may be referred to the Strategic Liaison Group.	No requirement	No disputes reported or referred.
9.1	Any amendment of the MOU to be exhibited.	No requirement	Negotiation for review and amendment of the MOU was initiated in an earlier audit period. To date a draft MOU has not been agreed upon and it is not ready for exhibition. See Clause 3.3 for further detail.



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
4.1	The purpose of the MOU is to facilitate effective interaction and set out effective processes and cooperative arrangements in relation to the protection of public health.	Full compliance	The MOU provides the structure and processes for interaction and communication between the SCA and the NSW Health. Formal interaction is achieved through the SLG and JOG meetings and informally through cooperative arrangements coordinated in these forums. The initiation of the Strategic Work Plan further demonstrates the cooperation to address issues related to public health.
5.1	MOU commences on date of endorsement by the parties.	No requirement	The amended MOU was executed on 28 November 2001 and was sighted.
5.2	Either party may give notice to review, amend or replace the MOU or it must occur on the renewal of the Operating Licence.	No requirement	No amendments notified.
5.3	Review and amendment of MOU must be undertaken within an agreed timeframe.	No requirement	No amendments notified.
6.1.3	SCA is responsible for supplying bulk raw water to its customers to the water quality standards referred to in the SCA's Operating Licence.	High compliance	This requirement is found in the Operating Licence and was audited under that provision. The audit findings are detailed in Table 6.1 Clause 6.2 and 6.6 of this report.
6.1.4	Customers are adequately informed of the quality of the bulk raw water and the appropriateness of any intended uses of such bulk raw water.	High compliance	This requirement is found in the Operating Licence and was audited under that provision. The Audit findings are detailed in Table 6.1, Clauses 6.3.2 and 6.6.3.
6.1.5	SCA to advise NSW Health of changes in processes and procedures that may result from variations to water quality standards in the Operating Licence.	No requirement	There were no variations to the Water Quality Standards over the Audit period. SCA advised Health of new Water Safety Plans to Picnic Areas where water is only chlorinated (rather than treated) prior to consumption.
6.1.6	SCA must develop and implement a water quality monitoring program in consultation with	Full compliance	The Water Quality Monitoring Program 2002-2004 was developed by SCA with input from Sydney Water and NSW Health, in the previous audit period. NSW Health continues to receive monthly



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
	NSW Health and prepare reports for NSW Health as required by Clause 6.6 of the Operating Licence.		summaries of results from the SCA. This was audited as a requirement of the Operating Licence, refer to Table 6.1, Clause 6.6.1 and 6.6.6.
6.2	Either party may give notice to review, amend or replace the water quality monitoring plan; upon such notice a timetable is to be prepared.	No requirement	The Water Quality Monitoring Program 2002-2004 was reviewed in the audit period in anticipation of the draft REP being implemented. The implementation of the review is dependent on the gazettal of the REP.
7.1	SCA to report to NSW Health any events within its works or area of operations with public health implications.	Full compliance	The Bulk Water Quality Incident Response Plan (BWQIRP) identifies trigger levels, includes a provision to notify NSW Health immediately when triggers are exceeded and requires water quality monitoring results be provided to NSW Health. The Incident Register summary for 2002/03 and details of specific incidents were provided: <ul style="list-style-type: none"> • Fitzroy Falls Picnic Area, 4 November 2002 to January 2003, potentially toxic algae cell count; NSW Health was notified and remedial actions implemented; and • Bendeela Pondage, 5 February 2003 and into March 2003; Microcystin concentration above guidelines for recreational water quality; remedial actions implemented. SCA provides Sydney Water with an annual Monitoring Program Report, inclusive of water quality incidents and issues, and steps being taken to address issues as discussed in Section 6 Table 6.1, Clause 6.6.7.
7.3	SCA to supply such information in relation to such events as is requested by NSW Health or as is necessary for either party to make appropriate judgements; and take appropriate action in relation to protecting the health of the public and exercising its role under this MOU.	Full compliance	The Bulk Water Quality Incident Response Plan includes procedures for media and stakeholder liaison. The Plan includes provision to notify NSW Health immediately upon certain triggers being exceeded, to provide water quality monitoring results to NSW Health, and if NSW Health assesses a risk to public health, NSW Health is to liaise with the customers and issue a boil water notice, if necessary, and to provide input to communications advice issued by the SCA for staff, customers, media and the Minister. Refer to audit findings in Table 6.1, clauses 6.7.11 and 6.7.12. The SCA has developed a significant program of investigative monitoring as noted under Clause 6.6.1(b) which is outlined in the SCA 'Water Quality Monitoring Program'. SCA has regularly informed NSW Health of results of blue green algae monitoring in storages and NSW Health has approved the Annual Water Quality Monitoring Plan and Pathogen Monitoring



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
			Plan. Sydney Water endorses the SCA incidence response and contingency plans in response to any incidents that could affect the quality of water supplied to Sydney Water.
8.1	Prepare and maintain an Incident Management Plan to the satisfaction of NSW Health and in accordance with Clauses 6.7.9 and 6.7.12 of the Operating Licence.	Full compliance	The Plan was previously developed in June 2000 and reviewed and updated in June 2001. This was audited as a requirement of the Operating Licence; refer to Table 6.1, Clause 6.7.9 and 6.7.12.
8.2	A 24 hour incident management contact point is to be negotiated.	Full compliance	Contained in the Incident Response Plan and the Corporate Incident Management Manual.
8.3	Information and resources will be shared during incidents involving a public health risk.	Full compliance	These procedures are identified in the Incident Response Plan and the Corporate Incident Management Manual. Occurrences are detailed in the Incident Register. The Incident Register reports that information was provided to NSW Health during two on-going incidents.
8.4	Training in situations that simulate public health hazards is to be organised at agreed location and time.	Full compliance	Some 12 SCA staff undertook Australian Inter-agency Incident Management System training (AIIMS) in December 2002 and others have been involved in training exercises. The register of staff undertaking the AIIMS 5 day training course was sighted. A training exercise involving a hazchem spill was conducted on 10 July 2002. An emergency risk exercise, "Exercise Mary", was conducted on 25 March 2003 in conjunction with other agencies to test their response to a number of concurrent incidents posing threats to drinking water quality.
9.1.1	SCA and NSW Health will maintain a Strategic Liaison Group (SLG).	Full compliance	SCA maintained a tripartite SLG with Sydney Water and NSW Health. There were four SLG meetings in the year, 30 September 2002, 16 December 2002, 13 February 2003 and 2 June 2003. The minutes were sighted.
9.1.2	SLG to consist of senior officers nominated by their respective Director General or Chief Executive. SLG to meet regularly to discuss relevant and long term strategic issues and policies. SLG will define and implement	Full compliance	SLG members consist of senior officers as detailed in minutes. SLG considered long term strategic issues such as: <ul style="list-style-type: none"> • Emerging water quality issues; • Disinfection By-products issues;



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
	<p>processes for the exchange of strategic information.</p>		<ul style="list-style-type: none"> ▶ Australian Drinking Water Guidelines; ▶ Changes to methodology for detection of Cryptosporidium and Giardia; ▶ Recreational use of storages; ▶ The REP for the catchments; ▶ Management of water quality during and immediately following drought; and ▶ Recycled water issues. <p>The SLG has initiated the development of a Strategic Work Plan, to identify strategic issues to be considered in a three to five year structured work program. The strategic work program for 2002/03 was endorsed on 13 June 2002. An updated program for 2003 was considered on 13 February 2003. Matters on the Strategic Issues Agenda included:</p> <ul style="list-style-type: none"> ▶ Whole of Government approach to protection of public health in relation to water quality; ▶ Water conservation and reuse schemes; ▶ Public health implications of alternate servicing solutions; ▶ Risk assessments and management; ▶ Research on water quality issues; ▶ Water quality management; ▶ Water quality monitoring programs; ▶ Independent laboratory process; ▶ Wastewater Management; ▶ Refining the regulatory environment, and ▶ Education. <p>A number of actions relating to each of these issues were completed satisfactorily during the audit period.</p>



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
9.1.3	Director General of NSW Health and Chief Executive of SCA will attend at least two SLG meetings per year to discuss issues of mutual concern.	Full compliance	The SCA Chief Executive (CE) attended all four SLG meetings in the audit year, the Director General (DG) of NSW Health was present at two and the Deputy Director General was present at the other two meetings.
9.1.4	SLG to report to respective CEOs significant issues in drinking water catchments that relate to functions of the parties.	No requirement	No significant issues were reported outside the SLG. The CEOs are members of the SLG. The Chief Executive of SCA attended four of the four meetings held in the audit period.
9.1.5	Where appropriate, tripartite meetings with Sydney Water Corporation and other customers will be held.	High compliance	All SLG meetings are tripartite with SCA, Sydney Water and NSW Health. There is no evidence of other customers being involved in meetings.
9.1.6	Strategic Liaison Group to determine meeting frequency and procedures.	Full compliance	The SLG is administered by Sydney Water. Procedures are in place; a schedule of meetings is prepared for each calendar year in advance.
9.2.1	SCA and NSW Health will maintain a Joint Operational Group (JOG).	Full compliance	SCA maintained a tripartite JOG with Sydney Water and NSW Health. There were six JOG meetings in the year, 19 August 2002, 14 October 2002, 2 December 2002, 24 January 2003, 24 March 2003 and 7 May 2003.
9.2.2	Role of Joint Operational Group (JOG) is to consider those issues determined by the SLG to be relevant but must include strategic and operational issues. The JOG is also responsible for developing data and information sharing programs and proposing collaborative initiatives including research and community education.	Full compliance	JOG considered strategic and operational issues that included: <ul style="list-style-type: none"> • Bulk Raw Water Incident Response Plan; • Disinfection of water in Upper Canal; • Flood strategy and recovery; • Use of herbicides in streams to control noxious weeds; • Revision of the drinking water quality guidelines; • Strategic Issues Work Program; • Review of collaborative research program; • Fire incident at Prospect Water Filtration Plant; and



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none"> Water quality management when the drought breaks. <p>Data and information were shared and collaborative initiatives discussed. Limited discussion on education initiatives was reported in minutes of meetings.</p>
9.2.3	Joint Operational Group shall report significant issues to the Strategic Liaison Group.	Full compliance	The JOG minutes indicate that strategic issues for SLG are considered regularly. A number of JOG members are also on the SLG and present feedback from the JOG meeting at each SLG meeting.
9.2.4	Joint Operational Group membership is to be as agreed between the parties and where appropriate tripartite meetings with Sydney Water to be considered.	Full compliance	Confirmed by correspondence sighted; Sydney Water is a member of the Group.
9.2.5	Joint Operational Group to establish meeting frequency and procedures.	Full compliance	The JOG is administered by Sydney Water. Procedures are in place and an annual schedule of meetings is identified.
10.1	Parties must share or supply the data and information referred to in 10.2 and 10.3.	Full compliance	See 10.2 and 10.3.
10.2	Data and information is to be exchanged relating to raw water quality and public health arising from the Operating Licence; Incident Management Plan; DoH public health information and as agreed.	Full compliance	Data and information are provided regularly through the SLG and JOG and routinely between officers on an 'as needed' basis. Procedures are set out in the Incident Management Plan for information transfer during an incident. A Strategic Work Plan has been developed to look at strategic issues over a 3-5 year timeframe that will allow for further information sharing – see 9.1.2 above for an overview. Examples of information sharing have been provided above and further examples include consideration of WaterPlan 21, rain water tanks, summer algal program and security of infrastructure.
10.3	Data to be exchanged cooperatively by the parties.	Full compliance	As for 10.2.
10.4	SCA shall participate in appropriate research and development on emerging public health issues related to drinking water.	Full compliance	SCA and NSW Health work closely on research programs with respect to public health impact from the catchments. The pathogen component and physical-chemical water quality component of the SCA research program was initiated in September 2002 and includes:



Table E.3 NSW Health MOU

Clause	Requirement	Compliance	Findings
			<ul style="list-style-type: none">• Sources and fates of pathogens in the catchments;• Tracing and tracking tools for human and animal faecal contamination;• Pathogen fate and transport in catchments;• Effect of cyanobacteria exposure on skin from recreational exposure; and• Reducing public health risk from pathogens.
11.1	Differences or disputes arising under the MOU to be referred to CEOs.	No requirement	No disputes were reported.
12.1	Any amendment of the MOU is to be publicly displayed.	No requirement	No amendments were proposed.



Appendix F
Complaint assessment



Elements used to test the complaint handling system

The following elements have been defined as essential for consideration in the development of a complaint handling system. As a result, these elements have been used to test the Sydney Catchment Authority's (SCA) complaint handling procedure¹.

These include:

- ▶ **Commitment:** The system needs to show a commitment to efficient and fair resolution of complaints by people in the organisation at all levels, including the Chief Executive or ruling body. This is shown by an organisational culture that acknowledges consumers' rights to complain and which actively solicits feedback from consumers. The policy on complaints handling needs to be in writing.
- ▶ **Fairness:** The complaints handling process needs to recognise the need to be fair to both the complainant and the organisation or person against whom the complaint is made.
- ▶ **Resources:** There needs to be adequate resources for complaints handling with sufficient levels of delegated authority.
- ▶ **Visibility:** The complaints handling process needs to be well publicised to consumers and staff, and shall include information to consumers about the right to complain.
- ▶ **Access:** The process needs to be accessible to all and ensure that information is readily available on the details of making and resolving complaints. The process and supporting information needs to be easy to understand and use, and be in plain language.
- ▶ **Assistance:** Assistance needs to be available for complainants in the formulation and lodgement of complaints.
- ▶ **Responsiveness:** Complaints needs to be dealt with quickly and the complainants need to be treated courteously.
- ▶ **Charges:** Complaints handling needs to be at no charge to the complainant, subject to statutory requirements.
- ▶ **Remedies:** The process needs to have the capacity to determine and implement remedies.
- ▶ **Data collection:** There needs to be appropriate systematic recording of complaints and their outcomes.
- ▶ **Systemic and Recurring Problems:** Complaints need to be classified and analysed for the identification and rectification of systemic and recurring problems.
- ▶ **Accountability:** There needs to be appropriate reporting on the operation of the complaints handling process against documented performance standards.
- ▶ **Reviews:** The process needs to be reviewed regularly to ensure that it is efficiently delivering effective outcomes.

¹ Definitions as per AS4269-1995



Assessment Questionnaire

To assess the perceptions of complainants about the system the following questions and rating system was used to evaluate the above concepts.

Q1. Please tell me whether you Strongly Agree; Agree; Disagree; Strongly Disagree with the following statements: (Instructions to Interviewers: Accept Don't Know if they are unable to answer but do not give this option)

a. The way the complaint was handled indicated that the staff of the Sydney Catchment Authority were committed to resolving the complaint

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

b. The way the complaint was handled was fair

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

c. The staff member you dealt with was able to make the necessary decisions to resolve your complaint.

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

d. It was simple to lodge a complaint with the Authority

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

e. Assistance was available from staff of the Authority to lodge the complaint

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

f. The complaint was dealt with quickly

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

g. The complaint was dealt with courteously

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

h. There were no financial charges on lodging a complaint

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know

i. Remedies to resolve the complaint were proposed by the Authority*

Strongly Agree; Agree; Disagree; Strongly Disagree Don't Know



Q2. Overall, how satisfied or dissatisfied were you with the way your complaint was handled?

Very Satisfied Satisfied Neither Dissatisfied Very Dissatisfied

Q3. Do you have any suggestions about how the Sydney Catchment Authority could improve their complaint handling procedure?

The Audit Sample

As in previous years the auditor tests the quality of the complaint handling system, in part, through an assessment of perceptions and reactions of complainants. This is the most appropriate test, as those who have been through the system are in the best position to give feedback about whether the system is meeting the key elements of a quality complaint handling process. However, the SCA provided details for only those complaints resolved during the audit period that related to customers receiving bulk water. Only 8 complaints were provided from 7 complainants.

The auditor attempted to contact all complainants to obtain feedback on how their complaint was handled. Of the 7 complainants contact, 6 responses were received. The other complainant was overseas.

Table 1 AF1 Complaint Audit Sample

Complaint Category	Number of complaints received and resolved by SCA during audit period	Number of complaints audited
Water quality		
Continuity of water supply	2	1
Water pressure	4	4
Billing	1	1
External customer communications		
Noise		
Liability claims - damage		
Liability claims - injury		
Tenant issues		
Catchment use – pastoral		
Catchment use – recreational		
Environmental and heritage issues		
Staff/contractors		
Flood		



Complaint Category	Number of complaints received and resolved by SCA during audit period	Number of complaints audited
Picnic area facilities		
Tender process		
Community grants		
Others	1	1
Development application		

Results

The SCA indicated in its interview with the auditor that its Audit Report this year “would be limited to water supply customers and not community complaints.” As a result the SCA only provided details to the auditor about complaints received from customers who receive bulk water rather than the full range of complaints received from the community. This restriction on the provision of information about complaints by SCA seriously limits the comprehensiveness of the auditing process and therefore the validity of the results in terms of generalizing to the broader community about the SCA’s complaint handling process.

However, as all complaints from bulk water customers were provided the results represent a census of complaints from this group although as indicated earlier, one of the bulk water complainants was overseas and unable to be interviewed. The results therefore provide a high level of confidence about the perceptions of this group, although because of the small number of respondents each response has a large impact on the calculated percentages.

Table 2 Complaint audit results (based on 6 complainants)

System Element	“Strongly Agree” & “Agree” (%)	“Strongly Disagree” & “Disagree” (%)	Number of complainants audited with a response
Staff committed to resolving complaint	33.3	66.7	6
Process was fair	33.3	50.0	6*
Staff able to make the necessary decisions	33.3	50.0	6*
Simple to lodge a complaint	83.3	16.7	6
Assistance available from staff to lodge complaint	66.7	33.3	6
Complaint dealt with quickly	50.0	50.0	6
Complaint dealt with courteously	100	0	6
No financial charges for	100	0	6



System Element	“Strongly Agree” & “Agree” (%)	“Strongly Disagree” & “Disagree” (%)	Number of complainants audited with a response
lodgement			
Remedies to resolve complaint were proposed	50.0	50.0	6
Overall satisfaction with the way your complaint was handled	% Very Satisfied/Satisfied 33.3	% Very Dissatisfied/Dissatisfied 66.7	6

* A “Don’t Know” response was received which makes up the remaining percentage.

Table 2 indicates that all complainants believed that their complaint was dealt with courteously and that they did not have to pay anything to lodge the complaint. The majority agreed that it was simple to lodge a complaint and that assistance was available from staff to help in lodging the complaint.

At the other end of the spectrum a majority did not agree that staff were committed to resolving the complaint and that they were dissatisfied with the way the complaint was handled.

Suggestions and Comments Made by Complainants

The small number of people interviewed meant that there were few suggestions or comments. Comments and feedback provided by complainants often provide valuable insight into the effectiveness and quality of the complaint handling process. With such a limited number of comments it is difficult to assess whether there are any issues of a systemic nature that should be brought to the attention of the Licence Regulator.

Table 3 Summarised comments from Complainants

Do you have any suggestions about how the Sydney Catchment Authority could improve their complaint handling procedure?

No comments	Two people indicated that they had no comment to make.
Lack of perceived commitment	One respondent indicated that SCA should listen to what the respondent wanted done.
Lack of proper or comprehensive process to handle/investigate the complaint	One respondent suggested that complaints not be passed from person to person at the SCA. A further respondent was surprised that his “inquiry” about water pressure was treated as a complaint and felt that if such inquiries were treated as complaints then the level of complaints may be artificially high.
Price	One respondent felt there should be no charge for water.



Appendix G

Comments from Government authorities

Mr Maurice Pignatelli
GHD Pty Ltd
Locked Bag 2727
ST LEONARDS NSW 1590

Dear Mr Pignatelli

I refer to your letter to the Director-General regarding the audit of the Sydney Catchment Authority (SCA) Operating Licence. Thank you for the opportunity to provide input to the audit process.

The Department enjoys an effective and open relationship with the SCA at officer and strategic levels. The relationship has allowed for discussion of matters of mutual concern, including issues that may affect public health. The Department is satisfied that the SCA has met its obligations under the Operating Licence and Memorandum of Understanding (MoU). The Department is also satisfied that the requirements of the Operating Licence and MoU are adequate and provides a sound basis for a cooperative relationship between the organisations.

The Department has collaborated with the SCA and Sydney Water Corporation (SWC) to develop a strategic agenda for the Strategic Liaison Group. This initiative has allowed for more focussed and systematic consideration of strategic issues. The SCA also continues to provide monthly summaries of monitoring results.

This year the Department was involved in incident management mock exercises with the SCA and SWC. This event proceeded satisfactorily.

If you have any enquires please contact Dr Kaye Power at the Department's Water Unit on 9816 0541

Yours sincerely

Dr GREG STEWART
**Deputy Director-General, Public Health
and Chief Health Officer**

Our Reference : EXF27046 & SR245
Contact : Tim Gilbert, 02 9995 6860

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Mr M Pignatelli
Project Manager
GHD Pty Ltd
Locked Bag 2727
ST LEONARDS NSW 1590

Dear Mr Pignatelli

Sydney Catchment Authority - Audit of Operating Licence 1 July 2002 to 30 June 2003

I refer to your letter dated 3 October 2003 to Ms Corbyn regarding the audit of the Sydney Catchment Authority (SCA) Operating Licence.

As you are aware, the Department of Environment and Conservation (DEC) is a new State Government department which was created on 24 September 2003. It brings together the Environment Protection Authority (EPA), the National Parks and Wildlife Service (NPWS), Resource NSW and the Royal Botanic Gardens and Domain Trust, and also links with the work of the SCA.

On creation of the new Department, Ms Corbyn was appointed as Director General. At this time, Ms Corbyn was also appointed as Chief Executive of the SCA. There will be situations where the dual CEO roles may give rise to a potential conflict of interests, such as in this case where DEC has a role in the audit of SCA. The two agencies are currently identifying potential conflicts and developing systems to manage any conflict in the future.

Although the current audit relates to a period before Ms Corbyn became the Chief Executive of the SCA, there could still be a perception that a conflict nevertheless exists. Accordingly, I will respond to your letter in my capacity as Deputy Director General of Environment Protection and Regulation. Staff now in my Division carried out the review and I am independent of the SCA.

The DEC has considered your request for comments on the SCA's auditable obligations to the former EPA and NPWS, including those which may affect compliance with the SCA's Operating Licence (the Licence), against the four headings specified in your letter, namely:

1. Compliance with requirements.
2. Progress to meeting requirements.
3. Adequacy of actions being taken.
4. Adequacy of the requirements of the licence and MoU in light of recent experience.

FORMER EPA REQUIREMENTS:

Section 3.3 – Memorandum of Understanding (MoU)

As advised last year, the MoU between the former EPA and SCA was reviewed during 2001 and placed on public exhibition in accordance with the requirements of section 38 of the *Sydney Water Catchment Management Act*. The DEC believes that the MoU fulfils its purpose in forming the basis for a cooperative relationship to assist in furthering the objectives of the Licence and the Act. The DEC believes that the MoU, together with the collaborative actions arising from the MoU, including those actions agreed by the EPA/SCA Strategic Liaison Group (SLG), provide a sound basis for achieving the aims of the Licence and the Act and both Agencies have a philosophy of making continuing progress to improve catchment protection. The DEC believes that the work of the SCA and the collaborative arrangements outlined above, indicate that the MoU is fulfilling its purpose – namely to assist in the protection of catchment areas, water quality, public health and the environment. The DEC's comments on the four headings specified in your letter are bolded below for Section 3.3 – Memorandum of Understanding.

1. Compliance with requirements - **satisfactory**.
2. Progress to meeting requirements – **not applicable**.
3. Adequacy of actions being taken - **satisfactory**.
4. Adequacy of the requirements of the licence and MoU in light of recent experience - **satisfactory however the MoU may be subject to review in light of new organisational arrangements**.

Part 6 - Bulk Water Quality

As advised in previous correspondence in respect of this Part, NSW Health is better placed to provide expert comment on this aspect, as we believe the primary purpose of Part 6.6 of the Licence is for the protection of public health. Notwithstanding this, and to the extent of DEC's role, there are environmental health considerations in respect of aspects of SCA's water quality monitoring activities. In this regard, the SCA provided its draft Water Quality Monitoring Program 2002 – 2004 to the former EPA for comment in May 2002. The EPA reviewed this document and, from an environmental perspective, subsequently notified the SCA of the EPA's view that the report was of a high standard. The DEC's comments on the four headings specified in your letter are bolded below for Part 6 – Bulk Water Quality.

1. Compliance with requirements - **the DEC is not aware of any non-compliance**.
2. Progress to meeting requirements - **the DEC has not been made aware of any lack of progress**.
3. Adequacy of actions being taken - **the DEC has not been advised of any inadequacy in actions taken**.
4. Adequacy of the requirements of the licence and MoU in light of recent experience - **the DEC has not been advised that the licence or the MoU is inadequate in relation to Bulk Water Quality**.

Part 6.8 Environmental Water Quality

The SCA does not hold any licences issued by the EPA to discharge pollutants to the environment. The SCA does, however, routinely notify, and seek comment from the DEC, of its intention to undertake works or activities which have the potential to adversely impact the environment, for example, dewatering of pipelines and repairs to water storage structures. The DEC's comments on the four headings specified in your letter are bolded below for Part 6.8 – Environmental Water Quality.

1. Compliance with requirements - **satisfactory**.
2. Progress to meeting requirements - **see above**.
3. Adequacy of actions being taken - **see above**.
4. Adequacy of the requirements of the licence and MoU in light of recent experience - **see above**.

Part 7 – Catchment Management and Protection

The DEC understands that the SCA has recently conducted an environmental assessment of selected pollution sources in its area of operation in an attempt to prioritise these risks. The former EPA provided extensive information on licensed activities within the catchment to assist with this project. In addition, the DEC continues collaboration with SCA on a number of issues relating to catchment health including work on ecological health of waterways using macro invertebrates. The DEC understands that the SCA has continued to provide water quality data to the Community Access to Natural Resources Information (CANRI) project titled Hawkesbury-Nepean Integrated Data Management System. In light of the above, the DEC's comments on the four headings specified in your letter are bolded below for Part 7 – Catchment Management and Protection.

1. Compliance with requirements- **satisfactory.**
2. Progress to meeting requirements - **satisfactory.**
3. Adequacy of actions being taken - **satisfactory.**
4. Adequacy of the requirements of the licence and MoU in light of recent experience - **satisfactory.**

FORMER NPWS REQUIREMENTS

Part 7 – Catchment Management and Protection

In relation to 7.2.2 - Regular consultation with NPWS (now DEC) occurs via monthly Special Areas Senior Management (SASM) meetings. This group oversees the implementation of the Special Areas Strategic Plan of Management (SASPoM) and associated funding arrangements between the Agencies. SASM is advised by the Research and Data, Policy and Government Relations, Joint Management and Public Scrutiny and the Public Education and Awareness program groups. These groups operate to co-ordinate the joint management of the reserves, bring forward major research and survey projects relevant to the Special Areas, co-ordinate the Agencies efforts in public education, and to streamline the Agencies environmental impact assessment processes. The work of SASM is fully detailed in the report required by 7.2.3.

In relation to 7.2.3, the DEC reviewed and made contributions to this report in relation to the DEC's implementation of the SASPoM. DEC is continuing to work with SCA to implement the SASPoM.

In relation to 7.3.4 (Wingecarribee Swamp Plan of Management), the DEC's interest in this Plan of Management (PoM) relates to threatened species. The PoM provides for DEC involvement via a multi-species threatened species Taskforce. This Taskforce gives technical advice to the SCA on the management of threatened species. This group meets yearly and commenced in 1998.

Note: Items 7.2.4, 7.3.6 and 7.3.7 are not due till 2005. Items 7.3.2, 7.3.3 have already been fully complied with. In relation to 7.3.5 the DEC (ex NPWS) has had no involvement in this project.

The DEC's comments on the four headings specified in your letter are bolded below for Part 7 – Catchment Management and Protection.

1. Compliance with requirements - **satisfactory.**
2. Progress to meeting requirements - **satisfactory.**
3. Adequacy of actions being taken - **satisfactory.**
4. Adequacy of the requirements of the licence and MoU in light of recent experience - **satisfactory.**

In summary, the DEC's new organisational arrangements will no doubt lead to even greater collaboration with the SCA.

I trust that you find the above information helpful in response to your request for information. DEC officers would be happy to meet with you to clarify or expand on any of the matters covered in this letter. If you require any further information about this matter please contact Tim Gilbert, Manager Sydney Catchments, on 02 9995 6860.

Yours sincerely

 5/11/03

SIMON A Y SMITH
A/Deputy Director General
Environment Protection and Regulation Division
Department of Environment and Conservation



Department of
Infrastructure, Planning and Natural Resources

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Mr Maurice Pignatelli
Project Manager
GHD Pty Limited
Locked Bag 2727
ST LEONARDS NSW 1590

Dear Mr Pignatelli


Thank you for your letter of 3 October 2003 requesting comments from the Department of Infrastructure, Planning and Natural Resources (DIPNR) in relation to Sydney Catchment Authority's (SCA) auditable obligations.

I appreciate the opportunity to participate in the annual audit of the SCA's Operating Licence. The Department's comments are provided in the report accompanying this letter (Tag A).

You will be aware that the department has already provided informal comments to you in relation to specific issues in the SCA's Operating Licence. These issues have been identified in the attached response.

Should you require a meeting to discuss the Department's submission in more detail, please contact Mr Salim Vhora of the Department's Penrith Office on (02) 4722 1116 to arrange a meeting time and date. Please also contact Mr Vhora for any further enquiries you may have in respect of this matter.

Yours sincerely


Axel Tennie
Regional Director
Sydney/South Coast

6 NOV 2003

DLWC Audit Comments on Relevant Areas of SCA Operating Licence: November 2003

Clauses 3.3.1 and 3.3.2

SCA must maintain a MOU with the Water Administration Ministerial Corporation for the term of the Operating Licence; and

The MOU is to form the basis for a cooperative relationship between the parties with the view to furthering the objectives of the Operating Licence and the Sydney Water Catchment Management Act 1998.

Compliance with requirements

This is a redundant licence condition, which was complied with during 2000/01.

Progress to meeting requirements

Generally satisfactory.

SCA is required to provide relevant data/information under provisions of its Water Management Licence. During the last year a process is being established to streamline all data requests from DLWC to SCA. All requests for data to SCA now needs to be sent in writing from the Corporate Licensing Unit of the Sydney South Coast Region to the General Manager Bulk Water in the SCA. This arrangement seems to be working adequately at the moment.

The department is provided with extensive data for monitoring and reporting compliance conditions, under Schedule 6 of the SCA Water Management Licence. The SCA provides this data through copying relevant data onto CD or floppy disk and mailing at regular intervals to the department. In the aim of making this process less time consuming and more effective, the department is working cooperatively with the SCA to achieve automated transfer of the SCA's HYDSYS 8 data. It is proposed that the department will prepare a web location where data in HYDSYS format may be provided by the SCA and automatically imported into DIPNR's HYDSYS archive.

Adequacy of actions being undertaken

Adequate

Adequacy of the requirements of the licence and MoU in light of recent experience

Adequate

Clauses 6.6.1 (a) and (b) and 6.6.4 (a) and (b)

SCA to design (sampling frequency and locations) the monitoring program to the satisfaction of the Department; and

SCA to include an effective system of quality assurance in the monitoring, sampling, testing, data management and reporting processes to the satisfaction of the Department.

The SCA is now operating under the Annual Water Quality Monitoring Program 2002-2004, which replaces the Annual Water Quality Monitoring Program 2000/01. The department provided significant comments on the program during its development and finalisation.

This is a one-off licence condition only with no requirement for ongoing assessment of the implementation of the program.

Compliance with requirements

Complied with the requirement to develop and implement a water quality monitoring program, although the Operating Licence requirements should also reflect the ongoing assessment of the reports produced by the monitoring program. The department provided extensive comments on the Annual Water Quality Monitoring Report 2001-2002 last year. These comments are reproduced in part at **Tag B** for your information.

Progress to meeting requirements

Satisfactory.

Adequacy of actions being undertaken

Adequate.

Adequacy of the requirements of the licence and MoU in light of recent experience

Inadequate. This is a one-off licence condition only. There is no requirement for ongoing involvement of this and other departments to verify proper implementation of the monitoring program through assessment of the SCA's Annual Monitoring Program.

Clause 6.8

SCA must meet the environmental water quality requirements for any discharges or water releases required under the Water Management Licence.

The Water Management Licence issued to the Authority by the Water Administration Ministerial Corporation does not identify specific water quality requirements. However, Clause S6:1(1) of the Water Management Licence does require the Authority to provide to DIPNR all water quality monitoring data as detailed within the "Sydney Catchment Authority Water Quality Monitoring Program July 2002 to December 2004", or any other subsequent monitoring programs developed in accordance with the requirements of its Operating Licence.

Compliance with requirements

Complied.

Progress to meeting requirements

Generally satisfactory.

Adequacy of actions being undertaken

Adequate.

Adequacy of the requirements of the licence and MoU in light of recent experience

Water quality requirements for any discharges or water releases would be better covered under the *Protection of the Environment Operations Act 1997* through the EPA and not under the Water Management Licence.

Clause 7.1.1 & 7.1.2

Catchment Management and Protection – SCA must manage and protect the Catchment Area to the full extent to which it is empowered to do so; and

SCA must use its best endeavours to coordinate the collection of data on water quality in the Catchment Area with other Govt agencies.

Note - The Catchment Protection Scheme aims to contribute to the maintenance and improvement of the quality of waters yielded from the water storage catchments of the Sydney, Illawarra and Blue Mountains regions. The Scheme is a result of a Partnership Agreement between the Sydney Catchment Authority (SCA), the Department of Infrastructure Planning and Natural Resources (DIPNR) and landholders. The scheme complements the objectives of the SCA, principally being the maintenance and improvement of water quality and ecological integrity of the catchments.

For the purposes of the Audit, SCA's compliance for Clause 7.1.1 is assessed in relation to SCA's activities for the implementation of the Catchment Protection Scheme.

DIPNR has no knowledge of SCA's actions required under clause 7.1.2 and therefore compliance with the clause can't be assessed. It must be noted that SCA participates in the Whole of Government approach (HN IWMF) to water quality data undertaken by DIPNR to some extent. Increased or more active participation of a key player like SCA will improve the effectiveness and saleability of the IWMF program.

Compliance with requirements

The Catchment Protection Scheme is a partnership project between the Department of Infrastructure Planning and Natural Resources, the Sydney Catchment Authority and the landholders. Its aim is to improve the health of the water supply catchments for the Sydney, Illawarra and the Blue Mountains areas.

This successful scheme has operated for many years and is managed by the Department and embraces an area of more than 1.5 million hectares in the Warragamba and Upper Nepean (Hawkesbury-Nepean), and Shoalhaven catchments.

Progress to meeting requirements

The current agreement between DIPNR and SCA expires on 30th June 2004 and it is hoped that the partnership can continue into the future to allow on ground work to improve water quality and treat land and stream degradation to continue. This is the dominant activity of the scheme and complements the objectives of the SCA and DIPNR. SCA contributed \$620,000 towards the \$1,600,000 scheme in 2003-2004.

Adequacy of actions being undertaken

It is estimated that in the last 12 months, about 18,000 cubic metres of sediment has been retained on properties due to the combined efforts of all parties involved in the implementation of the 'on ground' works. In the last 12 months, this is equivalent to preventing the weekly dumping of approximately 50 large ten tonne tipper trucks of

sediment into our waterways. Each year's expenditure on such works increases the magnitude of sediment retained.

As an important tool in such natural resource management, approximately 13,000 trees have been planted with about 110 hectares of native vegetation rehabilitated.

In the process of implementation of the project, about 47 square kilometres of farming land has been managed from a soil and water quality aspect. This is equivalent to the management of land viewed 1 kilometre wide driving a distance of 47 kilometres.

Two dairy farming properties now have improved effluent disposal systems incorporated in their management actions. Effluent is now disposed of in a manner that enhances in-stream water quality and increases on farm grazing potential. 6 stabilised stock crossings.

There has also been perceived overlap between the functions and operations of the SCA and the Southern and Hawkesbury-Nepean Catchment Management Boards. There is no statutory link between these operators and their established legislation.

In the establishment of the new Southern Rivers and Hawkesbury-Nepean Catchment Management Areas, it is strongly recommended that consideration be given to reviewing the SCA Operating Licence to ensure an integrated catchment planning, investment and implementation approach by government over the SCA Area of Operations.

Adequacy of the requirements of the licence and MoU in light of recent experience

It should be recognised that the areas impacted by SCA's activities also extend to downstream of SCA's storages (geomorphic impacts of large dam include bed level changes trigger to increased gully erosion and soil loss in the down stream catchments). The Area of Operations in the context of the SCA's water quality management and catchment planning (ie the REP) is appropriate. However, the SCA should be required under its operating licence to undertake monitoring to identify its impacts in the catchments down stream and undertake or contribute to remediation measures with other agencies.

Following the development of the Warragamba and Southern Catchment Blueprints, the water quality focus of SCA's catchment planning and protection activities within its Area of Operations should be delivered so as not to be detrimental to the implementation outcomes of other natural resource management objectives such as biodiversity or water sharing.

Integrated water cycle management plan that incorporate other existing SCA management tools such as the catchment protection scheme may need to be developed in order to provide clearly defined management objectives that justify existing and future monitoring requirements. The catchment protection scheme should provide an integrated water cycle focus in the delivery of outcomes (Clause 7.1.1).

Clause 8.2

The SCA must comply with the guidelines of the Australian National Committee on Large Dams (ANCOLD) and the NSW Dams Safety Committee (DSC)

The department notes that GHD is currently reviewing the SCA Report on its Dams and that upon review of the report, GHD will invite the Dam Safety Committee to verify specific elements of the report, or where appropriate, its conclusions. Accordingly, this issue has not been addressed at the present time.

Compliance with requirements

N/A.

Progress to meeting requirements

N/A

Adequacy of actions being undertaken

N/A.

Adequacy of the requirements of the licence and MoU in light of recent experience

N/A.

Clause 8.3

The SCA must manage demand management consistent with the requirement in the Water Management Licence (WML) issued under Part 9 of the Water Act 1912.

Compliance with requirements

This question is not applicable under the current regulatory arrangements as the Water Management Licence for the SCA does not specifically address demand management. Demand management is presently regulated via the Operating Licence issued to Sydney Water Corporation.

Progress to meeting requirements

Not applicable.

Adequacy of actions being undertaken

Not applicable.

Adequacy of the requirements of the licence and MoU in light of recent experience

The IPART report to the Minister for the Environment in September 2002 entitled "Mid-term Review of Sydney Catchment Authority's Operating Licence" identified that IPART considered an appropriate way to strengthen the SCA's obligations in relation to demand management was for the Minister to require the SCA to develop a demand and supply management strategy, in consultation with Sydney Water Corporation and the former DLWC (now DIPNR). A recent telephone conversation with IPART has confirmed that the recommended Ministerial requirement for the SCA to develop a demand and supply management strategy has not been issued.

Such a demand and supply management strategy could include:

- A recognition that SCA should identify the environment and the water users downstream of its storage as clients, along with the SWC and other customers. These are not "paying" clients like SWC, but must be equally serviced as an implicit activity resulting from the supply of water to SWC. In this sense, it is better to focus the SCA's activities of the equitable sharing of water to these three consumers groups and to encourage the SCA to plan for a balanced supply strategy within its operating licence.
- Cooperation with SWC in achieving its demand management goals and the development of an active leak management program.
- Improved scenario planning to examine the security of existing supply, alternative supply options, improved catchment management activities and opportunities for improving/protecting supply quality.

- Development of a full resource costing structure that will ensure that the price of supplying water to SWC, the environment and downstream users truly reflects the operational, capital investments and opportunity costs incurred by its actions.
- Examine the impacts (through appropriate scenario planning and economic models) of pricing policies on the demands of SWC for water supply.
- Preparation of scenario plans (supported by water quantity and quality models) to assess the impacts on increased environmental demands, such as the environmental flows that may be required by the H N Forum.
- Development of information and material to assist SWC in its educational and community awareness program.

Clause 9.4.10

SCA to implement any Environmental flow requirements in the Water Management Licence issued under Part 9 of the Water Act 1912

The department has already provided some information to the auditor on this issue. The following information has been forwarded to the auditor:

- On 15th September 2003, an email containing the draft final report of the department's Review of SCA Works & Operations was sent to the SCA, with a copy to Maurice Pignatelli at GHD Pty Ltd for information, as requested by the SCA.
- On 3rd November, an email confirming the non-compliance events for the audit period was sent to Maurice Pignatelli at GHD Pty Ltd, in response to an email request for this information.

Delivery of environmental flows is a requirement under the Water Management Licence and the Department has a regulatory role in respect to the management of the Water Management Licence. As mentioned in the department's comments from last year's audit, repeating the requirement of the Water Management Licence in the Operating Licence may highlight the importance of delivery of environmental flows but is not strictly necessary.

Compliance with requirements

There were a number of non-compliance events during the last year, with respect to the release of environmental flows. As these events were predominantly due to circumstances beyond the control of the SCA, no further action was taken in relation to the non-compliances.

The non-compliance events included:

- Warragamba Dam on 7 February 2003 when flow over Penrith Weir averaged 43.5 ML/day not 50ML/day (as required by WML Schedule 5.1(2)); and
- Tallowa Dam between 28 December 2002 and 1 January 2003. During this period, a shortfall Environmental flow of 549.3 ML occurred.

Both these events were promptly report by the SCA to the department.

Progress to meeting requirements

Generally satisfactory.

Adequacy of actions being undertaken

Adequate.

Adequacy of the requirements of the licence and MoU in light of recent experience

Adequate.

Extract from DLWC's Comments on the SCA's Water Quality Monitoring Report 2001/02

Section 3 of Part 1 lists the aims of the Report, below is a brief assessment as to whether these aims are achieved. These points are addressed in further detail throughout these comments and will also be addressed in the forthcoming lower priority feedback from the department.

1. *Detail how the system performed relative to water quality at each location.* The system performance is adequately described.
2. *Map the water quality in catchments, reservoirs & delivery systems.* The mapping of water quality can be improved. The icons do not clearly relate all of the parameters and are not always present where they should be. Averages are used for comparisons, where the great variation in parameter sample numbers at sites should make such comparisons invalid.
3. *Interpret the results of the collected water quality data.* The interpretation is very simplistic, and does not explain the water quality monitoring program or the differences between wet and dry sampling.

Please note that there is no mention of quality assurance and quality control systems in the Water Quality Monitoring Report. This has been mentioned in the Monitoring and Compliance Report, however should be dealt with in both reports.

4. *Summarise and explain the findings in plain English wherever possible.* The summaries are explained in plain English, but are too brief and there is scant reference to relevant sections of the report and other documents.
5. *Describe water quality trends and problems identified by the monitoring program.* Water quality trends are inadequately described. There has been only a cursory attempt to include flow as a part of the analysis (wet vs dry). With many more wet samples than dry, it is suspected that autosamplers collected at least some of the wet samples. If this is the case, then information gathered in these cannot be averaged and compared with low flow samples.
6. *Report on targeted studies.* Reporting on targeted studies is very limited. The temperature study and Hotspots pathogen monitoring could be a lot more detailed.
7. *Report on measures planned or taken to eliminate unacceptable water quality.* Reporting is inadequate. The Report requires further details on planned measures to reduce negative impacts on water quality.

Part 1: Summary

Section 8 Summary of results by system

There are seven sites that exceeded guidelines for greater than 75% of occasions, as well as several others that also failed to meet guidelines on 50-75% of sampling occasions. These results should be discussed in detail, explaining how they were determined and what is being done to alleviate these problems in the future.

The performance indices of aesthetics, eutrophication, recreation and bacteriological health are not used at all sites. The reasons for excluding these indices at some sites should be explained. This is especially important where values are applicable to sites, such as recreation indices at Lake Yarrunga in the Shoalhaven.

Section 9 Trends in water quality

It is necessary to explain what information is used in the trend analysis. Further information should include how many years worth of data was used, whether the data was all low flow and if serial dependence been taken into account for the linear regression.

Has the drier weather affected the runoff and has flow weighting being used? If so, the rainfall patterns shouldn't have as much of an effect, or perhaps these conclusions should not be drawn if comparing dry years with wet years.

Part 2: Monitoring for the Operating Licence

Section 5.3.1 Long-term trends

Inadequate information has been given in this section. Several questions that form the basis of analysing trends need to be answered, including:

- What information was used here: all information, dry weather, wet weather?
- How often were the samples taken?
- Was there any attempt to account for auto correlation?
- What is the validity in using linear regression: it will rarely describe the whole sample distribution accurately.

Part 3 Monitoring for the WML

The majority of the comments on the Report are considered a high priority, particularly due to this section specifically relating to the compliance reporting as required under SCA's Licence.

Part 3 of the Report draws no firm conclusions from the data presented, and could be much more informative and comprehensive. The Report states that environmental flows help maintain the ecological health of downstream rivers. Further explanation of why the temperature of releases is important for health and biota, for example impacts on a

reduction in metabolism and native fish breeding, would contribute to a greater understanding of the issues.

Section 3.2 Temperature monitoring downstream of dams

More detail on the temperature at the sites is necessary. The report refers to 12 sites being monitored over the three catchments, but it does not list the sites or show them on a map. The data illustrated in Figure 1 is not detailed enough at this scale to show variations in temperature.

Inflow temperatures and surface water temperatures for each storage should also be shown to understand how much the outflow temperatures vary compared to more 'natural' flows. There are methods to determine natural flow temperatures in the literature (see Phillips, B (ed). 2001. *Thermal Pollution of the Murray-Darling Basin Waterways*. Proceedings of a workshop held at lake Hume, 18-19 June 2001. Inland Rivers Network & World Wide Fund for Nature).

Section 3.2.2 Shoalhaven River

The Report identifies that water temperatures in the Shoalhaven River downstream of Tallowa Dam from November 2001 to January 2002 were below the expected seasonal trend by up to 4 °C, and suggests that this was a direct result of water released from Tallowa Dam. The actual effects on the downstream environment caused by these releases should be identified as well as reasons for the unseasonal temperature of the releases (if known).

The site downstream of Tallowa Dam showed a 5°C rise in temperature between January and February. An explanation of why this occurred would be useful. Did the thermocline drop below the offtake?

The report states that a study of water quality in Lake Yarrunga also identified that temperature of releases had an effect on the downstream environment. There is no reference cited for this report and the department would appreciate a copy of the study, if possible.

Identification of the Grassy Gully site (amongst other sites) is necessary. It is not listed in the Water Management Licence, nor is it listed in *Appendix A: Monitoring site codes*. This site showed possible reduction in temperature in September when compared to most of the other sites. What would the effects of this be? For example, possible effects on fish breeding, where 14°C is too low for most native fish to spawn.

Part 4 Water Quality Monitoring Report

Section 3.2.4 Lake Yarrunga (Shoalhaven) catchment

There is a problem throughout this Report, not just section 3.2.4, with comparing dry and wet weather results, where it is not appropriate due to large variations in the number of samples. For example Shoalhaven catchment results states:

- Dry weather dissolved oxygen was below guidelines concentrations on numerous occasions in all monitoring locations (E890, n=9). For wet weather, dissolved oxygen was frequently below guideline concentrations at all sites except Boro Creek (E890, where n=1). The statement that dissolved oxygen was “frequently” below guidelines is misleading.
- Wet weather turbidity was frequently poor with exceptions of E891, E822 and E861 (where $n = 69, 121, 163$ respectively), where these results compare against E891, n=8; E822, n=10 and E861, n=12 (see Appendix C) for dry weather. How can these results be comparable, with such large differences in sample sizes?

Section 5.1 Long-term trends

Information for several unanswered questions that would contribute to the thoroughness of the trend analysis include:

- How was the trend analysed?
- What number of samples was used?
- How was auto correlation accounted for?
- How did you compare different numbers of samples across years?
- Did you account for flow? Table 3 means very little if there is no attempt to link median values with the flow variation.



Appendix H

Dam Safety Committee and Australian National Committee on Large Dams – Guideline Summary



Table 1 Appendix H - DSC and ANCOLD Guideline Summary

Dam	5-yearly Surveillance Report			Annual Inspection	Routine Inspections	Dam Safety Emergency Plan			O&M Manual
	Date of Last Report	Due Date for Next Report	Submissions to DSC Year 2002/03			Issued Internally	Desk Top Exercise	Comprehensive Exercise	
Avon Dam	09/00	09/05		Completed by July 2003	Daily	03/02 ^{5,6}	03/98 11/98	5/99 Due for year 03/04	31/07/02 (C)
Bendeela Pondage	03/99	03/04		Completed by July 2003	Twice weekly	03/02 ^{5,6}	11/98	5/99 Due for year 02/03 ¹¹	Issued in June 2003
Broughtons Pass Weir	02/00	02/05		Completed by July 2003	Daily	03/02 ^{5,6}		Due for year 03/04	08/01 (D) Draft for Upper Canal (includes the weir) under review in 2002/03
Cascade Dam 1 (Middle)	07/97	07/02 (11/02 ⁴)	29 November 2002	Completed by July 2003	Twice weekly	03/02 ^{5,6}		Due for year 05/06	08/01 (D) Draft under review in 2002/03 & scheduled for completion in 2003/04
Cascade Dam 2 (Lower)	06/98	06/03 (09/02) ² (11/02 ⁴)	29 November 2002	Completed by July 2003	Twice weekly	Modified DSEP prepared in 2002/03 ^{5,6}		Due for year 05/06	Scheduled for 2003 Rescheduled for completion by 30/6/05



Table 1 Appendix H - DSC and ANCOLD Guideline Summary

Dam	5-yearly Surveillance Report			Annual Inspection	Routine Inspections	Dam Safety Emergency Plan			O&M Manual
	Date of Last Report	Due Date for Next Report	Submissions to DSC Year 2002/03			Issued Internally	Desk Top Exercise	Comprehensive Exercise	Date Finalised and Issued
Cascade Dam 3 (Upper)	07/97	07/02 (11/02 ⁴)	29 November 2002	Completed by July 2003	Twice weekly	03/02 ^{5,6}		Due for year 05/06	08/01 (D) Draft under review in 2002/03 & scheduled for completion in 2003/04
Cataract Dam	- 10/01	09/06		Completed by July 2003	Daily	03/02 ^{5,6}	11/98	5/99 Due for year 03/04	31/07/02 (C)
Cordeaux dam	11/95 16/10/01	09/06		Completed by July 2003	Daily	03/02 ^{5,6}	03/98 11/98	5/99 Due for year 03/04	31/07/02 (C)
Fitzroy Falls Dam	03/99	03/04		Completed by July 2003	Twice weekly	03/02 ^{5,6}	03/98 11/98	5/99 Due for year 02/03 ¹¹	Issued in June 2003 (c)
Glenquarry Cut Cont: Str:	03/99	03/04		Completed by July 2003	Twice weekly	03/02 ^{5,6}		Due for year 02/03 ¹¹	Issued in June 2003 (c)
Greaves Creek Dam	03/98	03/03 (06/03) ⁹ (07/03) ¹⁰	28/07/03	Completed by July 2003	Twice weekly	03/02 ^{5,6}		Scheduled for year 05/06	04/02 (D) Draft under review in 2002/03 & scheduled for completion in 2003/04
Kangaroo P/L Cont: Str:	06/01	04/06		Completed by July 2003	Twice weekly	03/02 ^{5,6}		Due for year 02/03 ¹¹	Issued in June 2003 (c)



Table 1 Appendix H - DSC and ANCOLD Guideline Summary

Dam	5-yearly Surveillance Report			Annual Inspection	Routine Inspections	Dam Safety Emergency Plan			O&M Manual
	Date of Last Report	Due Date for Next Report	Submissions to DSC Year 2002/03			Issued Internally	Desk Top Exercise	Comprehensive Exercise	Date Finalised and Issued
Lake Medlow Dam	07/97	07/02 (03/03) ² (06/03) ⁹ (07/03) ¹⁰	25/07/03	Completed by July 2003	Weekly	Modified DSEP prepared in 2002/03 ^{5,6}		Due for year 05/06	Scheduled for 2003, rescheduled for 2003/04
Nepean Dam	02/00	02/05		Completed by July 2003	Daily	03/02 ^{5,6}	11/98	5/99 Due for year 03/04	31/07/02 (C)
Prospect Dam	02/98	02/03 (04/03) ⁷	30/04/03	Completed by July 2003	Daily	03/02 ^{5,6}	Not recorded on file	5/99 Due for year 04/05	31/07/02 (C)
Tallowa Dam	09/98	09/03 (02/04) ⁸		Completed by July 2003	Twice weekly	03/02 ^{5,6}	11/98	5/99 Due for year 02/03 ¹¹	31/07/02 (C)
U/Cordeaux Dam No.2	04/99	04/04		Completed by July 2003	No requirement	Modified DSEP prepared in 2002/03 ^{5,6}		Due for year 03/04	Scheduled for 2003 Rescheduled for 2004/05
Warragamba Dam	12/96	12/01 (05/02) ¹ (10/02) ⁴	18/10/02	Completed by July 2003	Daily	03/02 ^{5,6}	11/98	5/99 Due for year 04/05	06/99 (C) Updated by the contractor in 02/03
Wingecarribee Dam	04/01	04/06		Completed by July 2003	Daily	03/02 ^{5,6}	11/98	5/99 Due for year 02/03 ¹¹	Issued in June 2003 (c)



Table 1 Appendix H - DSC and ANCOLD Guideline Summary

Dam	5-yearly Surveillance Report			Annual Inspection	Routine Inspections	Dam Safety Emergency Plan			O&M Manual
	Date of Last Report	Due Date for Next Report	Submissions to DSC Year 2002/03			Issued Internally	Desk Top Exercise	Comprehensive Exercise	Date Finalised and Issued
Woodford Creek Dam	03/98 (06/03) ⁹ (07/03) ¹⁰	03/03	25/07/03	Completed by July 2003	Weekly	Modified DSEP prepared in 2002/03 ^{5,6}		Due for year 05/06	Scheduled for 2003 Rescheduled for 2004/05
Woronora Dam	05/97	05/02 (07/02) ² (10/02) ⁴	31 October 2002	Completed by July 2003	Daily	03/02 ^{5,6}	03/98 11/98	5/99 Due for year 02/03 ¹¹	31/07/02 (C)

¹ DSC Approved Extension (DSC Letter 3 August 2001).

² DSC Approved Extension (DSC Letter 2 May 2002).

³ DSC Approved Extension (DSC E-mail 19 August 2002).

⁴ DSC Approved Extension (DSC E-mail 27 September 2002).

⁵ All DSEPs updated with new external notification protocols in late 2002/03

⁶ Following external review, all DSEPs scheduled for reissue in December 2003

⁷ DSC Approved Extension (DSC e-mail 13 January 2003)

⁸ DSC Approved Extension (DSC e-mail 04 August 2003)

⁹ DSC Approved Extension (DSC e-mail 07 March 2003)

¹⁰ DSC Approved extension (DSC e-mail 23 June 2003)

¹¹ Following the test of the Wingecarribee DSEP in 2002/2003 all the Shoalhaven Dam DSEPs that were to be exercised in 2002/03 have now been reprogrammed for 2006/07.

(C) – Complete

(D) – Draft



Appendix I

Environment Plan compliance table



Table 1 Appendix I - Environment Plan Compliance Table 2002/03

Environmental Objective	Compliance with targets and timeframes	Finding
<p>1. The SCA will provide strong and effective leadership on catchment protection and assist community understanding of this issue.</p>	<p>High compliance</p>	<p>The SCA achieved the majority of the targets set for this environmental objective including the development of an education strategy for 2003-06, development of interactive education programs and school programs, expansion of Streamwatch and continued public consultation with DIPNR on the draft Regional Plan and ongoing media strategies.</p> <p>The SCA did not meet full expenditure of the annual Catchment Protection Improvements grant budget as the last round of grants was delayed (approximately \$52,000 of the \$100,000 was expended). The SCA has undertaken to spend the grant moneys in the next financial year.</p> <p>The SCA has also announced that the mobile education unit will no longer be developed, as it is not consistent with the SCA's new education strategy.</p>
<p>2. The SCA will involve the community in its strategic decision making.</p>	<p>Partial compliance</p>	<p>The majority of targets for this environmental objective were satisfied during previous audit periods.</p> <p>During this audit period, the SCA continued to consult the community liaison committee for the Warragamba spillway project, PENGOS on matters of joint interest and continued public consultation with DIPNR on the draft Regional Plan and ongoing media strategies.</p> <p>A target that has not been achieved, and is key to the satisfactory achievement of this objective, is the SCA Consultation Protocols. This protocol is due for completion on July 2001 and is still in draft form. This protocol is required to "...identify the need for consultation and determining the most appropriate form of consultation" (Environment Plan P11).</p>
<p>3. The SCA will encourage and support the culture and practice of environmental responsibility within its staff and pursue greater environmental standards and performance from its contractors and suppliers.</p>	<p>Partial compliance</p>	<p>The majority of targets for this environmental objective were satisfied during previous audit periods.</p> <p>During this audit period, environmental training and energy management training was held for SCA staff. The SCA however, has not met the following targets, which are key to the satisfactory achievement of this objective:</p> <ul style="list-style-type: none"> ▶ Undertake any additional environmental awareness courses – even though it has not achieved its target of providing environmental awareness training to <u>all</u> staff; and ▶ Formalise environmental induction training of contractors working on SCA lands.
<p>4. The SCA will optimise the use of its existing water resources and infrastructure to achieve an ecologically sustainable bulk water supply that meets current and future needs.</p>	<p>Full compliance</p>	<p>The SCA has met water supply requirements and for Sydney Water, Wingecarribee Shire Council and Shoalhaven Council achieved environmental flows as designated by its Water Management Licence (WML).</p> <p>The SCA developed an Energy Management Policy in the previous audit period and is pursuing the capture of energy through the installation of mini-hydro plants on several of its dams.</p> <p><i>Note: The Environment Plan targets do not address performance issues related to SCA's long-term bulk water supply capability. This issue is discussed in Section 8 of this report.</i></p>
<p>5. The SCA will manage</p>	<p>High compliance</p>	<p>During this audit period, the SCA demonstrated:</p>



Table 1 Appendix I - Environment Plan Compliance Table 2002/03

Environmental Objective	Compliance with targets and timeframes	Finding
its infrastructure, Special areas and other land holdings for the provision of high quality raw water and for the conservation and enhancement of ecological health and natural cultural values.		<ul style="list-style-type: none"> ▶ A high level of implementation of the Wingecarribee Swamp and Special Area Plan of Management, and the special areas Strategic Plan of Management; ▶ Compliance with health guidelines in relation to raw water quality; ▶ Ongoing implementation of the Healthy Catchment Program, although delays experienced in expenditure of the Catchments Protection and Improvements Grants; ▶ Compliance with the environmental flow requirements of its WML and trial environmental flows; ▶ Progress in the preparation of conservation management plans and the condition of the State Heritage items remain stable; and ▶ Aquatic ecosystem health indicators have been recommended but yet endorsed by the SCA (original due date - January 2003).
6. SCA will minimise any adverse environmental impacts from infrastructure operation, maintenance and construction.	Partial compliance	<p>During this audit period, the SCA:</p> <ul style="list-style-type: none"> ▶ Approved the Environmental Impact Assessment Policy and Guideline; ▶ Developed and undertook an environmental audit program that exceeds the target; ▶ Incorporating improvements to its Standard Operating Procedures for major infrastructure following an initial environmental assessment (in 2001); and ▶ “Generic” environmental assessment reviews completed at Greaves Creek, Meadow and Cascades Dams. The remaining systems have not had a formal assessment. <p>The SCA however, has not met the following targets, which are key to the satisfactory achievement of this objective:</p> <ul style="list-style-type: none"> ▶ Undertake environmental impact assessment (EIA) on all capital works projects (the environmental audit program indicates that 77% of projects went through the EIA process); and ▶ Undertake an environmental assessment of the SCA’s major infrastructure by July 2002.
7. SCA will reduce consumption of resources and minimise the generation of waste and pollution.	Low compliance	<p>The SCA reported the following statistics on energy, waste management and resource consumption during the audit period, compared to the previous year:</p> <ul style="list-style-type: none"> ▶ 7.5% increase in the energy used by SCA buildings (the SCA attributes the increase in energy consumption to expansion of its Penrith Head Office); ▶ 11-fold increase in green house emissions (the SCA attributes the increase in greenhouse emissions to pumping of water transfers from the Shoalhaven system to the Warragamba and Nepean storages); ▶ 31% increase in waste (kg/employee/yr) sent to landfill; and ▶ 4.8% reduction in office paper purchased. ▶ Only 0.8% of total electricity consumed was green power (reduced considerably, due to the need to pump water from Shoalhaven).



Table 1 Appendix I - Environment Plan Compliance Table 2002/03

Environmental Objective	Compliance with targets and timeframes	Finding
		<p>The SCA also reported that the waste reduction and purchasing policy and plan was endorsed in August 2002.</p> <p>The SCA undertook audits of known contaminated sites.</p> <p>Overall, it is evident that the SCA demonstrated reduced performance against this environmental objective, compared to the previous year.</p>
<p>8. The SCA will improve its scientific knowledge of catchment protection, water quality and environmental management and utilise this knowledge to enhance its operational and environmental decision making.</p>	<p>High compliance</p>	<p>In 2002/03 the SCA expenditure on research and scientific catchment monitoring was 2.5% of operating costs. Work was undertaken on three major programs during the year including SASPoM research program, WSSPoM research program and the Water Quality research program.</p> <p>A total of \$3.5M has been allocated over the next three years and the SCA has developed cooperative research agreements with other parties.</p> <p>The SCA advises that an assessment of the impact of recreational access on ecology and water quality has not fully commenced during the audit period and was contingent on appointment of the CRC for Catchment Hydrology.</p> <p>The SCA cited some recent examples where the findings of the research are being used to inform management decisions.</p>
<p>9. The SCA will achieve water quality protection through environmental planning, land use management and planning control in the catchment.</p>	<p>No requirement</p>	<p>Targets related to the Regional Plan have not been triggered, as the Regional Plan has not been gazetted. However, the SCA advises:</p> <ul style="list-style-type: none"> ▶ The SCA has undertaken Strategic Land and Water Capability assessments of 11% of its sub-catchments (against a target of 75% by July 2002); and ▶ A Catchment Information System has been expanded to become part of an overarching catchment information strategy under the Healthy Catchments Program
<p>10. The SCA will monitor and report on its environmental performance, as part of a policy of continuous improvement.</p>	<p>High compliance</p>	<p>This review has indicated that the SCA targets for 2002/03 are generally being achieved although not always within the specified timeframes. Achievement of targets under each of the environmental objectives are summarised in this table. Generally compliance is high to partial.</p> <p>A verifier “independently” reviewed the 2001/02 AER. The “independent” verifier was satisfied with the AER and associated systems. The independent verifier did however identify a higher level of data inaccuracy compared to previous year’s report, though these were corrected prior to publication of the report. The SCA advises that it has implemented enhanced documentation procedures to improve performance for the 2002/03 AER.</p> <p>The SCA did not receive any feedback from the public on the 2001/02 AER.</p>



Appendix J

Performance against environmental and
ESD indicators



Table A Performance against environmental indicators

Environmental Indicator	SCA performance against the indicator in relation to previous year
OPERATIONAL PERFORMANCE INDICATORS (FOR SCA ACTIVITIES)	
Impacts On Water	
▶ Volume of water released from the SCA's major storages.	▲
▶ Temperature of water released from the SCA's major storages as compared to the temperature of receiving water or inflow waters.	—
▶ Effluent management systems owned by the SCA performing to specification.	▲
Impacts on Land	
▶ Extent and intensity of hazard reduction burns on SCA owned and managed lands	—
▶ Extent and condition of native vegetation on SCA owned and managed lands	—
▶ Extent of feral pigs on SCA owned and managed lands.	Not Determined
▶ Extent of serrated tussock, willow and blackberry on SCA owned and managed lands.	Not Determined
Energy And Resources	
▶ Amount of energy (kWh) used by the SCA per megalitre (ML) of bulk water supplied.	▼
▶ Annual greenhouse gas emissions related to electricity consumption by the SCA	▼
▶ Estimated volume and type of waste annually sent to landfill from SCA activities.	▼
ENVIRONMENTAL CONDITION INDICATORS	
Streams	
▶ Level and variability of streamflow	▼
▶ Physico-chemical measures of water quality.	—
▶ Occurrences of <i>Cryptosporidium</i> and <i>Giardia</i> .	▼
▶ The number of discharges of untreated sewage from licensed sewage treatment plants	▲
▶ The number of weirs with effective fishways	▼
▶ Extent and condition of wetlands on SCA owned and managed lands	▼
▶ Status of macroinvertebrate populations to family level.	—



Environmental Indicator	SCA performance against the indicator in relation to previous year
Storages	
▶ Storage volumes and variability of the SCA's major storages.	▼
▶ Physico-chemical measures of water quality from the SCA's major storages.	▲
▶ Occurrences of <i>Cryptosporidium</i> and <i>Giardia</i> within the SCA's major storages	—
▶ Incidence of freshwater algal blooms in the SCA's major storages.	▲
Lands	
▶ Extent and type of land use in the water supply catchment area	—
▶ Estimated number of unsewered properties in the water supply catchment area.	—
▶ Extent and condition of native vegetation in the water supply catchment area.	▼
▶ Extent and condition of riparian vegetation in the water supply catchment area.	▼
▶ Extent and type of erosion in the water supply catchment area.	—
▶ Intersection of transport routes and utility easements with watercourses in the water supply catchment area.	—
▶ Area of the water supply catchment area affected by salinity	—
▶ Flora and fauna species of conservation significance in the water supply catchment area.	▼
▶ Total area burnt by wildfire in the water supply catchment area.	▲

Key:

- ▲ Improvement on previous year's performance
- No change from previous year's performance
- ▼ Deterioration on previous year's performance



Table B Performance against ESD indicators

ESD Indicator	Performance towards sustainability in relation to previous year	Comments	Extent of year to year comparison
ENVIRONMENTAL			
Volume of water released from SCA's major storages.	▲	See above	See above
Extent and condition of native vegetation on SCA owned and managed lands	—	The effect of bushfires on native vegetation continues.	The total areas of native vegetation are not quantified and there is limited comparison with previous year other than 2001 and 2002/03 bushfires impact etc. being noted. In previous years, maps showing year to year change in vegetation condition were provided.
Extent and type of erosion on SCA owned and managed lands.	—	See above	See above
Water quality performance in the SCA's major storages in comparison with ANZECC and NHMRC Guidelines	▼	SCA reported water quality as "good" however nutrient levels declined from previous levels (see appendix showing detail for each site - compared to 2001/02)	General comment on results being comparable to 2000/01 and 2001/02.
Amount of energy (kWh) used by the SCA per megalitre of bulk water supplied	▼	See above	See above
Annual greenhouse gas emissions related to electricity consumption by the SCA	▼	See above	See above
Estimated volume and type of waste annually sent to landfill from SCA activities.	▼	See above	See above
SOCIAL			
Percentage annual staff retention	—	SCA reported continued high staff retention.	SCA notes a small decrease in staff retention over the last three reporting periods but does not quantify this.
Community perception with regard to the state of the catchment	—	SCA did not undertake wide-ranging survey work this year and proposes triennial surveys. Some targeted surveys undertaken.	No comparison with community perceptions from previous years.
Number of hits per annum on the SCA's website	▲	Hits increased by 14%	Comparison with hits in 2001/02.
Total number of hours spend by staff in environmental training	▼	Hours spent on training decreased.	Comparison of hours spent on training with previous 2 years.



ESD Indicator	Performance towards sustainability in relation to previous year	Comments	Extent of year to year comparison
Condition of Stage Heritage Items owned by the SCA.	—	No change in conditions reported.	Comparison of condition with previous 2 years.
ECONOMIC			
Reliability in meeting Sydney Water Corporations' Forecast Average Annual water requirements.	▼	SCA supplied 8% over the forecast annual demand for water by SWC.	Comparison with previous year made (i.e. <i>this was an increase of 6,017ML from the previous year</i>)
Operating costs per megalitre of bulk water supplied.		Information was not available in time for consideration in the audit process	Information was not available in time for consideration in the audit process
Percentage of capital improvement projects on schedule and within budget.		Information was not available in time for consideration in the audit process	Information was not available in time for consideration in the audit process
Asset value per megalitre of bulk water supplied.		Information was not available in time for consideration in the audit process	Information was not available in time for consideration in the audit process
Percentage of operation budget assigned to research and scientific catchment monitoring.		Information was not available in time for consideration in the audit process	Information was not available in time for consideration in the audit process
Percentage of operating budget assigned for skills development of staff.		Information was not available in time for consideration in the audit process	Information was not available in time for consideration in the audit process

Key:

- ▲ Improvement on previous year's performance
- No change from previous year's performance
- ▼ Deterioration on previous year's performance

