SOUTHERN RURAL WATER

DRAFT WATER PLAN 2008-13

PROVIDING FEEDBACK

This draft Water Plan is made available for consultation with customers, stakeholders, and the community. Whilst we have consulted with our customers committees and key stakeholders during development of this draft plan, we will continue and extend this consultation throughout August, prior to redrafting our final plan in September for submission to the Essential Services Commission by 8 October 2007.

Written submissions in response to this plan will be accepted until Friday 31st August 2007, and should be addressed to:

Lincoln Eddy
Commercial & Policy Analyst
Southern Rural Water
PO Box 158
MAFFRA, Vic 3860

To discuss any aspect of this plan, please contact Lincoln Eddy on 1300 139 510.

FOREWORD

I am pleased to submit this draft Water Plan for Southern Rural Water to cover the five year period from 2008-09 to 2012-13. This Plan provides a framework within which to agree a vision and plan for the future of our shared water resources across southern Victoria. It helps establish consensus on the priorities for our programs and on the proper balance between the initiatives that we should promote and the level of charges that our customers and licence holders will need to pay.

The Essential Services Commission plays an important role as an independent umpire checking that our proposed program is endorsed by our customers and meets the expectations of our regulators. They will scrutinise our projects to ensure that the costs are necessary and efficient, and that our prices are no more than is needed to ensure our continued financial viability. We will report annually on our performance against the commitments and targets within the plan.

This approach provides us with certainty on our five year planning horizon within which we can manage our water businesses with their long-lived assets and major investment requirements. It provides our customers with confidence that costs and charges are reasonable. It reassures our regulators that we have plans in place to ensure compliance with critical obligations to ensure the future sustainability of the water resources we manage on behalf of the community.

This Water Plan is drafted in challenging times. We are in the middle of the worst drought on record, while our customers are struggling to maintain their financial viability. At the same time we are keenly aware of the need to increase our level of activity and investment to respond to ever pressing needs to ensure the real sustainability of our resources.

The central messages of the Water Plan are:

- We recognise the severity of the challenges we face in acting as the steward for our water resources and wider catchment health, and we will meet that challenge in consultation with our customers and community;
- We will drive decisions from well founded strategic plans that are based on a truly inclusive process. We are proud of the success of MID2030, which has set a benchmark for Victoria in developing a shared vision and detailed work program for the future of a regional irrigation business and the community that it supports. We will follow a similar course in developing plans for the future of the our western irrigation districts at Werribee and Bacchus Marsh to ensure that they are sustainable and viable well into the future;
- We are committed to engaging fully with the regional communities that we serve. We will give a voice at a local scale to the interests and concerns of local people in decisions on the future allocation and management of scarce and valued water resources;
- This Water Plan includes initiatives to improve our management and protection of groundwater resources across southern Victoria. We will implement these initiatives in partnership with the Department of Sustainability and Environment (DSE), local Catchment Management Authorities and wider stakeholders;
- We will deliver this Water Plan through an effective, efficient and customer focussed business. We have established tough performance targets, and welcome the responsibility of demonstrating that we are living up to that challenge.

This is a plan for the continued sustainability of our regional resources and the viability of our local communities.

I invite your comments and feedback. A final Water Plan will be submitted to the Essential Services Commission in September 2007, taking account of the feedback received.

JAN GREIG
Chairperson

EXECUTIVE SUMMARY

OUR BUSINESS

Southern Rural Water (SRW) is a Victorian Government water authority with four principal businesses:

- Eastern Irrigation – supplying an average of 150,000 ML for irrigation and stock and domestic use in the Macalister Irrigation District around Maffra in central Gippsland;
- Western Irrigation – supplying 4,000ML to the Bacchus Marsh and 10,000ML to Werribee Irrigation Districts for irrigation and stock and domestic use from the Werribee River;
- Licensing – administering around 7,800 licences for surface and groundwater diversions, and licensing construction of bores and on-stream dams. Here SRW acts on behalf of the Minister for the benefit of the wider community and environment with a role closer to that of a regulator than a utility supplier; and
- Headworks – managing seven major dams in the Werribee, Maribyrnong, Latrobe and Macalister basins to harvest, store and deliver bulk water entitlements for our own irrigation customers, urban water authorities and Latrobe Valley power generators.

These four different businesses trigger a range of different obligations, drivers and priorities. In this Water Plan we have indicated the expenditure and pricing issues relevant for each separate business.

For further information on our mission and our business, refer to Part A – Introduction, commencing on p. 2

KEY OUTCOMES FOR THE WATER PLAN

This Water Plan will deliver substantial outcomes across all four business sectors. Key examples for each business are provided below.

IRRIGATED SUPPLY

- **Unbundling of Water Rights:** The irrigation sector is undergoing major change, with policy initiatives to promote better use of scare resources. We will work with irrigators to implement the plan to separate the different component elements of the property right over water as from 1 July 2008, including developing a water register.
- **MID2030:** MID2030 represents by far the largest and most significant focus of activity and expenditure by SRW and its customers over the Water Plan period. Works proposed include significant changes in the supply system including channel automation and piping of major areas. The final arrangements, including important questions about funding are still to be decided through our consultative processes.
- **WID Pipelining:** We will complete strategic plans for both western districts. An early, pre-identified priority for the WID is the piping of channel No 4/1. The proposed expenditure forms part of the business-wide commitment to reduce system losses by 25% by 2015.

STORAGE OPERATION

- **Dam Safety:** We will develop and implement a dam safety program in line with the ANCOLD Guidelines and Clause 14 of *the Statement of Obligations*. Priority works will be at Melton, Glenmaggie and then Blue Rock.
- **Environment and Recreation Responsibilities:** SRW also carries major responsibilities for the delivery of a range of other outcomes that are additional to its direct Headworks utility functions. These include environmental management and recreational objectives.

SURAFACE AND GROUNDWATER LICENSING

- **Monitoring** we will support enhanced groundwater monitoring through the State Observation Bore Network and Melbourne Stream Gauging Network and support development of effective data management systems and archives.
- **Mapping:** we will publish an Atlas of groundwater systems in Southern Victoria and mapping of four stressed conjunctive systems.
- **Supporting Policy Development:** We will recruit an extra member of staff to take the lead in developing legislative and management responses to key issues.
- **Streamflow and Groundwater Management Plans:** We will promote streamflow management plans for six key river systems, and establish management plans in priority Groundwater Management Areas. We will also develop practical strategies to promote groundwater trading in consultation with users.
- **Metering:** We will meter all water users across the region using 10ML or more a year whether from surface or groundwater sources, including all dairy sheds across the region. We will identify more effective treatments for iron bacteria that encrusts pipe work and meters with a fine brown sludge.

For further information on our key outcomes, refer to Part C – Our Service Outcomes, commencing on p. 25

REVENUE REQUIREMENT AND TARIFF IMPACT

Our average annual revenue required to deliver the initiatives and outcomes described in this plan represents an increase of around $4.5M on our first regulatory determination, as summarised below:

	FIRST DETERMINATION 2007/08	ATTRIBUTABLE TO REVENUE CAP	ATTRIBUTABLE TO TARIFF CONTROL	TOTAL OF PRESCRIBED ACTIVITIES	NON PRESCRIBED	TOTAL
Operating Expenditure	15,643	15,044	2,570	17,613	302	17,916
Renewal Annuity	1,936	1,787	0	1,787	0	1,787
Depreciation & Return on Assets	1,287	2,102	31	2,134	75	2,209
Cost of Debt - Urban Pricing	1,077	1,077	0	1,077	0	1,077
Cost of Debt - Pre 2005/06 Sales Deficits	848	848	0	848	0	848
Cost of Debt - WID Recycled Scheme		0	195	195	0	195
First Period Revenue Recovery		565	0	565	0	565
Recovery of Flood Costs		74	0	74	0	74
TOTAL	**20,791**	**21,497**	**2,796**	**24,293**	**378**	**24,671**

Where these initiatives support a broader community or environmental outcome, we will apply funding from sale of savings as well as revenue generated though the application of cost of debt to our urban storage operator charges.

Indicative tariff increases for our key customer groups range from 9.2% to 27.4%. These increases are indicative step changes, not annual increases. The establishment of annual price paths will be a matter for consultation. In addition, we anticipate an average increase of around 17% on our range of application fees, and increases ranging from 16%-32% on our storage operator changes. Charges for Western Water and Gippsland Water, however, we propose to maintain at the current nominal amounts.

The table on the next page summarises our indicative tariff impacts for our major groups of entitlement holders.

Within these groups, impacts may vary amongst subsets of customers - for example, groundwater tariffs may differ in areas of intensive use and requiring intensive management and compliance efforts.

INDICATIVE TARIFF CHANGES

CUSTOMER GROUP	STEP CHANGE (excl. CPI)	ANNUAL CHANGE (incl. CPI)
REGULATED SYSTEMS (incl. IRRIGATION DISTRICTS)		
Macalister/Thomson/Cowwarr (incl. MID)	9.2%	6.1%
Werribee River (incl. WID)	21.6%	9.8%
Bacchus Marsh Irrigation District	26.5%	11.2%
Latrobe River	9.2%	6.1%
Maribyrnong River	21.6%	9.8%
UNREGULATED SYSTEMS		
Surface Water	19.4%	9.2%
Groundwater	27.4%	11.5%

The following table dissects these indicative increases in the key components:

	MACALISTER	WERRIBEE	BACCHUS MARSH	SURFACE WATER	GROUNDWATER
Operating Expenditure					
Corporate Expenditure	*4.5%*	*6.4%*	*5.9%*	*4.4%*	*4.7%*
Water Supply Expenditure	*5.3%*	*4.2%*	*6.1%*	*0.1%*	*0.1%*
Water Resources & Sustainability	*0.0%*	*0.1%*	*0.1%*	*17.3%*	*25.1%*
Identified Savings	*(3.8%)*	*(2.2%)*	*(2.9%)*	*(1.4%)*	*(1.4%)*
Depreciation & Return on Assets	*2.0%*	*4.4%*	*6.0%*	*1.4%*	*2.4%*
First Period Revenue Recovery	*3.6%*				
Recovery of Flood Costs	*1.2%*	*0.0%*	*0.0%*	*0.5%*	*0.0%*
Tariff Adjustments within Cap	*(3.7%)*	*8.6%*	*11.4%*	*(2.6%)*	*(3.6%)*
TOTAL	***9.2%***	***21.6%***	***26.5%***	***19.8%***	***27.3%***

The table below shows the impact of the indicative tariff changes on the total charge for indicative customers across SRW's business. These impacts reflect the indicative smoothed annual tariff increase as shown in appendix iv , which include an estimate of CPI.

For further information on our indicative tariff impacts, refer to Part F – Our Prices, commencing on p. 82

CUSTOMER	SIZE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
MACALISTER IRRIGATION DISTRICT							
Small	5ML	250	265	281	298	316	335
Medium	50ML	2,499	2,650	2,811	2,981	3,162	3,354
Large	250ML	12,495	13,252	14,055	14,907	15,810	16,769
WERRIBEE IRRIGATION DISTRICT							
Small	**5ML**	1,037	1,138	1,250	1,372	1,506	1,654
Medium	**50ML**	10,371	11,385	12,498	13,720	15,062	16,535
Large	**100ML**	20,741	22,769	24,996	27,441	30,125	33,071
BACCHUS MARSH IRRIGATION DISTRICT							
Small	**5ML**	1,035	1,151	1,280	1,423	1,583	1,760
Medium	**25ML**	5,176	5,755	6,400	7,117	7,914	8,800
Large	**100ML**	20,703	23,022	25,600	28,467	31,656	35,201
SURFACE WATER (UNREGULATED)							
Small	**5ML**	269	294	321	350	383	418
Medium	**50ML**	620	677	739	807	882	963
Large	**200ML**	1,790	1,955	2,135	2,331	2,545	2,779
GROUNDWATER							
Small	**5ML**	243	271	302	336	375	418
Medium	**150ML**	613	683	761	849	946	1,055
Large	**300ML**	995	1,109	1,237	1,379	1,537	1,713

PRICE CONTROL AND TARIFF STRUCTURES

For our first regulatory period, we have been regulated by a "revenue cap", requiring an annual tariff submission for approval by the ESC. We propose that as a general principle this remains an appropriate mechanism, however some hybridisation under which recycled water, and our various fee-based applications are subject to tariff caps (either as a basket or individually). This reflects our experience of the first regulatory period, and the fact that these activities have significant marginal cost components, while quantities can be difficult to forecast – particularly under extreme drought conditions.

Our major tariff structures will be substantially overhauled as we work through the details and mechanics of unbundling water entitlements between submission of our Water Plan and the commencement of the regulatory period. We anticipate that our unbundled tariff structures will be established through our first annual tariff approval, and should remain reasonably stable thereafter.

For further information on our proposed price control, refer to p. 85

SERVICE STANDARDS

In the first Water Plan we rolled forward traditional industry wide standards. In this Water Plan we have enhanced the service standards to focus on driving improved performance on those issues that are critical to our customers.

IRRIGATION BUSINESSES

The proposed standards and targets for our irrigation districts are:

MEASURE	TARGET 2008-09	2009-10	2010-11	2011-12	2012-13
MACALISTER IRRIGATION DISTRICT					
Flow Rate Consistency					
- Automated System	75%	76%	77%	78%	79%
- Manual System	TBD	TBD	TBD	TBD	TBD
Average Order Lead Time	TBD	TBD	TBD	TBD	TBD
Delivery Reliability	99%	99%	99%	99%	99%
Delivery Efficiency	66%	67%	68%	70%	74%
Customer Satisfaction Index	76%	NA	78%	NA	80%
WERRIBEE IRRIGATION DISTRICT					
Volume Consistency	90%	91%	92%	93%	95%
Average Order Lead Time	TBD	TBD	TBD	TBD	TBD
Delivery Reliability	99%	99%	99%	99%	99%
Delivery Efficiency	72%	72%	72%	72%	72%
Customer Satisfaction Index	76%	NA	78%	NA	80%
BACCHUS MARSH IRRIGATION DISTRICT					
Volume Consistency	90%	91%	92%	93%	95%
Average Order Lead Time	TBD	TBD	TBD	TBD	TBD
Delivery Reliability	99%	99%	99%	99%	99%
Delivery Efficiency	74%	74%	74%	74%	74%
Customer Satisfaction Index	79%		80%		80%

TBD: to be developed prior to the commencement of the Water Plan.

HEADWORKS

Our Headworks Business has both service and compliance responsibilities. Our proposed Performance Standards are separated to reflect those differing demands.

MEASURE	TARGET 2008-09	2009-10	2010-11	2011-12	2012-13
SERVICE STANDARDS					
Delivery Of Ordered Releases On Time	95%	95%	95%	95%	95%
Release Reliability	99%	99%	99%	99%	99%
COMPLIANCE STANDARDS					
ANCOLD Dam Monitoring Compliance	100%	100%	100%	100%	100%
Portfolio Risk	TBD	TBD	TBD	TBD	TBD
Bulk Entitlement Breaches	NIL	NIL	NIL	NIL	NIL
Water Quality Compliance	TBD	TBD	TBD	TBD	TBD

TBD: to be developed prior to the commencement of the Water Plan.

LICENSING APPLICATION PROCESSING

We believe that the current service standards and targets for licensing and water transfers are appropriate. These focus on how long it takes SRW to process and resolve applications for a range of licences and procedures.

LICENSING: SERVICE STANDARDS AND TARGETS

STANDARD	TIMEFRAME (DAYS)	TARGET (%)
Farm Dam Construction Licences	60	100
Bore Construction Licences	14	100
Surface And Groundwater Licences	60	100
Surface And Groundwater Licence Transfers	14	100
Water Right Transfers	14	100
Information Statements Processed	7	100

For further information on our Service Standards, refer to p. 38

CONSULTING ON THE WATER PLAN

This Water Plan is part of our on-going process of engagement and consultation with customers, community and stakeholders and provides a vehicle to develop a shared consensus and commitment to the priorities of the business for the next five years.

Customers and stakeholders across the region have been involved in the development of this draft Water Plan. We have planned a structured process of engagement to promote feedback and comment on this draft Water Plan from 16 June through until its final submission in September. This program will involve:

- meetings of our customer consultative committees
- media releases
- direct discussions with key stakeholders across the region
- copies available to download from our website and ability to provide on-line comment.

CUSTOMER CONSULTATION

a) Irrigation Services: We have a range of routes and approaches:

- The Macalister Customer Consultative Committee and its newsletter called Channels;
- The Werribee and Bacchus Marsh Customer Consultative Committee and its newsletter called Pipelines;
- Additional working groups and committees as needed to deal with specific issues as they arise;
- Regular facts sheets on water supply allocation and outlook, along with issues of local importance.

b) Headworks Customers

- Bulk Entitlement meetings, where Bulk Entitlement Holders and resource managers meet to discuss storage operator charges, forward capital estimates, environmental matters and operational issues.
- Our regular "Headlines newsletter", targets articles of interest to our Headworks customers and stakeholders, and information notes on matters of interest.

c) Licensing

- Our Licensing Business Forum meets on a regular basis to contribute to longer-term plans and review performance monitoring.
- Advisory committees in our more intensively developed groundwater management areas, such as Nullawarre and Yangery;
- Feedback is sought following all customer contacts;
- The newsletter 'Diversions' keeps water users informed of the activities of the licensing business and promotes debate and engagement. We also circulate 'Drill torque' as a further newsletter to all Licensed Drillers.

STAKEHOLDER ENGAGEMENT

Our region includes six regional urban water authorities, three retail urban companies, five catchment management authorities, more than twenty five rural municipalities and many more councils in urban Melbourne. We also are close partners with State government agencies especially DSE in our delegated licensing functions, as well as EPA, DHS, DPI and ESC.

We have developed a range of different approaches to suit the different situations of each stakeholder.

- Regular senior management meetings with relevant local councils, Melbourne Water and Catchment Management Authorities.
- Our Community Our Choice is a broad program to build water literacy in our communities, in order that they can engage in debates on both general and specific water issues as an informed and equal partner.
- SRW seeks to recognise and advance our understanding of indigenous social, spiritual and customary rights –in a program called 'Caring for Country'

For further information on our Consultation, refer to p. 25

CONTENTS

PART A
INTRODUCTION

OUR MISSION

~ OUR AIM ~

We aim to be a successful and enduring Business, which means being regarded:

- by our customers - as a respected and valued service provider;
- by our shareholder - as fulfilling its expectations and adding value to its priorities; and
- by our peers, other stakeholders and the community - as a professional, competent, respected and progressive Business.

~ OUR DRIVERS ~

To realise this, we have five key business drivers, to:

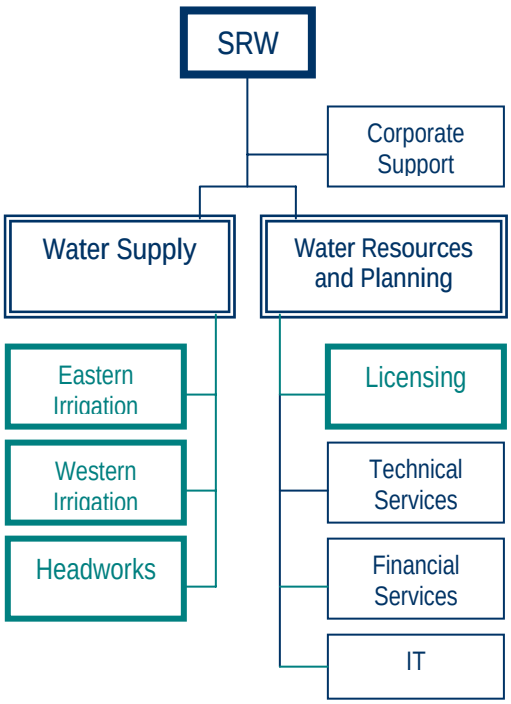
- continuously improve customer service;
- charge sustainable prices;
- safeguard our business;
- build our capability; and
- work in partnership to improve water resource management and regional development.

~ OUR VALUES ~

In our work we value:

- partnership with our customers, to empower them to influence our business direction and assist us in meeting their needs;
- engagement with the community, as we collaborate with our shareholder, stakeholders and the community in sustainable water resource management in southern Victoria;
- corporate social responsibility, based on ethical behaviour, a professional staff, and care for the environments and communities in which we work;
- continuous improvement, as we strive to better meet the needs of our customers, our aspirations as an organisation, and the expectations of our shareholder, stakeholders and community; and
- informed action, which balances the need for soundly based economic decisions with the need for responsible and precautionary responses to sustainable water resource management.

OUR BUSINESS



Southern Rural Water is a Victorian Government authority with four principal Businesses:

- Eastern Irrigation - the Macalister Irrigation District;
- Western Irrigation - the Bacchus Marsh and Werribee Irrigation Districts;
- Licensing - of surface and groundwater diversions, and the construction of bores and on-stream dams, across rural southern Victoria; and
- Headworks - seven major dams in the Werribee, Maribyrnong, Latrobe and Macalister basins.

These are important responsibilities, demanding sustainable management of water resources and nurturing of the businesses, communities and environments that support and depend on them.

EASTERN IRRIGATION BUSINESS

Our Eastern Irrigation Business operates the Macalister gravity irrigation system situated around Maffra in central Gippsland. The Business also schedules water deliveries for the regulated river diverters on the Macalister and Thomson Rivers and Rainbow Creek.

... operates the Macalister Irrigation District ...

Our Eastern Irrigation Business provides water for pasture and crop irrigation and for stock and domestic purposes to almost 1,000 customers. It delivers an average of some 150,000 ML for irrigation and stock & domestic purposes through the distribution system each year, and a further 30,000 ML of licensed volume is used by river diverters.

... supplying almost 1000 customers ... ... with around 150GL of water annually

WESTERN IRRIGATION BUSINESS

The Western Irrigation Business operates the Bacchus Marsh and Werribee Irrigation Districts. Functionally, the Business also schedules deliveries to the river diverters on the Werribee River.

... operates the Bacchus Marsh and Werribee Irrigation Districts ...

The Business delivers some 4,000 ML per annum into the Bacchus Marsh district and 10,300 ML into Werribee, for irrigation, stock and domestic purposes. The river diverters hold a further 1,100 ML of licensed volume.

... delivering 4GL to Bacchus Marsh and 10.3GL to Werribee annually.

LICENSING BUSINESS

Our Licensing Business manages and controls the taking and use of water for irrigation and other purposes from rivers and groundwater aquifers in southern Victoria. It is also responsible for licensing the construction of bores, farm dams and certain works on waterways.

The Business administers around 7,800 licences. Of these, 4,000 are to take and use up to 112,000 ML of water from unregulated rivers, 400 licences to use up to 33,000 ML from regulated rivers, and 3,400 licences to use nearly 330,000 ML from groundwater bores. Each year around 1,300 bore construction licences are issued, mostly for stock and domestic use.

HEADWORKS BUSINESS

The Headworks Business harvests and stores water in accordance with the provisions of Bulk Entitlement Orders, for our own irrigation customers, urban water authorities and Latrobe Valley power generators, in four major systems and utilising seven large dams at Pykes Creek, Merrimu, Rosslynne, Melton, Blue Rock, Yallourn and Glenmaggie.

The Bulk Entitlement holders utilise around 300,000 ML of water during an average year.

... harvests water on behalf of Bulk Entitlement holder in seven large dams ...

... providing around 300GL annually.

OTHER RESPONSIBILITIES

We also undertake a range of other responsibilities, the largest of which is the management of recreational facilities on our major water storages at Glenmaggie, Cowwarr, Blue Rock, Melton, Merrimu and Pykes Creek.

We are also the appointed Resource Manager for a range of surface water catchments, mostly in Gippsland, and provide administrative support to the Victorian Drillers' Licensing Board.

OUR PLANNING CONTEXT

OVERVIEW

We face uncertainty on a number of fronts as we enter our second regulatory period. Water policy and strategy is in a state of flux with decisions pending about future sources of supply for Metropolitan Melbourne. For many of our major projects there are unresolved issues around priorities, preferred construction schedules and final funding arrangements. And perhaps most significantly, we face considerable uncertainty about the impacts of drought and climate change – including uncertainty about available catchment yields and about demand for our services.

We face a range of uncertainties ...

In this Water Plan, we have assumed that it was preferable to expose and explore those uncertainties rather than defer a decision until all details were clear, and to provide an indication of our best professional judgment about the probable project outcomes, timelines and costs. This provides all parties with the chance to assess our proposals and contribute to the debate.

... which we expose and explore in this Water Plan.

We confidently expect that many of the factors will change over time. Our first option and choice is then to manage and amend our program within an overall revenue requirement. We may also choose to roll-forward some adjustments to our subsequent regulatory period, and will seek explicit pass-through for imposed and uncontrollable costs. We will retain the right, however, to seek to have the price determination re-opened if circumstances arise that challenge the validity of our plan and the adequacy of our assumed revenues. Furthermore, we have identified in this Plan specific instances in which we anticipate the possible need to seek a variation over the second price period.

We aim to manage these uncertainties within our revenue cap, but reserve the right to seek variation where necessary and appropriate.

Our proposals for managing within uncertainty can be found at page 80.

DROUGHT

Preparation of this Water Plan has coincided with the deepening of a decade-long drought into a year providing the lowest inflows in many systems in nearly two centuries of white settlement.

In 2006/7, many irrigators in southern Victoria have had little or no water – with seasonal allocations of 10% in WID and BMID, prolonged rosters or bans in most unregulated catchments, curtailed winter harvesting for many farm dams, and an allocation of only 60% in our most-responsive system, the Thomson Macalister.

In systems with bulk entitlements, water availability in 2006/7 has proved to be even lower than the worst case from the bulk entitlement modelling carried out in the 1990s, and based on the preceding decades.

The drought will influence the next regulatory period in three ways:

- leaving a financial legacy for customers;
- changing perceptions about what is normal for our systems, and whether we are witnessing a step-change; and
- prompting changes in water policy, for example hastening the introduction of allocation caps across southern Victoria.

On the financial front, the implications for customers are also likely to be profound, with many facing a multi-year recovery period and others destined to leave the industry (and trigger further restructuring). For SRW, the implications are twofold. Firstly, financial stringency may dampen the willingness or capacity of customers to pay for critical improvements in efficiency, environmental performance and service. Secondly, in areas such as Eastern Irrigation the loss of sales revenue in 2006/7 has interrupted the repayment of losses accumulated earlier in the drought. In Eastern Irrigation, existing price paths reflect a progressive reduction in our sales budgets, and have been structured to repay existing debt by 2013.

In considering water resource based parameters for the next Water Plan, further reductions may be necessary. For example, sales budgets may be further reduced – although for our regulated systems this will be part of the tariff reform process accompanying the unbundling of water entitlements.

In unregulated and groundwater systems it is possible that some licence holders will reconsider the value of their licences under a drier and more variable outlook. This may lead to their disposing of licences considered to be too unreliable for their purposes – by transfer in the first instance, or possibly by surrender. At this time, however, we have seen little evidence of this – even though in some systems irrigation pumping has been heavily constrained for several years.

Groundwater levels are generally declining across southern Victoria. Typically across southern Victoria, groundwater levels peaked around 1995 and have been at best stable and generally declining over the last ten years. Areas of high concentration of groundwater use, such as Water Supply Protection Areas, often show the most pronounced declines.

CLIMATE CHANGE

CSIRO projects that by 2070 Victorian average temperatures will rise by between 0.7 and 5.0°C above 1990s levels. This may mean:

- the frequency of days over 35°C will increase – in some areas by as much as three times. For example, by 2070 the number of hot days in Melbourne is expected to increase from eight per year to as many as 20;
- less rainfall for Victoria, combined with higher temperatures, will mean drier conditions;
- extreme daily rainfall events are likely to become more intense and more frequent in many regions;
- bushfire risk is likely to increase by up to 60% in some regions by 2050;
- sea levels will rise by between 7 and 49 cm by 2070, contributing to erosion along our coastline; and
- Victoria's alpine areas may have 18-60% less natural snow by 2020.

Even a moderate change of 2° will have huge impacts on rainfall patterns, the seasons and on the fragile ecosystems that support our daily life.

A 2°C temperature rise is expected to have the following impacts:

- streamflows in the Murray-Darling Basin will decrease by 12-25%;
- Melbourne's water supply will decrease by 7-35%;
- increased risk of flooding and coastal erosion; and
- a global increase to the cost of insurance premiums due to an increase in extreme weather events and associated damages.

SRW's SoO requires us to develop and implement programs for assessing, monitoring and continuously improving our sustainability performance, including responding to climate change.

Given that the water entitlements we supply or regulate are held by customers or licence holders, we consider our responsibility the interpretation and communication of climate change for these stakeholders. In a practical sense, this means engaging expert advice and preparing communication materials.

WATER REFORM

The White Paper and the Central Region SWS announced a range of initiatives that, in the life of this Plan, will be significant for our operations.

We will continue our positive involvement and leadership in these programs, which include:

- development of the statewide water register, and conversion of existing data;
- unbundling of water entitlements, particularly the issue of a separate water-use licence to existing irrigators;
- further development of groundwater management, and of local Water Management Plans – in some cases as a conjunctive resource; and
- assisting urban water authorities in the exploration of augmentation options, particularly those requiring new or increased groundwater licences.

Chapter 4 of the White Paper introduced substantial reforms for the Victorian irrigation sector, generally collected under the term 'unbundling of water entitlements'.

Key components of this are:

- the establishment of a Victorian Water Register;
- separation of existing water rights and licences into water shares, water allocations, delivery shares and water use licences.

These are to be introduced in the Northern Victorian Irrigation Districts in 2007.

Unbundling is scheduled for the Southern Victorian Irrigation Districts (BMID, MID and WID) on 1 July 2008 – with unregulated licences and groundwater licences to follow at a later date (subject to further analysis).

OTHER KEY INFLUENCES

In looking to the next regulatory period, we anticipate a range of key influences, including:

- stakeholders, such as the ESC and NWC, demanding greater rigour and analysis of us;
- a more demanding and rapidly moving water resources environment, as new solutions are sought for drought and climate change;
- escalating expectations of our information systems, and particularly their capacity for rapid analysis of data, creating connections and linkages, and facilitating new solutions (e.g. the water register);
- expectations that we will work with our communities to improve water literacy and build support for the water reform agenda;
- continuing competition for skilled staff, and challenges in attracting them to regional locations;
- expectations that we will show leadership in sustainability, not just in what we manage the water resources under our influence, but in all aspects of our organisational operations; and
- technology that allows increasing ability for staff to work effectively anywhere across our region.

PART B

OUR FIRST REGULATORY PERIOD

OVERVIEW

This plan has been developed during the first year, and heading into the second year, of our first regulatory period. For us and our customers this has been a demanding time, marked by the influence of continued drought, bushfires, and more recently significant floods across the Gippsland region.

Our first Water Plan set out the program of action we proposed to complete in the two year period 2006-07 to 2007-08. It identified the major areas of capital expenditure required and specified the customer service standards we committed to achieving.

We have made good progress on all aspects of this action plan, although the drought has forced re-prioritisation of some elements.

We have made good progress in a number of critical areas, and in particular

- the implementation of a major program of channel automation within the Macalister Irrigation District;
- the development of MID2030 which represents a comprehensive planning framework to drive future decision making both for water supply and on-farm actions; and
- building stronger contacts with our customers and wider stakeholders.

Our capital expenditure program has been extended to cover a wider program of channel automation, while work at Pykes Creek has been deferred due to the need to obtain formal approval from the Department of Treasury and Finance.

Our revenue has been severely impacted by the drought, with a shortfall of $1.2M in comparison with forecasts due to the reduction in Sales in the MID. This Water Plan proposes rolling-forward the un-recovered MID sales revenue for recovery during our second regulatory period.

For 2007/08, we expect to generate revenue of around $20M from our prescribed services.

KEY INFLUENCES

DROUGHT

Our first regulatory period has seen us manage through the deepening of a decade-long drought into a year providing the lowest inflows in many systems in nearly two centuries of white settlement.

In 2006/7, many irrigators in southern Victoria have had little or no water – with seasonal allocations of 10% in WID and BMID, prolonged rosters or bans in most unregulated catchments, curtailed winter harvesting for many farm dams, and an allocation of only 60% in our most-responsive system, the Thomson Macalister.

This has placed a number of additional demands on us, and during this period we have worked to:

- provide additional water to irrigators in Bacchus March via Western Water's urban supply system from SRW's entitlement in Merrimu Reservoir, and a further supply from the unallocated water held by the government in that reservoir;
- process an unprecedented volume of applications for Bore Construction Licences as the community have sought to secure alternative water supplies; and
- administer the State government's Drought Assistance Package, providing customers with rebates of up to $5,000 and interest-free deferral of payments for up to 4 years.

BUSHFIRES

In early December 2006 bushfires took hold in Gippsland, and on December 14, eighteen homes were destroyed in the Heyfield–Walhalla area and the fire passed through SRW's Cowwarr Weir reserve and work area. By 18 January, the fires had been burning across Victoria for 48 days and over 10,000 km² had been burnt.

These fires triggered our Corporate Incident process as they threatened the security of our staff and our infrastructure. An incident action plan was implemented with the objective of managing our way through the fires to:

- minimise risk to staff safety;
- minimise risk to SRW assets;
- maintain service delivery to customers where possible;
- support CFA / DSE fire management efforts; and
- effectively recover from any fire impacts.

FLOODS

Our Corporate Incident process was again enacted on June 28 2007, when torrential rain in the Macalister catchment reached Lake Glenmaggie at a calculated peak inflow of more than 300,000ML per day. Despite the low water depth in Glenmaggie which moderated the impact, these flows caused significant downstream flooding - damaging infrastructure and isolating staff.

The damage bill for SRW as a result of the floods is estimated at around $1M, while we must also be conscious of the potential for those impacted to mount legal claims to recover their own losses.

KEY OUTCOMES

ACHIEVEMENTS

WERRIBEE RECYCLED WATER SCHEME

In a season where the Werribee Irrigation District commenced at a 5% river water allocation, and finished at 10%, a restriction to 25% of groundwater, the Werribee Irrigation District was highly reliant on recycled water for the 2006/07 season. This recycled water scheme, which began in January 2005, is one of Victoria's largest commercial water recycling schemes.

Since the scheme was first introduced, we have delivered increasing volumes of recycled water to customers. In 2005 we delivered 100ML, in 2006 we delivered 800ML and during the 2006/2007 season we delivered 7,431ML to customers in the irrigation district.

Sign on for the recycled water scheme continued through out the year with 173 customers singed on at the end of the period, with approximately 85% of the market garden area covered by recycled water agreements.

This Werribee Irrigation District recycled water scheme demonstrates states commitment to long-term water use planning as detailed in Our Water Our Future, subsequent legislation and the Central Region Sustainable Water Strategy. It realises a commitment to the innovative use of recycled water in supplementing the river water and groundwater availability, which was critical in this period of drought. This project is part of the state government's plans to deliver its 20% water recycling target by 2010. It is an important recycled water project for Victoria.

The delivery of recycled water has enabled the irrigation district to remain viable this season. Without recycled water, the level of production in the irrigation district would have been negligible, impacting both on the viability of the irrigation district and vegetable prices across the state.

BACCHUS MARSH ALTERNATIVE WATER SUPPLIES

Starting the 2006/07 season at a 0% river water allocation, and with minimal access to additional water, we worked hard to identify and deliver alternative water supplies for the Bacchus Marsh Irrigation District. Specific measures that we undertook to support BMID during the 2006/07 season included:

- The connection of Merrimu reservoir to the BMID to allow customers to access an equivalent of 5% allocation in August 2006. This involved construction of an inter-connection at a cost of around $40,000, and a price of $410 per ML was endorsed by the ESC for this supply.
- Working with customers and government to open up and allocate a further 300ML of groundwater through the establishment of the Parwan aquifer. The availability of this additional water in both the Parwan and Merrimu aquifers was subsequently advertised and the majority of the water has now been allocated as new licenses to irrigators.
- Pumping of dead storage in Pykes Creek reservoir which lifted the allocation to 10% for both Werribee and Bacchus Marsh Irrigation districts.

In late 2006, working with assistance of the Moorabool Irrigators Advisory group, we approached government to seek access to the unallocated share of water in Merrimu reservoir currently owned by government on the basis of the exceptional circumstances being experienced in the Werribee basin. We were granted access to 1200 ML of emergency water, part of an unallocated volume in Lake Merrimu, and subsequently allocated this volume, in accordance with a process developed by an independent consultant, to critical businesses within the district.

This supply used the same interconnection and again utilised Western Water's pumping and treatment infrastructure. Pricing was endorsed by the ESC with Bacchus Marsh Irrigation District Irrigators paying $688 per ML.

A total of 270 ML was delivered to the end of June 2007.

MACALISTER IRRIGATION DISTRICT DROUGHT RESPONSE

With our most reliable system, the Macalister Thomson commencing at a 30% allocation and poor inflows for the first half of the 2006/07 season, significant work was undertaken to mitigate the impact of the drought and maximise the water available to the district.

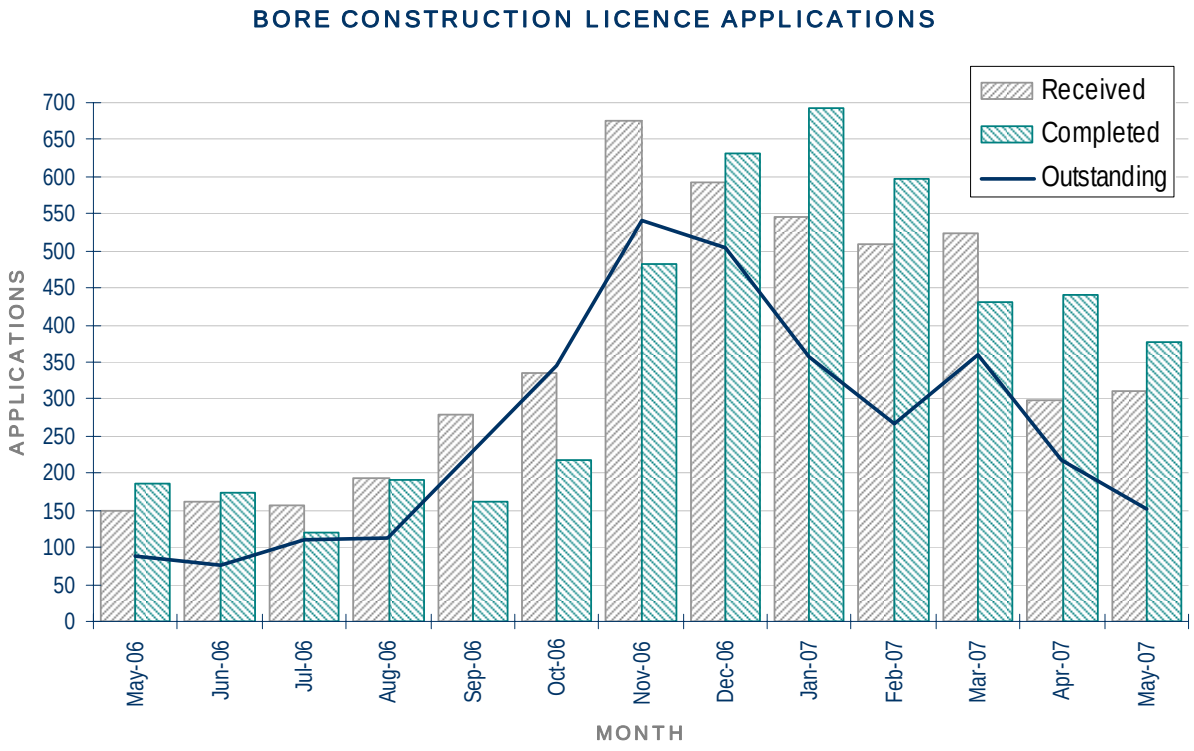
Key actions included:

- Allocating the Thomson Reservoir drought reserve early in the season, which provided a 10% increase in seasonal allocation from October 2006
- The implementation of rosters on a number of our non automated channels and spurs
- Maximising harvesting on the Thomson River, within the parameters of our Bulk entitlement
- Progressively increasing allocations following harvesting of flows on the Thomson River and Lake Glenmaggie finishing with a 50% allocation to the district
- Working closely with Wellington Shire as part of the drought relief committee

As a result of the increased turbidity in the water harvested and released from Lake Glenmaggie from February 2007, we worked closely with Gippsland Water to assist them in managing the supply to Maffra and Stratford from the Macalister River. This included the diversion of some flows away from the Macalister River one water quality deteriorated and reducing flows down the river to a minimum within the bulk Entitlement passing flow requirements.

BORE CONSTRUCTION LICENCES

The drought also caused a significant spike in demand for applications, particularly for bore construction licences – up from an average monthly figure of 150 to 675 just in November alone. This is indicated in the following graph. During 2006/07, we processed 4,493 BCL applications – up from an around 2,000 for each of the prior two years, and an average of around 1,000 per year from 1999-2004.



SERVICE STANDARDS

SRW is committed to developing and implementing robust performance monitoring to drive improved customer service and business efficiency. The first Water Plan included a set of Customer Service Targets. These standards focus on how well we manage our supply networks, respond to customer orders, and deal with applications for licences.

IRRIGATION: WATER DELIVERY TARGETS

In 2006-07, the severe drought has meant a readjustment of our priorities – with water availability and efficiency taking on far greater importance relative to immediate customer service. In our irrigation districts, channel rostering and similar strategies have been employed to maximise water availability – but this has meant that we fell slightly below our performance targets for water delivery. Our Customer Consultative Committees have supported us maximising water availability.

WATER ORDERS DELIVERED WITHIN ONE DAY OF REQUESTED
(WITH THREE DAYS NOTICE)

IRRIGATION DISTRICT	TARGET	2006/07
Macalister	95%	94.0%
Werribee	95%	89.5%
Bacchus Marsh	95%	90.3%

- Macalister: Channel rosters were developed and orders shifted to maximise system efficiency to ensure the maximum volume of water was delivered. These rosters consisted of the system operating for 7 days and shut down for 5 days, which resulted in some delays in water deliveries to our customers.
- Werribee: The target has not been achieved due to the district being divided into two sections to reduce losses. Customers have been rescheduled to fit in with supply to the respective area.
- Bacchus Marsh: The target has not been achieved due to restricted supply, customers being rescheduled generally by more than 1 day.

If the drought continues, it is likely that the strategies reported above will continue, whereas a return to more normal conditions should see full compliance with the targets.

LICENSING: PROCESSING OF APPLICATIONS

The main focus of the targets for the Processing of Applications is on the length of time it takes to determine an application. We welcome the focus this places on our business and the incentives it creates to promote efficiency and customer service.

For practical reasons, SRW's performance monitoring in the first year of the Water Plan instead recorded the entire period from the receipt of the initial application through until the final determination. That period therefore included a number of stages which are outside the control of SRW, such as:

- request to the applicant for clarification and submission of additional material; or
- referral to the local council or other agencies as a referral authority.

In most cases, the applicants themselves delayed the process beyond the specified targets by taking a lengthy time to respond to requests for further information. The

results, therefore, do not represent an appropriate measure of SRW's customer service or efficiency.

As from 1 July 2007, we are therefore recording and reporting only the time taken to determine an application from receipt of a fully completed application form. This will remove the major area of the process that is truly outside our control, while we will retain responsibility for managing the interface with referral authorities and for managing any consultation required.

However, we are still determined to manage the front-end of this application process to streamline the exercise and deliver better services to customers overall. We are therefore developing improved guidance and demonstration pro-formas to help guide applicants and so reduce the need for repeated requests for further information. We will also record and review the total timeframe of all applications to keep track of progress.

For some weeks, the drought-driven demand for applications has pushed our response times beyond our target, but additional staffing and a concerted effort by staff meant this was overcome early in 2007.

HEADWORKS

Releases continue to be made according to the directions of bulk entitlement holders. For many, particularly those in the Latrobe system, the drought has heightened engagement with SRW – as we have worked to ensure that they fully understand the characteristics of their entitlements.

RURAL WATER CUSTOMER SERVICE CODE

We have been an active partner with the ESC in the development of the Rural Water Customer Service Code. This code sets out standards, procedures and practices relevant to our customers. The process has also involved us in developing a customer charter that confirms how we will implement those standards in practice, and sets out our approved service standards. We intend to submit this to the ESC for comment in August 2007. This will then apply from 1 September.

CORPORATE VALUES MEASURES

Our corporate values express how we expect to work and behave as an organisation, and as its individual representatives.

Our 2006-08 Water Plan presents our Corporate Values Measures (see pp 11-13 and Appendix B), which have been chosen to explain in more detail our expectations, so that we and others can track our performance.

On almost all measures the designated expectation is being met across the organisation. However work continues in two areas – the redevelopment of customer charters which will now be rolled forward following recent release by the ESC of the Rural Customer Code, and full implementation of our Environmental Management System, which is expected to be achieved in 2007/8.

STRATEGIC PERFORMANCE OUTCOMES

Our 2006-08 Water Plan presented our key programs and projects clustered into three broad groupings to represent the Economic, Environmental and Social Outcomes sought. Appendix ii provides a full review and report on progress.

Particular success stories include:

ECONOMIC

- rolling out the MID channel automation project with additional NWI funding;
- developing the MID2030 Plan that sets the framework for the future of the irrigation district; and
- gaining recognition for the excellence of our dam safety program and report.

ENVIRONMENTAL

- supporting implementation of the recycled water scheme in the WID;
- participating in the unbundling initiative for water entitlements; and
- establishing an outstanding monitoring program for nutrients in the MID.

SOCIAL

- building stronger links with customers and stakeholders through consultation and engagement; and
- implementing an effective feedback cycle into all licensing activities.

CAPITAL PROJECTS & EXPENDITURE

KEY CAPITAL PROJECTS

This section reports on four major projects that formed a significant part of the Water Plan forward program.

CHANNEL AUTOMATION

The most significant development over the first year of the first Water Plan has been the continued successful roll-out of the channel automation project in the MID to improve service and generate significant water savings. The Box on the next page provides a summary of progress to-date and the projected next stages:

- Stages 1&2: $7m for automation of the Main Northern Channel;
- Stage 3&4: $4.7M funded through the NWI, completed in August 2006;
- Stage 5: $8.25M for Nambrok-Denison and Cowwarr Channel, underway;
- Stage 6: to complete program with automation of the Southern Main Channel from Glenmaggie. To be delivered within this Water Plan.

PYKES CREEK RESERVOIR UPGRADE

Significant expenditure was originally planned for the upgrade of Pykes Creek Reservoir during 2005-06. However, this project was deferred until the second year of this price period as the scope of the project was expanded to cover works to improve the spillway capacity. The project has also been delayed while a Business Case was prepared for approval by the Department of Treasury & Finance.

This $5M contract has now been let and the project is expected to be completed during the next financial year.

YALLOURN STORAGES UPGRADE

The Yallourn Storages are an essential component of the water supply infrastructure that services power generators in the Latrobe Valley. Significant work was undertaken to reduce potential risks from earthquakes for dam safety. Works undertaken included:

- completion of the Yallourn Weir Upgrade project with the addition of anchors to improve stability and the replacement of a 30m long drum gate weir with a fixed concrete crest;
- repair and upgrade of access roads to Lake Narracan Dam and Yallourn Weir; and
- improvement of stability on the left abutment at Lake Narracan Dam.

GLENMAGGIE UPGRADE

The other area of major expense has been in maintaining and upgrading controls at Glenmaggie dam. Major projects completed here include:

- Glenmaggie spillway gate painting – 3 gates (overall value about $240K)
- Glenmaggie internal coating of the 2 southern outlet conduits (overall value about $140K which was well below the original budget)
- Glenmaggie new crane installation (overall value about $130K)

CHANNEL AUTOMATION PROJECTS

The Macalister Irrigation District Channel Automation Program commenced in 2004 with funds from the Victorian Water Trust. This project aims to improve customer supply and delivery efficiency and to transfer water savings back to the Macalister River as environmental flows. The project paved the way for the Commonwealth Government to invest $20 million through the National Water Initiative, trebling the water savings from 5,000 ML to 15,000 ML.

Stages 1 and 2 were completed in 2006 and included the automation of one of the MID's main delivery channels the Main Northern Channel from Glenmaggie Dam to Boisdale. The project involved the installation of 139 regulator gates and 95 customer outlets, firstly as a small scale pilot, expanding into a wider scale roll-out at key sites across our distribution network. The program enabled the measurement of delivery system losses and identified potential savings for future channel automation projects. The total project budget for Stages 1 and 2 was approximately $7 million.

Stages 3 and 4 are the first stages of the National Water Commission funded project and were completed in August 2006 and involved the installation of 135 regulators. These stages established a comprehensive water measurement network through the installation of FlumeGates® at channel outfall sites, plus targeted automation on a number of channel sub-system offtakes and along the Main Eastern and Main Sale arterial to operate this main arterial under Total Channel Control®. The total project cost of Stages 3 and 4 was approximately $4.7 million.

SRW has now commenced Stage 5, entailing a further 140 regulators and 10 customer outlets in the Nambrok-Denison sub-system, real time measurement of the Cowwarr Channel, and preparatory work towards automation of our second main carrier from Glenmaggie Dam – the Main Southern Channel. The total project cost of Stage 5 is estimated at $8.25 million.

This channel automation technology is state-of-the-art. It continuously monitors and controls water from Lake Glenmaggie through to the irrigators' outlets and enables us to be more efficient with water deliveries to our customers. It will enhance security of supply to our irrigation customers. By adopting this technology, we also expect to save an estimated 15 000 ML each season once Stages 5 and 6 are implemented.

As this project is being funded by the State Government through the Victorian Water Trust and the Federal Government through the National Water Initiative, the water savings will be used to improve river health and environmental flows in the Macalister River. This project demonstrates a smarter use of irrigation water – a key initiative of the White Paper, *Our Water Our Future*. It also reflects our commitment to implementing programs to improve the efficiency of our distribution systems, provide a more sustainable irrigation outlook, and increase water use accountability.

Before

After

CAPITAL EXPENDITURE

The following table reports on capital expenditure for our first regulatory period in comparison with the projected budget.

	WATER PLAN 1			FORECAST		
	2006/07	2007/08	TOTAL	2006/07	2007/08	TOTAL
RENEWAL ANNUITY PROGRAMS						
Macalister Irrigation District	1,059	901	**1,960**	1,954	2,095	**4,049**
Werribee Irrigation District	291	260	**551**	285	175	**460**
Bacchus Marsh Irrigation District	70	62	**132**	120	57	**177**
	1,420	**1,223**	**2,643**	**2,359**	**2,327**	**4,686**
MAJOR PROJECTS						
MID Channel Automation	5,406	17,620	**23,026**	10,433	4,498	**14,931**
Metering Program	2,671	2,604	**5,275**	443	400	**843**
Pykes Creek Upgrade	5,664	0	**5,664**	145	3,730	**3,875**
Blue Rock Embankment	0	0	**0**	0	300	**300**
Melton Structural Improvement	0	1,762	**1,762**	0	900	**900**
	13,741	**21,986**	**35,727**	**11,021**	**9,828**	**20,849**
OTHER CAPITAL EXPENDITURE						
Macalister Irrigation District	78	47	**125**	894	341	**1,235**
Werribee Irrigation District	45	40	**85**	169	162	**331**
Bacchus Marsh Irrigation District	18	18	**36**	146	111	**257**
Licensing	420	476	**896**	850	626	**1,476**
Werribee System Headworks	93	136	**229**	807	1,280	**2,087**
Upper Latrobe Headworks	22	61	**83**	81	368	**449**
Macalister/Thomson Headworks	665	277	**942**	873	903	**1,776**
Maribyrnong System Headworks	8	181	**189**	129	200	**329**
Recreation Facilities	72	66	**138**	217	74	**291**
Corporate & General	347	109	**456**	937	781	**1,718**
	1,768	**1,411**	**3,179**	**5,103**	**4,846**	**9,949**
TOTAL CAPITAL (EX RENEWALS)	**15,509**	**23,397**	**38,906**	**16,124**	**14,674**	**30,798**
Less CONTRIBUTIONS	(8,077)	(20,224)	**(28,301)**	(10,876)	(4,898)	**(15,774)**
NET CAPITAL EXPENDITURE	**7,432**	**3,173**	**10,605**	**5,248**	**9,776**	**15,024**

A more extensive channel automation program has been rolled out than originally assumed in the Water Plan. The major channels and structures project involving meter replacements on the Boisdale pipeline is currently underway with completion due in 2007-08. Multiple smaller projects less than $250k in value have been progressed with some re-prioritisation to respond to current drought conditions.

CHANGES IN LEGISLATIVE OBLIGATIONS

Two changes have taken place in the obligations we face, since the beginning of the first regulatory period:

- the introduction of the *Water (Governance) Act 2006*, and
- changes to our *Statement of Obligations*.

These changes will not have a material impact on the program of work or expenditure proposed in the first Water Plan. Their major implications will be apparent in our second Water Plan.

WATER (GOVERNANCE) ACT 2006

The Water (Governance) Act 2006 takes effect on 1 July 2007. Three main duties will be particularly relevant to SRW:

- the creation of a newly defined statutory function of a storage manager. This helps identify the specific duties involved and the performance measures for carrying out those duties, effectively codifying existing arrangements;
- introduction of a requirement to meet general sustainability principles in carrying out our duties. This makes explicit SRW's current approach and responsibilities; and
- introduction of the requirement for efficiency, consistent with commercial practice. This is a welcome development that validates the Board's existing Mission Statement.

STATEMENT OF OBLIGATIONS

The *Statement of Obligations* sets out the full range of duties that the Board is obliged to follow and deliver. It is issued by the Minister for Water, under Section 41 of the *Water Industry Act 1994.* The original version took effect on 28 July 2004.

The Minister initiated a formal process for amendment of *the Statement of Obligations* during 2006. The revised Statement of Obligations took effect on 1 July 2007, with changes:

- to ensure consistent metering targets in the White Paper and the Memorandum of Understanding between DSE and SRW;
- to confirm the importance of research and development in innovation and capability building;
- to establish sustainability management duties, implementing the policies in *Our Environment Our Future* regarding conservation of water resources and responding to climate change; and
- to extend current river health duties to take account of the connectivity between surface water, wetlands and groundwater. They also require SRW to manage the environmental impact of its activities where waterways comprise part of its distribution system.

RECOVERY OF REVENUE

Our first revenue determination provided a revenue cap of $21,123k for 2006/07, and of $20,231k for 2007/08 (expressed in 2005/06 dollars).

Our first year of regulation has exposed issues relevant to the form of price control currently in place. The 'Revenue Cap' is broadly appropriate for our major headworks and irrigation supply businesses where costs are largely fixed irrespective of the volume delivered. However, this form of control has not proved suitable for two businesses functions:

- Licence Applications - where our costs are driven by the number of applications. In the first year of the plan we saw a significant increase in the number of applications and would have been unable to raise fees sufficient to recover our costs if full revenues had been recovered elsewhere across our business; and
- Recycled Water - where the wholesale unit price represents the major component of our costs.

In both circumstances it is proposed that a price cap would be a more suitable form of price control for the second price period.

In addition, we charge the Latrobe Valley power generators directly for capital works undertaken on the Yallourn Storages, in accordance with the relevant Bulk Entitlement Orders. Recovery of these costs represented a greater portion of our charging than the recurrent operations and maintenance, and can be difficult to manage within a revenue cap because:

- works must often be undertaken over the winter period, and will typically span financial years – and now potentially span regulatory periods;
- such works can be difficult to forecast accurately, particularly where interacting with unknown subsurface geological conditions, but nonetheless essential to meet safety standards or the operational requirements of entitlement holders.

Whilst our Yallourn Storages works program for the next regulatory period is less significant than that of our first regulatory period, we nonetheless seek to recognise that these are works undertaken on behalf of entitlement holders, with a pass through of costs in accordance with the Bulk Entitlement Orders, and should not form part of our revenue cap.

The following table compares our forecast revenue for the first regulatory period with a revenue cap adjusted to exclude those activities for which we propose an alternative form of price control.

On our current forecast, we will under-recover by around $2.4M in our first regulatory period against our revenue cap for those activities which we propose as appropriately regulated by a revenue cap. At the same time, we have a maintained our agreed tariffs for those recycled water and licence applications, which we propose as best regulated via tariff control (either individually or within a tariff 'basket').

Forecast Revenue Recovery

	2006/07	2007/08	TOTAL
REVENUE CAP			
Revenue Cap ($2005/06)	21,123	20,231	41,354
LESS:			
Revenue Attributable to Activities Proposed for Alternative Price Control:			
WID Recycled Scheme	*(336)*	*(355)*	*(692)*
Licensing Applications	*(1,970)*	*(2,009)*	*(3,979)*
Yallourn Recoverable Works	*(1,500)*	*0*	*(1,500)*
ADD:			
CPI Adjustment	517	533	1,050
Adjusted Cap ($2006/07)	**17,833**	**18,400**	**36,233**
FORECAST REVENUE			
Total Revenue Budget	22,798	21,421	44,219
LESS:			
Budgeted Revenue from Non-Prescribed Activities:			
Salinity Mitigation Charges	*(76)*	*(76)*	*(152)*
Hydro Royalties	*(51)*	*(52)*	*(103)*
Rental & Lease Payments	*(57)*	*(62)*	*(119)*
Customer Interest	*(25)*	*(62)*	*(87)*
Drillers Licensing Board	*(26)*	*(26)*	*(52)*
Contributions:			
Grants	*(1,047)*	*(342)*	*(1,389)*
Less Meter Recovery Charges	*(1,320)*	*(390)*	*(1,710)*
Budgeted Revenue from Activities Proposed For Alternative Price Control:			
WID Recycled Scheme	*(200)*	*(293)*	*(493)*
Licensing Applications	*(1,584)*	*(1,602)*	*(3,186)*
Yallourn Recoverable Works	*(1,275)*	*(607)*	*(1,882)*
Reduction in Sales due to drought	*(1,255)*	*0*	*(1,255)*
Forecast Total	**15,882**	**17,910**	**33,792**
UNRECOVERED REVENUE CAP	**1,951**	**490**	**2,441**

PART C

OUR SERVICE OUTCOMES

CUSTOMERS & COMMUNITY

Clause 10.1 of *Our Statement of Obligation* requires that:

> *"The Authority must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure, amongst other matters, that the services it provides reflect the needs and expectations of customers."*

We welcome this obligation. Everything we do is driven by our engagement with our customers and by our interaction with a rich network of partners and stakeholders.

CONSULTING ON THE WATER PLAN

This Water Plan is part of our on-going process of engagement and consultation and provides a vehicle to develop a shared consensus and commitment to the priorities of the business for the next five years.

Customers and stakeholders across the region have been involved in the development of this draft Water Plan. We have planned a structured process of engagement to promote feedback and comment on this draft from 16 June through until final submission of the Water Plan in September. This program involves:

- meetings of our customer consultative committees
- media releases
- direct discussions with key stakeholders across the region
- copies available to download from our website and ability to provide on-line comment.

CUSTOMER CONSULTATION

IRRIGATION SERVICES

We have continuous, on-going engagement with our customers in the day-to-day running of our irrigation businesses. It is our primary function in these areas to provide critical services to their enterprises. We need to know what they need in order to run our business.

This relationship is built around the daily contact between individual irrigators and our district staff.

We support this with a formal, structured consultation process to ensure input from growers and farmers into our longer-term planning decisions. We do this through customer consultative committees based in our main irrigation districts:

- The Macalister Customer Consultative Committee; and
- The Werribee Bacchus Marsh Customer Consultative Committee.

Those committees meet on a regular basis to contribute to the development of plans and procedures to deal with both immediate and longer-term issues relevant to the district. We supplement these core committees with additional working groups and committees as needed to deal with specific issues as they arise. Recent examples include:

- The Macalister Consultative Group on Irrigation Reform, providing a customer perspective and input into the local rules and broader engagement on the implementation of the unbundling of water rights;
- The working group in Werribee dealing with the question of pricing for recycled water after 2009;
- Implementation committees in Macalister to help guide the introduction of channel automation and development of MID2030; and
- Customer meetings, generally in small groups, where we feel there are issues of local importance to discuss on a face to face basis

We broaden this consultation across the wider irrigation customer base through regular newsletters, media releases and information notes, including:

- Regular facts sheets on water supply allocation and outlook, along with issues of local importance;
- We produce a quarterly newsletter for Macalister customers called Channels; and
- Pipelines is the newsletter of the Werribee and Bacchus Marsh Irrigation Districts.

Our web site contains a special section for each customer consultative committee, including pictures and bio's of each member, recent news and achievements and an opportunity to raise questions and issues for consideration by the committee.

LICENSING

We have parallel arrangements in place to consult with water users across southern Victoria with regard to the wider range of services we provide through our licensing business.

The main focus is our Licensing Business Forum which meets on a regular basis to contribute to longer-term plans and review performance monitoring. This has representatives from a range of different water users and from different locations across the region to ensure that our licensing business has the support of the wide community of water users.

In our more intensively developed groundwater management areas, such as Nullawarre and Yangery we also maintain advisory committees to review aquifer response especially in times of drought. Similarly, our larger unregulated rivers such as the Mitchell River have an active irrigator community, who we are supporting with other agencies in exploring options to enhance their security of supply.

The newsletter 'Diversions' keeps water users informed of the activities of the licensing business and promotes debate and engagement. More locally, we have commenced providing updates on aquifer and catchment issues in specific local areas (Latrobe, Sale, Thorpdale, Mitchell Valley).

We also circulate 'Drill torque' as a further newsletter to all Licensed Drillers, industry groups and consultants with an interest in water drilling to inform them of our activities, updates in procedures and highlighting specific requirements – such as water sampling, occupational safety and compliance expectations.

HEADWORKS CUSTOMERS

We have processes in place to ensure regular engagement with our Headworks (bulk water supply) customers. These processes ensure both senior management and operational staff are regularly interfacing on policy, strategic, operational and financial matters.

These processes have created a close partnership and shared understanding between organisations which has been particularly important through the 2006/07 drought.

Our formal structured processes in place include:

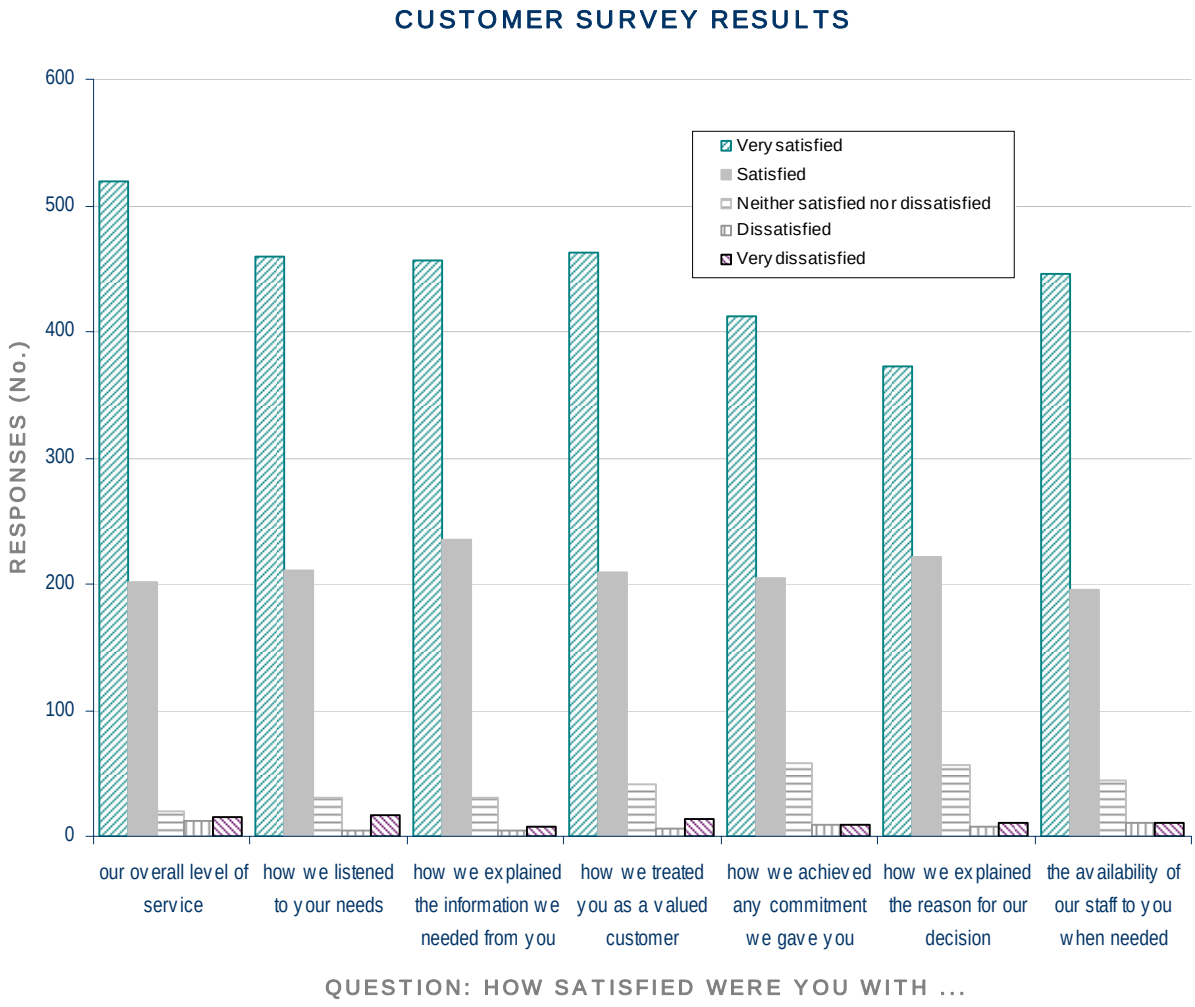
- Regular engagement meetings, where management and operational staff meet several times a year to share and discuss policy, strategic and operational matters
- Bulk Entitlement meetings, where Bulk Entitlement Holders and resource managers meet to discuss storage operator charges, forward capital estimates, environmental matters and operational issues.

We then broaden and deepen this consultation through our regular "Headlines newsletter", specifically targeting articles of interest to our Headworks customers and stakeholders, and information notes on matters of interest.

CUSTOMER FEEDBACK SURVEYS

We seek feedback from all users of our licensing services. A simple card is enclosed with every licensing application asking for feedback on key aspects of our service. This sends a message to water users that we place a high priority on understanding and responding to their needs and expectations. It also provides continuous and low cost feedback on how the business is performing and provides valuable insights into how our activities are experienced by end-users. We use the results to improve our services.

During the period 1 July 2006 to 20 May 2007 approximately 5,700 feedback cards were sent out to applicants and a total of 814 returned, at an average of 14%. Nearly three quarters of the applications were for bore construction licences. The following chart summarises the feedback received:



- Applicants were generally pleased with level of service provided. Specific comments were made in relation to the prompt service provided by SRW, many comparing our business to other 'government' departments. Our friendly manner was also commented on in the comments supplied.
- Feedback from most dissatisfied customers advised of dissatisfaction as a result of slow response times or high charges applicable to the transaction made.
- Many higher dissatisfaction scores were recorded during summer periods when our service is at peak demand.

STAKEHOLDER ENGAGEMENT

Our region includes six regional urban water authorities, three retail urban water companies, five catchment management authorities, more than twenty five rural municipalities and many more councils in urban Melbourne. We also are close partners with State government agencies, especially DSE in our delegated licensing functions, as well as EPA, DHS, DPI and ESC.

We welcome the challenge to maintain appropriate close working relations with each of these entities. We rely on them as much as they do on us. We have developed a range of different approaches to suit the different situations of each stakeholder.

Our primary focus is on the agencies and entities who we deal with on a regular day-to-day basis in the running of our headworks and irrigation businesses. This involves regular

senior management meetings with:

- Wellington Shire Council with regard to Macalister Irrigation District and Lake Glenmaggie; Wyndham City Council for Werribee Irrigation District; Moorabool Shire Council for Bacchus Marsh Irrigation District, Pykes Creek Reservoir and Merrimu Reservoir; and Melton Shire Council for Melton Reservoir; and
- Melbourne Water and the West Gippsland Catchment Management Authority, with whom we have close interaction on water resource management issues and initiatives.

We then rely on a less structured but close dialogue with the other water and catchment management authorities across southern Victoria. We also seek to contribute and shape development and implementation of policy with DSE and EPA.

Action 7.12 of Our Water Our Future records that *"water authorities would meet the objective of being an innovative and accountable water sector driving sustainable water management."* Our recent stakeholder surveys have supported SRW being more proactive in developing and leading policy positions. We are therefore looking to expand this role through the appointment of a position to help develop and lead our contribution to future water policy issues.

HELPING THE REGION RESPOND TO THE DROUGHT

SRW carries a major stewardship responsibility for water resources across southern Victoria. During the current drought the community has looked to SRW as the source of professional advice on how to do the right thing by the environment at the same time as maintaining a living that is dependent on access to water.

SRW has responded to extensive media interest in the drought – especially on groundwater related issues – to provide the community with informed regional comment and advice. We also contributed to regional forums on climate change.

Our feedback has been that the regional community has welcomed us carrying that leadership role to ensure that their voice is heard.

OUR *COMMUNITY* OUR *CHOICE*

Our community engagement is reflected in the multitude of actions of many people – embracing our frontline staff who are the face of the organisation, our presence at numerous field days, public briefings and forum and our responses to media enquiries.

Public processes for licence applications are well established in southern Victoria, with advertising, neighbour notification and public submissions a feature of all applications to grant or transfer significant water entitlements. However, more needs to be done, particularly to:

- build linkages with land use planning deliberations; and
- inform the community on water resources management as background to consultation on specific applications.

Our *Community* Our *Choice* is a broad program to build water literacy in our communities, in order that they can engage in debates on both general and specific water issues as an informed and equal partner.

Key elements of the program include:

- expanded use of public briefings and forums on significant applications;
- regular updates on water use and resource conditions for our catchments and aquifers;
- provision of 'near time' on-line information on stream flows and groundwater levels;
- creation of surface and groundwater information in various media (packages, videos, presentations, on-line); and
- expanded contribution to community-based water information sessions, workshops and discussions.

By using our skills, experience and knowledge we expect to assist our local communities to better understand the nature and priorities of water resources management in Victoria, and their catchment or aquifer.

We would expect that much of the program would be collaborative, with community organisations, water use groups, and our catchment partners who we believe share our desire and obligation to engage customers and the community in open and transparent planning processes. We will expand our engagement of domain experts, as well as develop suitable promotional material.

CARING FOR COUNTRY

SRW seeks to recognise and advance our understanding of indigenous social, spiritual and customary rights – reflecting this in a program called '*Caring for Country'* to convey our aspiration to a holistic outlook in our role as water resource managers in southern Victoria. This initiative will raise staff awareness of Aboriginal cultural heritage, provide qualified educators and seek to build stronger relations with indigenous communities across southern Victoria as we develop and manage water resources.

Our approach is informed by the recent Gunditjmara Native Title claim in south west Victoria, the re-flooding of Lake Condah, legislation in respect of Aboriginal Cultural Heritage, and the State Government commitment to engage indigenous people through Sustainable Water Strategies and River Health Strategies.

OUTCOMES DRIVEN BY OBLIGATIONS

OVERVIEW

All of the programs and expenditure proposed in our Water Plan are underpinned by an interlocking set of duties and obligations in legislation and government policies and strategies.

This section confirms the major relevant obligations, and demonstrates how they direct the proposed program of works to be undertaken.

In this section we start with an assessment of the obligations that impact on SRW as a whole. These are our over-riding duties that apply across our business and impose significant responsibilities on our Board and members of staff.

We have then provided additional sections on each of our major business units to give clarity on the drivers of programs and expose proposals for initiatives and their cost implications.

CORPORATE OBLIGATIONS & ACTIONS

STATEMENT OF OBLIGATIONS

The Statement of Obligations is issued by the Minister for Water, Environment and Climate Change. The Statement sets out the high level obligations and outcomes that SRW is obliged to meet. This covers the full range of our functions and responsibilities including for example:

- Customer and Community Engagement;
- Dam Safety;
- Conserving Water;
- Metering;
- Investing in R&D;
- Monitoring River Health.

The full Statement of Obligations is reproduced in appendix i

WATER ACT 1989

The primary legislation that directs and determines SRW's business functions and responsibilities is *the Water Act 1989*. This impacts on all aspects of our business and the proposed programs on this Water Plan, so for example:

- Part 4 sets out the framework for Bulk Entitlements and water licences;
- Part 6 provides the legal underpinning for the Authority and its Board;
- Part 7 provides the general powers of the Authority; and
- Part 11 appoints SRW as an Authority with responsibilities and functions in regards to its Irrigation Districts.

The Act has recently been amended through *the Water (Governance) Act 2006*. This creates a number of new duties and responsibilities, in particular:

- converting SRW from an Authority to a Corporation;
- making explicit the legal duty to act 'as efficiently as possible consistent with commercial practice'. This confirms existing duties under Clause 6 of the Statement of Obligations;
- establishing an explicit statutory role as a 'storage manager' – that gives additional clarity to our headworks responsibilities; and
- imposing a wider duty to have regard to sustainable management principles.

GOVERNMENT POLICIES

This Water Plan also implements and supports key Government policies:

Growing Victoria Together

The Victorian Government's vision for Victoria in 2010 which will have strengthened its performance in ten critical areas, including water security.

Securing Our Water Future Together

The Victorian Government aims to achieve the sustainable management of water.

Water Recycling Action Plan

The Plan sets the Victorian Government's target of Melbourne recycling 20% of its wastewater by 2010.

Vision for the Werribee Plains

The 2004 Action Plan includes three projects in which SRW is a key partner:

- WID Recycled Water Scheme
- The recovery of water for the Werribee River associated with the above.
- Expansion of the use of recycled water in the Werribee Tourist Precinct.

Victoria's Greenhouse Strategy

This strategy sets out the Government's commitment to reduce greenhouse gas emissions from diverse sectors such as the energy, agricultural and transport industries, and to address the threat of climate change.

Water will be a key area of vulnerability as a result of climate change due to changes in rainfall, temperature, evaporation and humidity patterns.

National Water Initiative (NWI)

A number of our programs and projects are funded through and designed to meet the requirements of the NWI, for example:

- Channel automation in MID;
- Conjunctive surface and groundwater systems;
- Metering programs in the licensing business; and
- Reporting on water resource management.

RESEARCH, INNOVATION AND CAPABILITY BUILDING

Research and innovation are essential for a successful and sustainable water industry.

Clause 20 of the *Statement of Obligation* requires SRW to prioritise and implement its research needs, while Action 7.13 of the White Paper states "The Government will work with water authorities...to develop a long-term research, innovation and capability

program for the water and catchment industry...encourage recognition of knowledge and innovation to their businesses"

SRW has a long-standing corporate partnership and $50k pa investment with the e-water Cooperative Research Centre.

SUSTAINABILITY

SRW is determined to be seen as a leader in sustainable practice. This affects both our primary business functions and also the impact of our functions on key resources including land, climate and waterways.

Victoria's Environmental Sustainability Framework "Our Environment Our Future" is aimed at making environmental sustainability a significant part of Victoria's future. Sustainability Victoria is now developing a set of recommendations for Water Authorities to implement.

It is likely that DSE and EPA will modify the current regulatory environment, and that current recommendations will become obligations, so for example proposed additions to our *Statement of Obligations* will require actions to improve sustainability beyond the generation of water savings.

The key principles highlighted in this Water Plan are:

- Planning for climate change scenarios
- Maintaining and restoring natural assets
- Using resources more efficiently
- Managing everyday environmental impacts

The major initiative proposed is to scope and develop a whole of business sustainability strategy that confirms risks and threats and identifies cost effective and appropriate priorities for action.

A priority is to explore the possibility of creating greenhouse credits by the installation of micro-hydroelectric plants to take advantage of our headworks and irrigation systems.

HEADWORKS OBLIGATIONS

DAM SAFETY

Legal Obligations & ANCOLD Guidelines

SRW faces significant responsibilities with regard to the ongoing safety of the large dams that it manages. The major reference for those duties is the Guidelines published by the Australian National Committee on Large Dams (ANCOLD). ANCOLD is a voluntary association of organisations and individual professionals with an interest in dams. Members include local, state and federal agencies, dam owners and operators, contractors, consultants and academics.

ANCOLD's goal is to *encourage improvement in the planning, design, construction and operation of large dams in Australia, and to ensure that dam owners have access to world's best practice through the skills of Australian professionals*. The major route through which ANCOLD pursues this goal is the publication of Guidelines setting national standards on dam management. The two most influential are the Guidelines on Risk Assessment, and the Guidelines on Dam Safety Management.

Although these guidelines represent voluntary, professional standards, their significance is recognised and explicitly referenced in the obligations that SRW faces.

Under Clause 14 of our *Statement of Obligations*, SRW is required to develop and implement dam safety programs in line with the ANCOLD Guidelines, and is required to submit an Annual Report to DSE on its dam portfolio risk profile and proposed remedial works program.

SRW has undertaken a high level portfolio risk assessment of its high hazard dams since 1996, and subsequently has completed design reviews and implemented prioritised works. These reviews have been undertaken on a standards-based engineering and risk assessment basis in accordance with ANCOLD Guidelines. Those assessments and the resultant program of works have been endorsed by the Minister as meeting the obligations in the *Statement of Obligations* to:

- base work programs on the relative risks to the tolerability limits as defined by ANCOLD *Guidelines (*clause 14.2(c)); and
- progressively implement risk reduction measures to achieve best outcomes for the available resources (clause 14.2(e)).

Proposed Dam Safety and Headworks Initiatives

SRW proposes a coordinated program in this Water Plan in line with the *Statement of Obligations*, that meets the standards in the ANCOLD Guidelines and has been endorsed by the Minister. A copy of the most recent report to the Minister with the prioritised program is provided at appendix ii

.

The program starts with initiatives at an overall business level, covering general public safety issues as well as operational measures. Expenditure is also required to replace the very old Reservoir Keeper's House at Lake Glenmaggie, and to maintain seven other houses.

However, the core of the expenditure is a program of works addressing issues across the portfolio of dams. Following Pykes Creek Stage 2 (now scheduled for 2007/08) it is proposed to undertake remedial works to the right abutment of Melton dam for flood

protection (with works to commence in 2008), with the next priority being the raising and strengthening of the spillway wall at Blue Rock.

The following table highlights the key elements of that dam safety and general headwork's program.

Total expenditure for the headworks business over the five year Water Plan period amounts to $9.2M and is weighted to the early years to respond to priority works for flood protection required at Melton Reservoir. The remainder of the expenditure is more evenly spaced in continuing works over the five year period.

DAM SAFETY AND GENERAL HEADWORK'S WORKS PROGRAM ($000S)

STORAGE	WORKS PROPOSED	2008/09	2009/10	2010/11	2011/12	2012/13	TOTAL
Generic	Operational, Public Safety, Housing	142	290	151	150	142	**875**
Blue Rock	Inlet Isolation, Spillway Chute upgrade etc	465	438	305	119	120	**1,447**
Cowwarr	Spillway Gate & Weir Pool Erosion protection	300	440	25	120	30	**915**
Glenmaggie	Embankment, spillway and other works	185	82	731	265	225	**1,488**
Melton	Flood protection, Remodel Outlet & other works	1,420	30	18			**1,468**
Merrimu	Flood Capacity, Access Bridge Repairs & other works	160	57	172	160	13	**562**
Pykes Creek	Upgrade Siphon, Acquire Land, Channel Erosion	89	260	100	260	200	**909**
Rosslynne	Access Track reconstruction	163	75	100	500	40	**878**
Other	Lerderderg, and Irrigation Supply Weirs	153	135	118	151	111	**668**
	TOTAL	**3,077**	**1,807**	**1,720**	**1,725**	**881**	**9,210**

ENVIRONMENT AND RECREATION RESPONSIBILITIES

SRW also carries major responsibilities for the delivery of a range of other outcomes that are additional to its direct Headworks utility functions. These include environmental management and recreational objectives.

EPA OBLIGATIONS

SRW has worked closely with the EPA to establish a program that defines clear environmental obligations for the 2008-2013 regulatory period to meet both legal and policy objectives. The four main pillars of that program are to:

- move towards full attainment of the State Environment Protection Policy (*Waters of Victoria)* by 2013;
- increase the focus on sustainability and resource efficiency (see below);
- increase focus on water resource management; and
- ensure 'individual' environmental obligations are not addressed in isolation, but as part of an integrated program to deliver the best overall environmental outcomes.

SUSTAINABILITY PRINCIPLES

From 1 July 2007, *the Water Act 1989* and the revised *Statement of Obligations* require that SRW has regard to sustainability principles in all aspects of its business functions. This includes:

- the need to ensure that water resources are conserved and properly managed for sustainable use and for the benefit of present and future generations;
- the need to encourage and facilitate community involvement in the making and implementation of arrangements relating to the use, conservation and management of water resources;
- the need to integrate both long term and short term economic, environmental, social and equitable considerations; and
- the need for the conservation of biological diversity and ecological integrity to be a fundamental consideration.

VICTORIA'S BIODIVERSITY STRATEGY

Victoria's *Biodiversity Strategy* encourages Victorians to better understand our flora, fauna and ecosystems, and to take an active part in their conservation and management for future generations.

SRW recognises the ecological linkages between different parts of the environment (for example, streams, streamside vegetation, and the biodiversity they support), and is aware that our actions and strategies influence biodiversity conservation. We aim at working positively with other stakeholders to implement strategies such as Regional Catchment Strategies and resolving regional biodiversity issues.

VICTORIAN RIVER HEALTH STRATEGY

The *Victorian River Health Strategy* provides a framework to manage and restore our rivers over the long term. It sets the scene for integrating all our efforts on rivers, managing them within an integrated catchment management context and ensuring that we get the most effective river health benefits for the effort and resources invested.

Key themes relevant to SRW are:

- Facilitate the movement of water to its highest value use
- Providing and managing water for the environment
- Restoring flow-stressed river systems
- Management of Water Quality

DRINKING WATER QUALITY

SRW also has responsibilities regarding drinking water quality as the provider of bulk water supplies to urban water authorities for potable supply.

Our activities are subject to the *Safe Drinking Water Act 2003*. We are currently in discussion with DHS and our bulk customers to agree a program of works and compliance monitoring program to respond to the external risk management audits recently completed.

IRRIGATION OBLIGATIONS

SRW operates its irrigation districts as an Authority appointed under Part 11 of the *Water Act 1989* and holds Bulk Entitlements under Part 4 of the Act. It is subject to a suite of duties under the *Statement of Obligations*, in particular:

- Clause 13: requires sustainable management of assets
- Clause 15: requires the conservation and recycling of water
- Clause 16: requires efficiency in rural supply systems

The management of the irrigation districts is also strongly influenced by major government policy initiatives flowing from the White Paper *Our Water our Future*, and the *National Water Initiative.* These seek to promote unbundling of water entitlements, improved water use efficiency, improved water metering and promotion of water trade.

LICENSING OBLIGATIONS

OUR ROLE AND RESPONSIBILITY

In the irrigation businesses SRW is a utility infrastructure manager and supplier with responsibility to manage its assets to deliver services to a defined, stable customer base.

The Licensing Business involves very different roles and responsibilities. Here, SRW is acting on behalf of the Minister to help administer Victoria's water resources for the benefit of the wider community and environment. In practice, the role is closer to that of a regulatory body such as the EPA than a utility supplier.

We are committed to acting as efficiently as possible and taking account of the interests and concerns of the end-user. However, ultimately decisions on policy, rights of access and use of the resource are subject to Government policy as expressed through policy documents, the delegation of Ministerial powers and Ministerial Guidelines.

DELEGATED POWERS UNDER THE WATER ACT

Many powers provided by *the Water Act* 1989, particularly those related to the allocation and licensing of water, are assigned to the Minister.

The Minister has delegated many functions to water authorities and/or nominated staff of water authorities, generally on the basis that delegates may only act where it would be in accordance with Government policies or guidelines, or where there are no special features that would warrant referral to the Minister.

Key powers delegated by the Minister encompass determining applications for:

- surface and groundwater licences;
- works associated with taking water i.e. farm dams and bores;
- disposal of matter underground by means of a bore; and
- transfer, renewal and amendment of the above licences.

SERVICE STANDARDS

OVERVIEW

SRW is committed to the use of service standards to drive improved performance and to demonstrate to customers that we are focussed on delivering those outcomes that are important to them.

We welcome the ESC's role in collecting and reporting on our achievements against those targets.

In developing the suite of performance indicators for this Water Plan we have undertaken extensive analysis of what is important to our customers and significantly enhanced and extended the number of performance indicators. In setting the proposed targets, we have considered a number of critical factors:

- We have reviewed our past performance and identified those areas where our performance fails to meet customer expectations;
- We have identified improvements in customer service that will flow from projected expenditure in the Water Plan;
- We have reviewed feedback from customer surveys that indicates that most customers believe we currently provide a good standard of service; and
- We have assessed the costs of enhancing key indicators, as we are keenly aware that the program of work required to meet our obligations and provide step changes in service levels will mean that bills will have to go up.

IRRIGATION BUSINESSES

The proposed service measures for delivering water in our irrigation districts are:

- **Flow rate consistency:** One of the most critical measures for Macalister irrigator is that the water delivered at the property boundary has a consistent flow. That allows better control of irrigation, ensuring optimal water usage, improved farm productivity and lifestyle benefits.
    - With automated channels and outlets, we commit to delivering water within 10% or +/- 0.5ml (whichever is the greater) of the ordered flow. We will improve our performance from 75% of the time to a level of 80% by the end of the period;
    - We are developing equivalent targets for properties supplied through the manual system.
- **Volume Consistency:** within the Werribee and Bacchus Marsh districts the relevant equivalent measure is the consistency of the volume delivered against the order;
- **Average Order lead time:** this is the traditional measure of how good we are at delivering water that is ordered to an agreed timeline within 2 or 3 days, dependent on the irrigation district infrastructure. We are currently finalising our targets;
- **Delivery reliability:** this is equivalent to the standard urban supply standard and represents the amount of time that the irrigation district supply system is available to deliver water as required. We believe that 99% is an appropriate standard during the

irrigation season;

- **Delivery efficiency:** this standard indicates the level of water losses within the system and is an important measure of wider significance for water conservation under clause 16 of our Statement of Obligations;
- **Customer Satisfaction Index:** ultimately our objective is to meet the reasonable expectations of our customers. This standard provides this broader measure of achievement and customer focus. We expect to see an improved score against this measure over the Water Plan period.

Macalister Irrigation District: Standards and Targets

	2008-09	2009-10	2010-11	2011-12	2012-13
Flow rate consistency - automated system	75%	76%	77%	78%	79%
Flow rate consistency - manual system	TBD	TBD	TBD	TBD	TBD
Average Order lead time	TBD	TBD	TBD	TBD	TBD
Delivery reliability	99%	99%	99%	99%	99%
Delivery efficiency	66%	67%	68%	70%	74%
Customer Satisfaction Index (every 2nd year)	76%		78%		80%

In setting the proposed targets we have been aware of the major capital investments foreshadowed in MID2030. That will drive step changes in flow rate consistency, order lead time and delivery efficiency, although most of this step change will be reflected in service improvements in Water plan 3. In some areas, we are unable to set targets as yet as we do not have the baseline data and are procuring equipment to be able to do this – e.g. flow rate consistency for the non automated part of our system.

Werribee and Bacchus Marsh Irrigation District: Standards and Targets

	2008-09	2009-10	2010-11	2011-12	2012-13
Volume consistency	90%	91%	92%	93%	95%
Average Order lead time	TBD	TBD	TBD	TBD	TBD
Delivery reliability	99%	99%	99%	99%	99%
Delivery efficiency - WID	72%	72%	72%	72%	72%
Delivery efficiency - BMID	74%	74%	74%	74%	74%
Customer Satisfaction Index – WID (every 2nd year)	76%		78%		80%
Customer Satisfaction Index – BMID (every 2nd year)	79%		80%		80%

The WID2030 and BMID2030 projects will establish strategic plans for these irrigation districts during the period of this water plan which will may bring significant capital investments and step changes in service level performance as part of Water Plan 3.

HEADWORKS

Our Headworks Business has both service and compliance responsibilities. Our proposed Service Standards are separated to reflect those differing demands.

The proposed service standards for our Headworks business are:

- **Delivery of ordered releases on time:** this is the core service standard for our headworks service and measures the percentage of time that we release water in line with our customers' orders. This has a significant impact both on the ability of our customers (whether urban water businesses, irrigation businesses, or power generators) to meet their own service standards, to meet passing flow requirements under the Bulk Entitlements and minimise losses if the water is delivered out of sequence with required demand;
- **Release reliability:** this standard represents the percentage of the time that our supply systems are available to deliver water to customers. This creates incentives for our staff to plan and respond to outages due to maintenance or equipment failure. We believe that our headworks supply should be available for 99% of the time.

Headworks: Service Standards and Targets

	2008-09	2009-10	2010-11	2011-12	2012-13
Delivery of ordered releases on time	95%	95%	95%	95%	95%
Release reliability	99%	99%	99%	99%	99%

Our Headworks Business also has onerous compliance criteria related to a range of critical standards and measures:

- **ANCOLD Dam Monitoring Compliance:** We have to manage the safety aspects of our headworks to meet dam safety management guidelines set out by ANCOLD. We are proud of our reputation in this area and intend to meet a 100% compliance with the ANCOLD Guidelines on risk assessment by the end of the Water Plan;
- **Portfolio Risk:** This standard measures the outstanding risk from our storages, combining an assessment of the potential population at risk and the cost of reducing that risk. We are committed to meeting a high standard that also represents good value for money and meets the expectations of stakeholders and the community;
- **Bulk Entitlement Compliance:** We are responsible for managing storages in order to meet specified outcomes including passing environmental flows. We intend to meet our obligations fully on all occasions, i.e. to have a nil return for breaches of our Bulk Entitlements;
- **Water Quality Compliance:** We are responsible for providing water to urban water authorities for potable supply. Our actions are therefore subject to controls under the *Safe Drinking Water Act 2003*. We are currently in discussion with DHS and our bulk water customers on an appropriate compliance regime that responds to the external Risk Management Audits that have been completed.

Headworks: Compliance Standards and Targets

	2008-09	2009-10	2010-11	2011-12	2012-13
ANCOLD Dam Monitoring Compliance	100%	100%	100%	100%	100%
Portfolio risk *	2.88E-03	1.18E-03	1.18E-03	1.18E-03	1.18E-03
Bulk Entitlement Breaches	Nil	Nil	Nil	Nil	Nil
Water Quality requirements Compliance	TBD	TBD	TBD	TBD	TBD

* Revised metric to be devised.

LICENSING - APPLICATION PROCESSING

We believe that the current service standards and targets for licensing and water transfers are appropriate. These focus on how long it takes SRW to process and resolve applications for a range of licences and procedures.

Licensing: Service Standards and Targets

Standard	Timeframe (days)	Target (%)
Farm dam construction licences	60	100
Bore construction licences	14	100
Surface and groundwater licences	60	100
Surface and groundwater licence transfers	14	100
Water right transfers	14	100
Information statements processed	7	100

The critical issue relates to the point at which the timeframe is triggered. During 2006-07 SRW recorded the time from the first point at which an initial application was received. This meant that our monitoring included several periods when the process was not under our control - the most significant being when we had replied to the applicant asking for further information. In many cases, the applicant took a lengthy time to provide this further information leading to apparent non-compliance with the target.

From 2007-08 we will 'start-the-clock' when the fully completed application is finally received, as it is from this point in time that SRW can be held responsible for the process. We will retain responsibility for managing the interface with referral authorities and for managing any consultation required.

However, we are still concerned to ensure that the earlier stages of the application and approval process are not allowed to extend unreasonably. We have robust processes in house to track this overall timeframe and will continue the measures of overall lapsed time. We are also developing further guidance for applicants (including a model application) that should reduce the need for repeated steps in the application process.

PRODUCTIVITY IMPROVEMENT

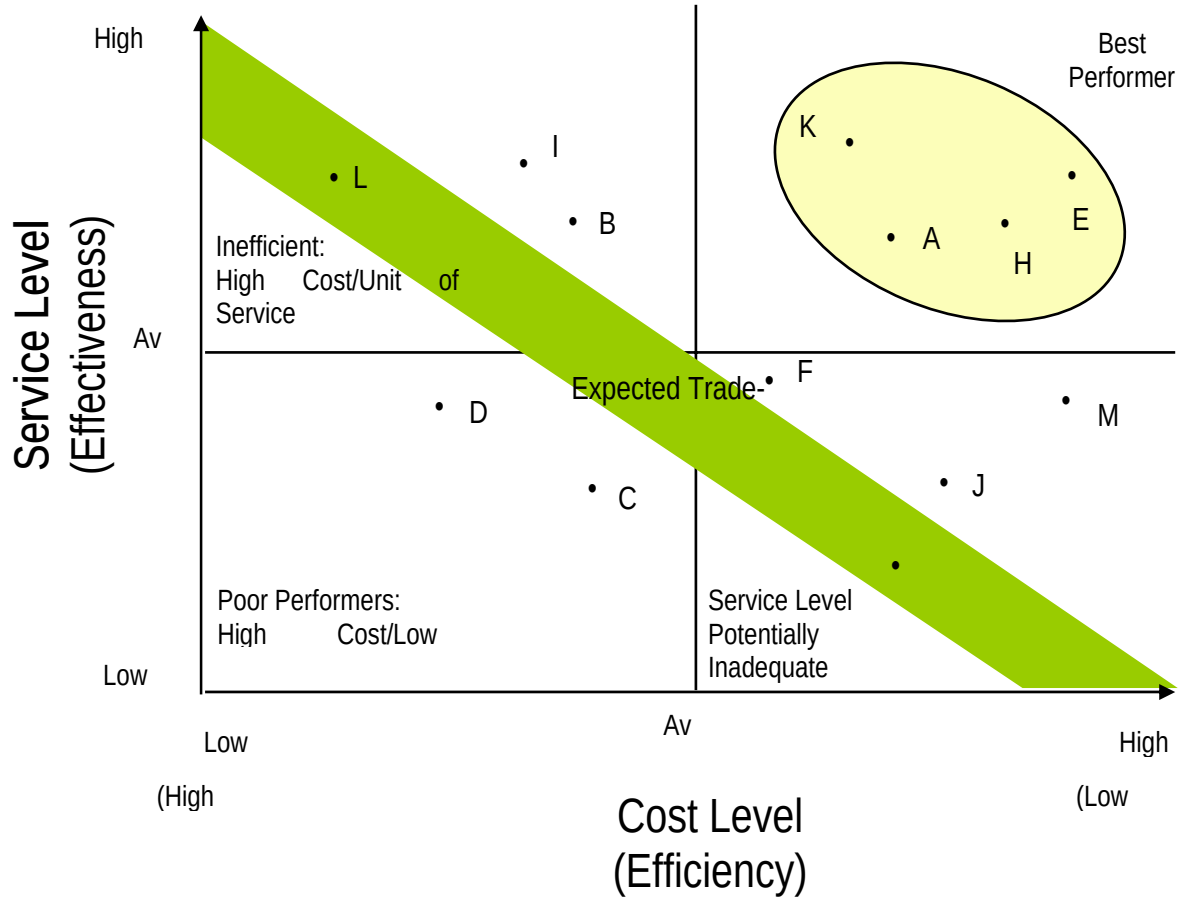
METHODOLOGY

SRW has adopted the following conceptual framework and methodology for use in the performance planning process. This is based on the generally accepted framework of service and cost (productivity) as key performance drivers for organisations.

The methodology is designed to allow SRW to describe the service / cost outcomes it seeks to achieve in its major activities – which will be derived from an understanding of their current status, the needs of customers and stakeholders, and the improvement opportunities available.

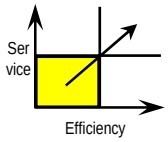
The Service / Productivity Challenge

While a trade off is typically expected between service and productivity, benchmarking assessments find that many companies are able to achieve low cost, high service.



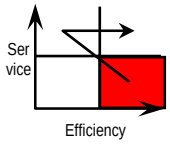
A range of strategies can be employed to move towards best performer status. They can be displayed graphically in terms of the improvement pathway they describe on the four-quadrant performance matrix shown above.

These strategies are summarised below.



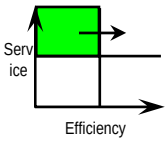
High Cost/Low Service—

High Cost/Low Service—
The mandate to redefine process objectives and start over, i.e., Process reengineering or outsourcing



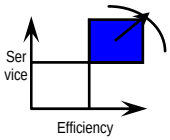
Low Cost/Low Service

Low Cost/Low Service —
The key is strategic investment to improve service levels, followed by longer-term cost focus



High Cost/High Service Assessment

High Cost/High Service—
The key is identifying and eliminating costly, low value activities



Low Cost/High Service

Low Cost/High Service—
The challenge is to drive continuous innovation to maintain advantage

SRW has used this framework as part of an assessment process on understanding service and productivity within our Water Supply business.

IMPLEMENTATION

Current Performance

The level of performance measurement in the rural water industry has been limited in the past and there certainly has not been universally accepted and adopted benchmarking frameworks, with normalisation factors available, to undertake the sort of sophisticated analysis which would ideally support the above.

We are, however able to make an informed if not benchmarked assessment of service level based on the measures identified in the previous section around customer and stakeholder expectations and some areas where industry performance is known. For example, aspirational service goals for irrigation service measures include:

- High Flow rates (flood irrigation) - > 15 ML/day
- Minimal variation in flow rates (flood irrigation)- <10% variation in flow
- Short order lead times – 1 day or less
- High system efficiency - >85% channel, >98% pipeline

Assessing current performance against these aspirations allows us to make an informed judgment of our service level performance.

Our productivity performance is more challenging to assess. The rural water industry has had extended periods of zero price rises over the past 25 years and substantial reductions in cost have been achieved. For example, historical staffing levels in Eastern Irrigation maintenance have had over 23 people dedicated to this role, which has been reduced to 3, with the introduction of the Water Services Officer role which undertakes both operations and maintenance, along with other initiatives.

However, customer expectations and stakeholder obligations mean that we have to manage a range of cost increases in the coming water plan period. In addition, the capital investments that can bring a step change in service performance can also bring increased operating costs. For example, while channel automation can lead to a reduced requirement for field staff, it does increase maintenance costs because of the new equipment to maintain, specialised technical support costs increase as does centralised system monitoring and control costs to ensure service performance improvement and water savings are delivered.

Performance Objectives

Our objective is to move into the best performing quadrant at the top right of the model. This is most significant in our Irrigation Businesses, where we continue to seek investment and re-investment in service improvement – in preference to reduction in prices.

Given that we are generally in the lower right quadrant at present, our principal tactic is strategic investment – in systems, resources and the like.

We believe that reaching the top quadrant is achievable for the Macalister, where the MID2030 project provides the catalyst for step changes in performance improvement, with an irrigation district which already has a reasonable size.

In Werribee and Bacchus Marsh, the forward strategy will be developed during the Water Plan period with their equivalent strategic plans. These will frame the future strategic investment in these districts and their relative movements through the quadrants. Because of the small size of these irrigation districts and the fact that they are serviced by three separate reservoirs, it will be difficult to move into the low cost quadrant, although strategic investment here does have the potential to reduce operating costs.

In our Headworks business, the major activity will be investment in the Dam Safety risk mitigation works which are large capital projects, with continuous improvements in operations and compliance activities.

Key Improvement Initiatives

Initiatives in this Water Plan to generate these improvements include:

- MID
  - Channel automation works stages 1-4 bedding down and implementation of stages 5 and 6 will improve all four service indicators. There will be minimal impact on price because of external funding
  - MID 2030 works will improve service performance potentially across all measures and will increase cost dependent on options chosen, investor funding and returns gained from water sales. Given the timeframe, only 25% of MID 2030 works can be expected to be undertaken in the regulatory period.
- WID / BMID 2030
  - Undertaking the strategic planning project during this water plan period. Potentially future strategic investment including the pipelining of WID and reconfiguration / pipelining of BMID. (Not planned to proceed in this regulatory period)

  - Continuous improvement in service activities
- Headworks, Werribee
  - Planned upgrade works at Pykes Creek and Melton will decrease risk profile and increase costs due to the required return on capital
- Headworks, Blue Rock
  - Some upgrade works planned to reduce risk profile, continuous improvement
- Headworks, Yallourn
  - Major upgrade works just completed, funded by generators, no further significant works planned
- Headwork's, Maribyrnong
  - Continuous Improvement in service and compliance activities
- Headwork's Thomson Macalister
  - Continuous Improvement in service and compliance activities
- Headwork's, Yallourn
  - Major upgrade works just completed, funded by generators, no further significant works planned

Productivity Measurement

Southern Rural Water is committed to driving for continuous improvement over time. That ensures greater productivity in terms that matter to customers. However, it is not realistic to expect a simplistic productivity profile of a 1%/yr reduction in operating costs given the escalating costs of doing business as usual.

It is proposed to establish productivity measures for irrigation and headworks Businesses, to track productivity performance – excluding capital charges (renewals, depreciation). These measures will allow SRW to track productivity change over time, and allow us to assess the impact of our main drivers – service improvement and Headworks risk reduction, on productivity.

Licensing Business

In our licensing business where we are managing water resources for sustainability outcomes, the fundamental trade-off is around the price-risk dimension. Whilst there is an element of 'service delivery' to ensure equitable access to resources during the summer our major responsibility is to ensure compliance with licence conditions to protect the environment and the water resource and to minimise interference with other water entitlements.

Therefore, the judgment in licensing is around the level of cost that is reasonable for 'customers' to bear and is sufficient to meet the reasonable expectation of the broader community and stakeholders with regard to wider environmental outcomes.

We are committed to developing measures to measure the effectiveness of staff and are investing in new technology and training to increase the effectiveness of staff in generating greater outcomes.

PART D

OUR REVENUE REQUIREMENT

OVERVIEW

In describing our revenue requirement, our "baseline" has been our 2007/08 revenue requirement. To this, we have adjusted for new initiatives which are proposed to either:

- address deficiencies in our existing budgets;
- meet new obligations;
- address stakeholder expectations;
- address inherent risks within our existing operations; or
- provide service improvement.

The following summarises our proposed revenue requirement:

	FIRST DETERMINATION 2007/08	ATTRIBUTABLE TO REVENUE CAP	ATTRIBUTABLE TO TARIFF CONTROL	TOTAL OF PRESCRIBED ACTIVITIES	NON PRESCRIBED	TOTAL
Operating Expenditure	15,643	15,044	2,570	17,613	302	17,916
Renewal Annuity	1,936	1,787	0	1,787	0	1,787
Depreciation & Return on Assets	1,287	2,102	31	2,134	75	2,209
Cost of Debt - Urban Pricing	1,077	1,077	0	1,077	0	1,077
Cost of Debt - Pre 2005/06 Sales Deficits	848	848	0	848	0	848
Cost of Debt - WID Recycled Scheme		0	195	195	0	195
First Period Revenue Recovery		565	0	565	0	565
Recovery of Flood Costs		74	0	74	0	74
TOTAL	**20,791**	**21,497**	**2,796**	**24,293**	**378**	**24,671**

OPERATING EXPENDITURE

OVERVIEW

The following summarises our average annual operating expenditure for the regulatory period.

	ATTRIBUTABLE TO REVENUE CAP	ATTRIBUTABLE TO TARIFF CONTROL	TOTAL OF PRESCRIBED ACTIVITIES	NON PRESCRIBED	COST OF DEBT FUNDED	TOTAL
BASELINE						
2007/08 Total Revenue Cap	20,231		20,231			20,231
LESS:						
Renewal Annuity	*(1,880)*		*(1,880)*			*(1,880)*
Cost of Debt	*(1,900)*		*(1,900)*			*(1,900)*
Return & Depreciation - New Assets	*(1,250)*		*(1,250)*			*(1,250)*
ADJUST PRICE CONTROL:						
WID Recycled Scheme	*(355)*	*355*	*0*			*0*
Licensing Applications	*(2,009)*	*2,009*	*0*			*0*
ADD:						
CPI Adjustment	313	58	370			370
Non-Prescribed Expenditure				286		286
Baseline Operational Expenditure	**13,150**	**2,422**	**15,571**	**286**	**0**	**15,857**
PROPOSED ADJUSTMENTS						
Corporate Expenditure	928	61	989	16	0	1,005
Water Supply Expenditure	647	11	659	0	293	952
Water Resources & Sustainability	790	101	891	0	858	1,749
Identified Savings	*(471)*	*(25)*	*(497)*	*0*	*0*	*(497)*
PROPOSED OPERATING EXPENDITURE	**15,044**	**2,570**	**17,613**	**302**	**1,151**	**19,067**

There are a number of drivers that contribute to this raised profile in comparison with the previous price period, including:

- Raised stakeholder and customer expectations drive higher costs: the most obvious example relates to investments required to achieve water savings in response to the drought;

- A raising of the bar with regard to metering as outlined in the emerging National Metering and Measurement standards;
- Expectation of a greater effort on the management and enforcement of water licences, which requires guideline development, setting licence volumes and metering;
- The raised level of capital expenditure per year generates higher costs in project delivery and in the consequential operating costs;
- IT systems enhancement to mitigate existing risks and to effectively manage and develop IT capability in the organisation;
- There is a need to address deficiencies within our existing Corporate budgets;
- Obligation to apply sustainable management principles and to develop and implement a range of programs to monitor, assess and improve sustainability performance. Examples include river health and sediment movement in the Werribee Basin;
- The Victorian Government's water reform agenda, as set out in *Our Water Our Future* and complementary plans and strategies, which includes, for example, .the reform of water entitlements, commonly referred to as 'unbundling';
- The need to modernise irrigation systems to provide service levels compatible with modern irrigation standards and performance, and to address major drivers for change.

CORPORATE EXPENDITURE

SRW depends on an effective corporate function to deliver high quality, efficient services. The following sections confirm key corporate expenditure projects proposed for the Water Plan period.

Our average annual corporate expenditure adjustments are as follows:

	ATTRIBUTABLE TO REVENUE CAP	ATTRIBUTABLE TO TARIFF CONTROL	TOTAL OF PRESCRIBED ACTIVITIES	NON PRESCRIBED	COST OF DEBT FUNDED	TOTAL
Corporate Expenditure Adjustments:						
Corporate Resources	*394*	*40*	*434*	*9*	*0*	*443*
Insurance Increases	*153*	*(0)*	*153*	*(0)*	*0*	*153*
Telecommunications Adjustment	*145*	*13*	*158*	*3*	*0*	*162*
Information Technology	*125*	*12*	*136*	*3*	*0*	*139*
Office Accommodation	*67*	*(5)*	*61*	*1*	*0*	*62*
Other	*44*	*2*	*46*	*1*	*0*	*47*
TOTAL	**928**	**61**	**989**	**16**	**0**	**1,005**

STRENGTHENED CORPORATE TEAM

The current level of resourcing within our corporate operations is very thin. A small team is faced with ever growing demand and increasing expectations from regulators, customers and the wider community. The first project area involves the strengthening of a number of functions within this team:

- increased funding for regulatory tasks, including the drafting of the Water Plan, regular annual returns and licence fees;
- enhanced resourcing for Board consultancy provision;
- up-grading of our website as a resource for customers and regulators as well as the general public;
- increased resourcing for our general reception that handles phone calls, enquiries and payment reception for much of our customer base;
- implementation of a formal risk management register and system; and
- an additional management position to handle and progress policy and external stakeholder issues.

HUMAN RESOURCE MANAGEMENT

It is proposed that SRW implement an integrated human resource information management system. Currently SRW operates a central payroll system, but all other employee data is recorded and managed at devolved worksites through multiple independent systems. This approach does not meet best practice and was identified by an ESC audit in 2006 as a priority business need.

The proposal involves purchase of a new integrated software module that is compatible with our corporate platform, as well as the employment of an additional member of staff to manage and implement the program across the authority.

TELECOMMUNICATIONS & IT

We propose to continue up-grading our general suite of telecommunications and IT systems and implement an integrated system that provides for current needs such as on-line data access for field staff.

There will be a need for both hardware and software enhancement as well additional training and maintenance.

This investment will yield productivity savings through enhanced capability and one-stop service delivery rather than repeat visits.

INSURANCE

A periodic review of our insurance coverage and associated replacement values of our headworks infrastructure has resulted in an approximate doubling of our premiums.

OFFICE ACCOMODATION

SRW currently operates from three office 'hubs', in Maffra, Werribee and Warrnambool, and a network of local operating sites from Hamilton to Bairnsdale. Our hubs have two important roles – to provide a fixed presence and representation across our operating region, and to provide permanent or occasional office accommodation for our 'non field' staff.

Following a recent review, we are moving to add a fourth hub to our network, in Melbourne's outer eastern suburbs. This hub, which may grow to eight to ten staff,

will give SRW improved access to the Dandenong Ranges, Yarra Valley and the eastern metropolitan area, and our licensing activities there.

Importantly, we expect the new hub to enhance our ability to attract and retain high-performing staff, particularly in technical and specialist roles. Our existing hubs have allowed us to offer a choice of regional and metropolitan locations for such staff, who can generally operate effectively from any hub. The new hub will add to this choice, and open our recruitment to Melbourne's outer east and south without the disadvantage of long and tiring commuting across the city to Werribee. It will also alleviate current pressures on office space at Werribee.

WATER SUPPLY EXPENDITURE

Our water supply activities encompass our management and operation of headworks structure and of the water delivery infrastructure across our three irrigation districts.

Our average annual water supply expenditure adjustments are as follows:

	ATTRIBUTABLE TO REVENUE CAP	ATTRIBUTABLE TO TARIFF CONTROL	TOTAL OF PRESCRIBED ACTIVITIES	NON PRESCRIBED	COST OF DEBT FUNDED	TOTAL
Water Supply Expenditure:						
Additional Staffing Requirements	*354*	*6*	*360*	*0*	*0*	*360*
Channel Automation - Maintenance	*110*	*0*	*110*	*0*	*0*	*110*
Werribee Basin Strategic Planning	*0*	*0*	*0*	*0*	*109*	*109*
Water Entitlements Reform	*0*	*0*	*0*	*0*	*98*	*98*
Storage & Surrounds Management	*58*	*0*	*58*	*0*	*87*	*145*
Emergency Preparedness	*62*	*3*	*65*	*0*	*0*	*65*
Other	*63*	*2*	*66*	*0*	*0*	*66*
TOTAL	**647**	**11**	**659**	**0**	**293**	**952**

This Water Plan proposes a comprehensive and cost effective program to meet these wide ranging obligations and to meet the expectations of our partners, stakeholders and the wider community.

HEADWORKS EXPENDITURE

Bulk Entitlement Compliance

SRW needs to account for water shares and usage within all its Bulk Entitlement Orders. With the continuation of drought conditions and the focus on water usage, we need to ensure that our water accounting meets the needs of our stakeholders. Environmental Water reserves will also need to be established for most systems. A program of software and data enhancement is proposed to provide more detailed information and easier access to information to enable our stakeholders to better manage their water requirements.

Management of soil erosion

Management of soil erosion is important to maintain water quality and also for the retention of optimal storage volume, by reducing risks of siltation. The major investment proposed focuses on the Werribee system where highly-erosible soils and historically poor controls have impacted on water quality and reduced the effective volume available in Melton reservoir. The work program involves a scoping project to identify

sources of siltation and potential strategies to minimise future erosion in partnership with CMAs and other players.

River Health

River health initiatives implement the identified State Government Strategies and the duty in clause 23.4 of the *Statement of Obligations* to develop and implement plans to manage the environmental impacts of our activities on waterways. The major work proposed is an impact assessment and development of plans and strategies. Major implementation programs will be rolled out in the third Water Plan period.

Surrounds Management and Fencing

The land immediately surrounding our storages is important for a range of outcomes. Poor controls can lead to reduced water quality and siltation as well as lower amenity values. This Water Plan includes proposals to develop Surrounds Management Plans for each of our major storages to identify risks and establish appropriate work programs. An early priority is to fence-off waterways and remove willow immediately above our storages to prevent stock access and reduce leaf litter. There are also complex land title issues relating to ownership and control of relevant areas that will need to be resolved.

Recreational Values

The land surrounding our storages is also important as a wider community resource for recreation. Expenditure is required across the Water Plan in the maintenance and upgrading of recreational facilities, with the largest single item being works required at the Glenmaggie Caravan Park.

IRRIGATION EXPENDITURE

IRRIGATED SUPPLY: BUSINESS-WIDE INITIATIVES

The irrigation sector is undergoing major change, with policy initiatives at both State and National level promoted to respond to the drought and promote better use of scare resources.

The majority of expenditure proposed in this Water Plan is focused on the three irrigation districts. However, there are also a number of business-wide initiatives that are significant across the districts.

Unbundling of Water Entitlements

Unbundling involves the separation of the different component elements of the property right over water. This includes both the separation of water from land and also the separation of a water access share (i.e. a right to a share of the resource in the storage) from a capacity share of the delivery infrastructure (i.e. the ability to get the water to the property). Finally, there will also be a duty on each irrigator to hold a site-use licence to promote environmentally sustainable irrigation practice.

This initiative implements both the National Water Initiative and Chapter 4 of the White Paper *Our Water Our Future.* Unbundling is being introduced in northern Victoria from 1 July 2007, but is deferred in the southern systems until 1 July 2008. A major program of work will be required to implement this approach including DSE's development of the

statewide water register and SRW's engagement with southern irrigators to gain agreement on an implementation plan.

Much of the preliminary work will be completed in 2007-08. However, further phases will need to be rolled out after July 2008, in particular extension of the approach to groundwater and unregulated entitlements.

Performance Management & Reporting

Under the National Water Initiative, governments have agreed to report independently, publicly, and on an annual basis, to facilitate benchmarking of pricing and service quality for urban and rural water delivery agencies. The basis of these reports will be a national benchmarking framework made up of separate urban and rural performance reporting models.

A draft set of 69 rural sector performance indicators has been proposed. The Essential Services Commission has indicated that it will require reporting of these measures. We are yet to be formally advised of when the new performance management framework is to come into place. A new data collection, management and reporting suite will be required to meet this requirement. The facility will be integrated with and help support operational requirements.

Metering and the National Water Initiative

Clauses 87-88 of the NWI identify the importance of improved metering and measurement of water, and make a commitment to develop and enact national meter standards and specifications by the end of 2007. The initiative will require replacement of Dethridge Wheels, the main form of metering across large-scale irrigation districts, as they will not meet proposed measurement standards. SRW currently has 1,800 wheels in the MID, 250 in the WID and 130 in BMID. A total replacement program would cost more than $20M.

There is considerable uncertainty as to the period of grace that businesses will be given before they have to replace Dethridge Wheels with compliant meters. It seems likely that any compulsory replacement program will take effect after this Water Plan. However, there may be a requirement to replace any wheels that need maintenance before then.

It is probable that some funding will be provided by Government to contribute to these costs, in line with the commitments in the Prime Minister's National Plan for Water Security. However, the extent of any funding is still unclear at this stage. Limited expenditure has therefore been proposed in this Water Plan to keep abreast of developments and to develop an Irrigation District metering strategy. This will provide an informed basis for any future replacement program required. A variation to the Water Plan will be required if an earlier replacement deadline is introduced.

Irrigation System Efficiency Improvements

SRW is committed to reducing water losses in its irrigation districts by 25% by 2020. This target implements the requirements under Clause 16 of the *Statement of Obligations*. SRW's current performance is towards the lower end of industry standards and investment in greater efficiency is also a relatively cheap way to boost future security of supply for irrigators.

The 25% target will be met through irrigation district plans such as MID2030. However, there are also business-wide initiatives focussed on developing a more reliable

metering and measurement system to provide a baseline and allow tracking of improvements.

MACALISTER IRRIGATION DISTRICT (MID)

Across the MID we have proposed a suite of smaller initiatives (each less than $100k in value) that will be implemented over the course of the Water Plan period to ensure public safety, promote fire fuel reduction and weed management.

WESTERN IRRIGATION DISTRICTS

Establishing a Robust Planning Framework

MID2030 has proved to be an extremely valuable mechanism to help develop and agree a robust strategic planning outcome. We propose to undertake equivalent planning processes for both the western irrigation districts, at Bacchus Marsh and Werribee, between late 2007 and 2009.

These irrigation systems require modernising to provide service levels compatible with modern irrigation standards and performance, and a review and assessment of the external drivers for change, including the interface with urban development and regional land-use planning.

It is presumed that the majority of any expenditure required (for implementation) will occur towards the end of this Water Plan. If that expenditure is significant we will need to seek a variation to the price determination.

WID Recycled Water Scheme

SRW has a major commitment to extend the use of recycled water where appropriate to replace surface water or portable supply. This implements the duties in Clause 15 of the *Statement of Obligations.* Over the last season recycled water from Melbourne Water has represented the large majority of overall supply. This has ensured the continued viability of the individual growers and the district.

With the recent announcement that Melbourne Water will not build a desalination plant to reduce the salinity of the recycled water, SRW and other stakeholders will explore other strategies to ensure that water provided to the district is of a quality that will meet the sustainable needs of production and the environment. This is expected to be a critical element of the strategic plan for the District outlined above.

No expenditure has been included in this Water Plan for this project as the scheme should be self-funding into the future. However, if major works are required to ensure the continued viability of the scheme then SRW will need to seek a variation to the price determination.

Operational, Public Safety and Other

Once again, there is a suite of minor projects required, for example to ensure the safety of the public and deal with noxious weeds – in particular the slashing of wild aniseed in the WID.

WATER RESOURCES AND SUSTAINABILITY EXPENDITURE

Major initiatives are proposed during the second Water Plan period across the licensing business. This section deals with these under four key program areas:

- Monitoring & Reporting the Resource
- Managing Data and Providing Information
- Allocating the Resource
- Managing Entitlements

MONITORING & REPORTING THE RESOURCE

Reconfiguration of the State Observation Bore Network

The State Observation Bore Network is the principal network for Groundwater Resource Monitoring. DSE manages and maintains the bore network and in partnership with SRW collects quarterly groundwater data in 47 Groundwater Management Areas (GMAs) in southern Victoria to identify long term groundwater trends.

It is our understanding that these arrangements will continue for existing bores, and that the network will be reconfigured, with modified frequency and spatial coverage. Action 2.17 in the White Paper makes reference to "installing 30 new bores across the State". As a contingency we have assumed a ten per cent increase in coverage for the recurrent cost of readings.

Expansion of Melbourne Stream Gauging Networks

Stream gauges give SRW the tools to manage water resources for the environment and for surface water users. Measurement of stream flows in critical locations is central to our management capacity, to understand river flow dynamics and when to apply restrictions if necessary.

We require an additional twelve monitoring stations on rivers and streams to the west and east of Melbourne, to enhance information to aid management capability. We expect to install a further six to seven sites across the region. Telemetry will also provide real time information and enhance productivity by reducing staff travel costs.

State & National Reporting

We propose a major enhancement to our collection, storage and reporting of water resource information – to improve reliability, flexibility and accessibility and facilitate compliance with mandatory reporting.

This meets expectations and requirements under the National Water Initiative, where governments have agreed to report independently, publicly, and on an annual basis, to facilitate benchmarking of pricing and service outcomes. Concurrently the new Victorian Water Register is nearing completion, which will require interfacing with our systems and trigger some changes to our processes and procedures.

MANAGING DATA, PROVIDING INFORMATION

Victorian Water Resources Data Warehouse

DSE currently manages and maintains a data warehouse as the repository for surface water stream flow data collected by water authorities and other agencies. An allowance of $20k per annum has been assumed as a contribution towards system access and maintenance, under a formalised data sharing and access agreement.

Groundwater Management System

The Groundwater Management System is collectively governed as a shared system between the Rural Water Authorities and DSE. It provides a central repository for groundwater information, as well as the means to issue Bore Construction Licenses. This is a critical system, especially for licensing domestic and stock bores.

There is uncertainty as to the future development path of the system but whatever approach is adopted it is envisaged that a capital contribution of $100k plus $10k annual maintenance cost share will be required, recognising that there are multiple beneficiaries beyond the current owners who gain access to the system.

Southern Groundwater Atlas

We propose to publish an Atlas of groundwater systems in Southern Victoria that records the key characteristics, features and processes in each significant groundwater unit. We will compile existing and new understanding of groundwater derived from newly developed hydro-geological maps, and make these widely accessible. We propose to work closely with DSE to ensure consistency of data protocols in completing the foundational maps.

Mapping Of Conjunctive Groundwater-Surface Water Systems

The linkage between groundwater and streams is widely recognised. There is increasing expectation that management instruments will reflect the connected nature of these water resources. The National Water Initiative requires “recognition of connectivity between surface and groundwater resources and connected systems managed as a single resource.”

As a first step, we propose to map four stressed systems and organise the available data on surface and groundwater resources to facilitate a ‘conjunctive use perspective’, and to build on existing work to identify where additional monitoring may be warranted. It is estimated that it would cost at least $50k per catchment to estimate ground and surface water exchanges, involving matching river and nearby groundwater levels.

Planning For Plantations

Plantation forestry has expanded rapidly over the last decade and it is likely to continue to expand in higher rainfall areas of our southern region – most notably in the south west of Victoria.

It is proposed to identify Aquifer Recharge Protection Zones to protect groundwater resources. We will then seek corresponding land use planning controls, working with State and Local Government to develop the legislative mechanisms and frameworks.

Climate Change – Informing & Adapting

SRW's Statement of Obligation requires us to develop and implement programs to improve our sustainability performance, including responding to climate change. Given that the water entitlements we supply or regulate are held by customers or licence holders, we consider that our primary responsibility is to help review and communicate information about the impacts of climate change to these stakeholders.

This will involve engaging expert advice, especially to translate the more complex groundwater response and prepare communication materials.

Offshore Mining Implications

Bass Strait and Latrobe Valley hydrocarbon industries have caused extensive groundwater level decline in Gippsland. This has reduced access to groundwater resources for rural use in Yarram. There is also some evidence for potential impact on industrial and urban purposes, depletion of stream flows and concern about subsidence risk along the Ninety Mile Beach.

Assessment shows that most bores would require pumps to be lowered or replaced. Field investigations are required to refine the cost estimates, involving pumping tests and further collection of groundwater data.

Managed Aquifer Recharge

If stormwater is harvested, it can enhance the resilience of urban areas to drought and climate change. There may be opportunity to store stormwater in aquifers, where local stratigraphy and land use is suitable. This approach also implements the obligation on SRW in Regional Action 4.13 which states *"Barwon Water and Southern Rural Water will conduct an initial trial of aquifer storage and recovery"*. SRW's role will involve support via a Steering Committee and subsequent assessment and approval.

SRW will enhance its in-house capability to be to be able to respond if applications are received. However, it is proposed that the cost of assessing specific MAR schemes be on a user pays basis.

Water Saving and Efficiency Recognition

As part of SRW's commitment to encourage efficient and responsible water use, we propose to publicly recognise individuals or organisations that develop and/or introduce new processes and technologies that result in a significant saving of water whilst conducting their business. These responses contribute to our obligation to provide information about the efficient and responsible use of water (refer SoO clause 10.3 (b)).

Improvements to Mobile Staff Capability

We will equip our mobile work force with online access to core databases for licensing purposes, including asset management, field inspection, and meter reads. Extending mobile capability enhances the effectiveness of our field staff to better meet compliance obligations important during construction of bores and dams, and makes a contribution toward ongoing productivity gains

ALLOCATING THE RESOURCE

Valuing New Water Allocations

In order to maximise the value and benefit of any new water allocations the Government has determined that it will allocate the water via an auction or tender process.

This Water Plan gives effect to this policy with the introduction of a 'reserve price' of $500/ML for all new water allocations other than for domestic and stock purposes. Funding of $30k is proposed for legal review and development of robust procedures – though we expect that there is limited opportunity for further allocation to be made, and as such do not expect significant revenue offsets.

Supporting Policy Development

The Victorian Government in Our Water Our Future at Action 7.12 sought that "*water authorities would meet the objective of being an innovative and accountable water sector driving sustainable water management.*" In recent stakeholder surveys, some expressed a view that SRW could be more proactive in developing and leading policy positions for example in smaller unregulated systems

We believe that a considered legislative / management response to such issues is required during the regulatory period, and that SRW needs to take a leading role in developing these responses for southern Victoria. This will, however, be contingent on SRW's capacity to obtain and deploy strong analytical and policy skills.

MANAGING ENTITLEMENTS

With growing pressure on water resources, management expectations are increasing to ensure the sustainable use of resources and minimise adverse impacts on other users and the environment. Improving our understanding of systems (as outlined above) will make an important contribution to enhanced management, but these will be complemented by a package of measures to enhance our management of local water systems.

Local Management Rules – 'Understanding Our Catchment'

The movement of water entitlements and prospective activation of sleeper / dozer licences increases the prospect of interference with other water users and the environment. In most areas we expect generic rules to provide an appropriate management regime, setting expectations and criteria to apply when considering transfers. Development and testing of these rules will take place at the start of the regulatory period – at a cost of $50k.

Groundwater Trading

There are various barriers that can inhibit groundwater trading including: legislative, economic, knowledge and information, and perceptions. In response, SRW proposes to engage consultants working in partnership with groundwater Licence holders, ourselves and DSE to develop the detailed implementation of such strategies on a regional or local scale.

Groundwater Management Plans – 'Water Down Under'

In some areas, threats to the resource and existing patterns of allocation create the need for significant change to entitlements. For example, the Central Region SWS has flagged the possible buy-back of licences on some heavily stressed waterways, while in some groundwater areas continuing decline may trigger the need for review of allocations. Water Supply Protection Areas (WSPAs) are the appropriate tool where significant change to entitlements is necessary, since their statutory powers are important.

Work is required for priority GMAs, where either a WSPA or Management Rules are needed. DSE funds the technical work and SRW provides project management and funds the community engagement and consultation work. The following priority work program is proposed:

i) **WSPAs in five GMAs:** here technical work is complete, but needs translation for committee and community consultation. In some instances this may require resolution of over-allocation issues – due to revised understandings of sustainable yields, aquifer response, or land use change.
ii) **Management Rules:** eight GMAs require work to better conceptualise the aquifers and undertake groundwater resource appraisal. Local committees of irrigators and stakeholders are planned to refine draft rules and oversee the community engagement process.
iii) **Hot spots:** technical studies and analysis in hitherto unknown unincorporated areas are expected to increase in frequency, given the rainfall and recharge deficit.

This is a priority program for the Licensing Business Unit with an overall revenue requirement during the regulatory period of $1,200k with cost sharing between SRW ($800k) and DSE ($400k).

Streamflow Management Plans (SFMPs)

A formal Memorandum of Understanding with the Victorian Government outlines the conditions and obligations on SRW to cover costs associated with the on going administration of SFMPs to be developed prior to 2012 for six key river systems. SRW's Licensing Business Forum recommended inclusion of the Moorabool in this same initiative – which we believe would require development of a conjunctive ground and surface water plan including Bungaree GMA

Advice from DSE is that funding of circa $250k per annum will be granted to SRW to project manage the preparation of the above plans. In addition, SRW manages consultative implementation committees going forward after the completion of SFMPs. It is estimated that meetings held on a twice yearly basis would require $60k per annum. Addition of the Moorabool / Bungaree WMP is anticipated to add a further $200k.

Metering

We propose to complete our metering program to cover all water users across the region using 10ML or more a year whether from surface or groundwater sources. This policy is in line with our SoO and is consistent with the Action 3.13 of the Sustainable Water Strategy for the Central Region "The Government will extend the Pathways to Sustainability program to all industrial and commercial users throughout the central region that use 10ML of water per year or more." It is also in line with the National Water Initiative.

We would fund the installation of meters on the basis of a $400/meter contribution from general licence fees and the remainder (on average $600/meter) charged at cost to the licence holder. For an expected 300 licences, the total revenue requirement will be $400k for installation. The installation of meters also adds operating costs – meter reading and meter maintenance. We have allowed $20k for breakdowns and that meters will be read twice annually (at a cost of $50k).

Dairy Wash Metering

SRW is taking the lead to promote metering of dairy sheds across the region. This involves the provision of meters and administrative costs in allocating and adjusting water resource records. Agreement with DSE on recognition of historical usage in allocations and the program development is recognised. Costs of $3.3M will spread the burden and benefit of metering across the wider licensing group.

Meter Maintenance - Iron Bacteria

Iron Bacteria is an organism that exists in groundwater in certain areas. It encrusts surfaces such as pipe work and meter internals with a fine brown sludge. That sludge can severely restrict and even block the pipe and meter.

The Statement of Obligation at clause 17.3 requires that SRW must develop and implement a program to maintain and replace faulty meters. This initiative involves two parts, firstly the regular cleaning of meters affected by iron bacteria and secondly research into more effective treatments.

Intensive Field Management

In most areas our general compliance arrangements satisfactorily protect the resource, other users, and the environment. However, additional or more intensive activity is necessary in some areas where the resource is vulnerable to serious threats or there are licence compliance issues.

We expect to need a more intensive compliance approach in a small number of management units – including Deutgam and the Narracan Creek catchment. We will upgrade our metering technology in these areas and construct system models for a further five areas. We anticipate that at least a proportion of these costs estimated at $40k per annum will be recovered through an additional intensive management charge on licences in those areas where we can clearly define a super normal level of management and compliance effort.

Bore Interference Modelling & Assessment

The potential for bore interference between neighbouring bores is assessed as part of the consideration of applications for new licences. We need to extend our capability to assess claims of interference over time. Assessing such claims can be difficult, both in terms of measuring what is actually happening and in determining the likely cause.

In order to improve our management of such claims, we propose to provide for more frequent use of a ‘hot spot’ model to help assess local groundwater behaviour and purchase additional data loggers to allow expanded monitoring of groundwater behaviour in such circumstances.

Monitoring Significant Licences

Very large licences, particularly those that are very much greater than surrounding ones, can have effects over a wide area as a consequence of intense extraction at one or two points. Over high demand periods such as summer, our field officers spend a significant amount of time administering rosters and extraction regimes for large users in stressed systems. As a result, our service to other systems and water users can be reduced.

We propose to develop a more detailed monitoring and management regime for these large licences. We will also explore whether a similar regime should be applied where water is taken for purposes demanding very high water quality, e.g. water bottling.

Investing in telemetry for high volume water extraction points will provide value in reducing the time needed to check rostered use, will allow us to spread our customer service time equitably, and provide detail on water use patterns. Installation of telemetry on meters costs approximately $800 per unit, and we would propose to install 400 units to cover our intensive systems.

Licensing Field Presence

Our Licensing Business currently has field officers working from eleven locations (Hamilton, Warrnambool, Colac, Ballarat, Werribee, Dromana, Koo Wee Rup, Leongatha, Moe, Maffra and Bairnsdale) across our region of 88,000 square kilometres.

Over the last five years we have progressively increased our field effort - however, we recognise that additional resources are needed to achieve the effective on-the-ground water resource management that we and many stakeholders, licence holders and the community desire. In particular, we recognise the need to expand resourcing in parts of the Melbourne fringe including the Yarra Ranges. For the two extra field staff proposed, we will commit $800k over the regulatory period.

COST SHARING

For many of the projects and programs proposed above the benefits will accrue to a wide range of parties. In most cases the licensees themselves will benefit because the work helps protect the resource and minimise risks from third parties. However, in most cases it is also evident that much wider resource management objectives and outcomes are involved.

In these circumstances it is reasonable to expect that possible contributions from the Regional Catchment Investment Plans to reflect these wider public benefits.

CAPITAL EXPENDITURE

The capital expenditure program developed in this Water Plan is prudent, fully validated in meeting legislative and policy obligations and appropriate in terms of the ability of our customers to meet higher charges. It is also realistic in terms of the availability of contracting capability and the capacity of SRW to manage the contracts and programs involved.

The following table confirms the timing and allocation of that expenditure by reference to the core business functions. This confirms that the majority of the expenditure is focussed in the regulated irrigation supply businesses. It also reflects the step-up in expenditure that will be required through the Water Plan period to roll-out the program of works required to implement MID2030 – a major upgrade of the Macalister irrigation supply infrastructure.

	2008/09	2009/10	2010/11	2011/12	2012/13	TOTAL	ANNUAL REVENUE REQUIREMENT
MACALISTER IRRIGATION DISTRICT							
Funded from Contributions	3,739	3,708	0	0	0	7,447	N/A
Funded from Renewal Annuity	1,178	553	814	514	519	3,578	N/A
Funded from Pricing	338	225	217	150	134	1,064	73
Funded from Post 2013 Sources (MID2030)	1,639	3,558	18,573	28,916	42,090	94,775	1,582
WERRIBEE IRRIGATION DISTRICT							
Funded from Renewal Annuity	146	178	292	161	232	1,008	N/A
Funded from Pricing	66	55	53	33	35	242	13
BACCHUS MARSH IRRIGATION DISTRICT							
Funded from Renewal Annuity	134	103	198	83	85	603	N/A
Funded from Pricing	159	50	19	19	21	267	18
LICENSING							
Funded from Contributions	810	810	810	810	810	4,050	N/A
Funded from Pricing	295	215	216	217	218	1,161	70
HEADWORKS							
Funded from Pricing	3,347	2,202	1,860	1,861	1,023	10,293	493
SALINITY PROGRAM							
Non-Prescribed	49	50	50	50	50	249	N/A
CORPORATE							
Funded from Pricing	890	456	436	356	433	2,571	447
	12,789	**12,162**	**23,537**	**33,170**	**45,649**	**127,306**	**2,695**

The importance of the MID2030 initiative is also evident in the following table that records the top ten programs to be completed in this Water Plan.

Top Ten Projects for Water Plan ($k)

	2008/09	2009/10	2010/11	2011/12	2012/13	TOTAL	ANNUAL REVENUE REQUIREMENT
MID2030 (Post 2013 Funding)	1,639	3,558	18,573	28,916	42,090	94,775	1,582
Channel Automation - MID (Govt Funded)	3,739	3,708	0	0	0	7,447	N/A
Metering Program (Mixed Funding)	810	810	810	810	810	4,050	N/A
MID Carp Damage (Renewal)	280	280	280	280	280	1,400	N/A
Melton Embankment Protection	900	0	0	0	0	900	49
IT Infrastructure Upgrade	250	148	113	103	100	714	146
Blue Rock Spillway Upgrade	280	300	0	0	0	580	28
Glenmaggie Drainage Lines	0	0	500	0	0	500	20
Rosslynne Access Road	0	0	0	500	0	500	8
Melton Outlet Remodelling	500	0	0	0	0	500	27

MID2030

MID2030 represents by far the largest and most significant focus of activity and expenditure by SRW and its customers over the Water Plan period.

MID2030 is a strategic planning process involving substantial consultation with our customer committee, stakeholders and wider customer base. The planning exercise, which is nearing completion, has included the preparation of an MID atlas and a comprehensive Discussion Paper. The outcome will be a plan that identifies agreed actions and performance targets. It will provide a robust and well founded basis for the future economic and environmental sustainability of the region.

Works proposed include significant changes in the SRW supply and drainage system. The plan will build on the experience of the district with channel automation and will also include piping of major areas. However, the final arrangements, including some important questions about the preferred approach to funding are still to be decided. The project will also be subject to close scrutiny by the Department of Treasury and Finance following the submission of project specific business cases through the *Gateway Review Process*. This is a structured process to provide external challenge and validation for major public sector expenditure.

The project is included in the Water Plan to provide an indication of the scale and scope of the exercise. An indicative budget is proposed. SRW will seek a variation to the ESC's pricing decision if the final project proposals or funding options vary significantly from the assumptions in the Water Plan.

The project involves six discrete project zones and an overall project management cost. The proposed costs of the component elements over the life of the Water Plan are as follows.

MID2030 – OUTLINE COSTS AND STAGES ($000s)

	2008/09	2009/10	2010/11	2011/12	2012/13	TOTAL
Project Development	345	173	0	0	0	518
Zone 1 - Newry	201	546	7,188	6,900	5,750	20,585
Zone 2	173	230	2,185	0	0	2,588
Zone 3 - Southern Tinamba	460	633	6,613	12,305	17,250	37,260
Zone 4 - Southern Cowwarr	173	288	2,185	9,315	11,500	23,460
Zone 5 - Eastern	115	223	115	223	5,750	6,426
Drainage Program	173	1,466	288	173	1,840	3,939
	1,639	**3,558**	**18,573**	**28,916**	**42,090**	**94,775**

Channel Automation

Chapter 3 outlines the successful investment program undertaken to automate the channel supply system within the Macalister Irrigation District, with government funding:

- Stages 1&2: $7M for automation of the Main Northern Channel in 2004;
- Stage 3&4: $4.7M funded through the NWI, completed in August 2006;
- Stage 5: $8.25M for Nambrok-Denison and Cowwarr Channel, underway;

Stage 6 of the program involves automation of the Southern Main Channel from Glenmaggie. This will be delivered within this Water Plan and completes the current program of works within this project. Further channel automation will form part of the wider MID2030 initiative.

This expenditure is scheduled for completion in the first two years of the Water Plan. All costs will be recovered through external government funding.

WID Pipelining

An early, pre-identified priority for the WID is the piping of channel No 4/1. This represents a location of high flow and high leakage. The proposed expenditure forms part of the business-wide commitment to reduce system losses by 25% by 2015. However, this project is likely to occur early in our third regulatory period.

FINANCING CAPITAL INVESTMENTS

OVERVIEW

Our capital costs will be funded through a combination of:

- renewal annuity as a component prices;
- customer contributions to direct costs;
- return on and of investment as a component prices; and
- grants, capital contribution and other external funding.

RENEWAL ANNUITY

Within our irrigation districts, we use a renewal annuity to determine the funding requirement for our infrastructure assets while providing reasonable price stability and inter-generational equity.

Our annuity, which is based on a 40-year replacement profile, is further described in appendix iii.

The following table shows our calculated annuity and associated expenditure over the regulatory period.

		RENEWAL EXPENDITURE				
DISTRICT	ANNUITY	2008/09	2009/10	2010/11	2011/12	2012/13
Macalister	1,323	1,178	553	814	514	519
Werribee	365	146	178	292	161	232
Bacchus Marsh	99	134	103	198	83	85
TOTAL	**1,787**	**1,458**	**834**	**1,304**	**758**	**836**

Our Werribee and Bacchus Marsh irrigation district require modernising to provide service levels compatible with modern irrigation standards and performance, and to address major drivers for change. In addressing this, we propose to commence a similar process to MID2030, and anticipate that the implementation of these projects will occur towards or beyond the end of this Water Plan.

Given the short-term uncertainty this creates in our capital infrastructure planning, we have adjusted the expenditure profile underlying the renewal annuity calculation, to assume that only works essential to the ongoing serviceability of district will be undertaken during the regulatory Plan period.

If in undertaking the analysis we determine that significant expenditure is required within this regulatory period, an appropriate funding model will be developed, and we may seek a variation to the price determination, or for explicit recognition of the expenditure within our following Water Plan.

DIRECT CONTRIBUTIONS AND GRANTS

Many of our capital programs are funded directly from customers (such as ad-hoc meter installations), from government (our channel automation program), or through a combination of both (our current metering program which includes a government contribution of $400 per meter).

To the extent that programs are directly funded from sources not requiring a future return on investment, there will be no impact on tariffs.

RETURN ON AND OF INVESTMENT

For capital projects which do not fall within the renewal programs for our irrigation districts, and which are not directly funded by either customers or government (or both), we assume funding through future tariffs to generate a return *of* and *on* the investment.

These calculations are based on the effective life of the assets generated by the expenditure, to a maximum of 100 years, and for the purposes of assessing indicative tariff impacts in this plan, we have assumed a 5.1% real rate of return.

We anticipate that the ESC, in undertaking the price review, will establish an appropriate rate of return in consultation with the industry and external advice, and that this rate will be reflected in our final revenue determination and tariff approvals.

COST OF DEBT

OVERVIEW

We seek provision within our 2008-13 pricing for:

- continued repayment of internal deficits attributable to 'sales' deficits accumulated prior to 1 July 2006;
- continuation of our urban pricing arrangements with Western Water and Gippsland Water, from which we finance a range of community service obligations and water resource management initiatives;
- recovery, through post-2009 pricing, of the establishment costs and operating deficits associated with the WID Recycled Water Scheme;
- recovery of revenue not recovered through our first regulatory period, particularly to the extent that this relates to "sales' deficits; and
- recovery of operating costs incurred through our first regulatory period in response to the June 2007 Gippsland floods.

INTERNAL DEFICITS

Background

The protracted drought has reduced delivery volumes in our Irrigation Businesses, creating a shortfall in revenue and challenging the delivery volumes upon which past budgets were predicated. In our 2003/04 Corporate Plan we took a significant step forward in addressing this by:

- establishing a 10-year repayment for accumulated sales deficits, ending in 2013; and
- reducing our budgeted delivery volumes.

These measures were endorsed by our Customer Consultative Committees as a prudent response to the implications of the drought on Southern Rural Water as a financially viable Authority servicing their needs.

Subsequently, we have further reviewed our budgeted delivery volumes in successive Corporate Plans, and have maintained our principle of repaying accumulated deficits by 2013.

Treatment

Our first ESC Price Review included a "cost of debt" within our revenue requirement. This amount ($1.9m as set by the Minister for Water) incorporated $823 thousand representing repayment, over 7 years, of accumulated deficits totalling $4,729 thousand (as at 1 July 2006).

These deficits have been effectively borrowed internally against our accumulated infrastructure renewal funds.

Proposal

In order to complete repayment of these deficits by 2013, we require continuation of

this cost of debt within our 2008-13 revenue requirement. Our understanding is that this requires formal determination by the Minster for Water. The annual cost of debt in 2006/07 dollars is $848 thousand.

Implication

The annual cost of debt as a percentage of our 2006/07 budgeted revenue requirement for each of our irrigation districts is as follows:

IRRIGATION DISTRICT	IMPACT
Macalister	7%
Werribee	10%
Bacchus Marsh	12%

These impacts have been included within our previous forward-look pricing paths, and have been a component of our indicative tariff impacts for 2008-13 throughout discussion with Customer Consultative Committees. (Note that the table above reflects our 2006/07 budgets and does not include the costs of initiatives proposed for our next Water Plan. Ultimately the percentage impact on future prices will be lower due to an increased cost base).

If we are unable to recover this cost of debt through pricing over our second regulatory period, this will mean:

- a downward influence on prices for our irrigation districts; and
- crystallisation of our past deficits as a permanent reduction in equity.

URBAN PRICING ARRANGEMENTS

Background

Our storage operator pricing to Western Water and Gippsland Water has historically included a component in excess of the direct costs of storage operation and maintenance – notionally a 4% rate of return on the storage assets.

We employed this revenue in delivering a range of community service obligations, including management of recreation facilities and development of water management plans, and also in payment of our rural dividend to government.

Action 6.6 of the Victorian Government White Paper "Securing Our Water Future Together" proposed removal of existing rate of return by implementing alternative arrangements for activities it funded and by forgoing the rural dividend.

Approaching our first regulatory period and in the absence of further progress in implementing alternative funding arrangements, we negotiated an agreed payment with Western Water and Gippsland Water reflecting prior arrangements and removal of the dividend. We proposed an opening "line in the sand" regulatory asset value within our first Water Plan as a basis for incorporating this agreed payment into our revenue requirement.

Treatment

Our first ESC Price Review converted this proposal from a regulatory asset value to a "cost of debt" within our revenue requirement. Of the $1.9m cost of debt set by the Minister for Water, $1.077m represented our urban pricing arrangement (the remaining $823 thousand representing repayment of internal deficits – see above).

Proposal

In drafting our 2008-13 Water Plan, we have assumed, in the absence of further progress in implementing alternative funding arrangements, continuation of some ability to recover the costs of our community service obligations and water resource management initiatives through our urban pricing (as a surrogate for the broader community).

We have negotiated with Western Water and Gippsland Water to maintain existing charges in nominal terms throughout the next regulatory period. This will see the real value of the charges reduce over time as our cost base increases.

Our draft Water Plan proposes, in addition to the continued operation and maintenance of our recreational facilities, a well scoped suite of initiatives for improving water resource management as an adjunct to our delegated role as manager of surface and groundwater licences. These are initiatives which we consider essential to effectively performing our role and to maintaining a standard of management for our shared water resources commensurate with public and community expectations.

Implication

If we are unable to recover this revenue through our urban pricing, we will need to identify alternative funding, which may include further price increases for irrigators, and/or access to the environmental contributions fund.

WID RECYCLED SCHEME DEFICITS

Background

The WID Recycled Water Scheme was announced by the Minister on 8 January 2004, and deliveries of Class A recycled water from Melbourne Water's Western Treatment Plans into the WID channel system commenced in January 2005. Prior to this the commencement of recycled water deliveries, a temporary supply of potable water was made available to irrigators under the recycled scheme via a temporary pipeline.

Under the Customer Supply Agreements (Schedule 6), the price for Recycled Water until 30 June 2009 will be the river water price. Unfortunately, particularly due to the extreme seasonal conditions, we have been unable to operate the delivery system at the level of efficiency necessary to break-even on the direct marginal costs of supply.

This scheme has accumulated a financial deficit owing to:

- implementation, including the costs of the temporary potable supply interconnect; and
- ongoing pricing of water delivered under the scheme at less than the direct attributable marginal costs (predominantly the bulk supply cost to Melbourne Water).

Treatment

We have consistently maintained our financial arrangements for the WID Recycled Water Scheme as quite distinct from our other activities, with the explicit assumption that the accumulated deficit will be recovered through our post-2009 pricing for the scheme. We did not seek inclusion of this accumulated deficit in our first revenue determination, as we had no intention of recovering this amount during our first regulatory period.

Proposal

By 1 July 2008, we anticipate this deficit will total $1.5m. If we assume a 10-year repayment of this deficit and a 5.1% WACC, this represents an annual cost of debt of $195 thousand for ten years.

Implication

Based on our budgeted 2006/07 revenue, this would represent over an 80% increase in our recycled water tariff. This would in addition to an increase of more than 50% to achieve direct cost recovery (and without any attempt to apportion infrastructure costs to recycled water pricing).

Whilst we recognise that future price for recycled water in the WID will be determined through a pricing process which we commenced with our Customer Reference Group and key stakeholders during 2006/07, it will be important that our revenue requirement for the next regulatory period is not constrained in implementing the outcomes of that process.

UNDER-RECOVERED REVENUE FROM FIRST REGULATORY PERIOD

Background

The following table compares our forecast revenue for the first regulatory period with a revenue cap adjusted to exclude those activities for which we propose an alternative form of price control.

On our current forecast, we will under-recover by around $2.4M in our first regulatory period against our revenue cap for those activities which we propose as appropriately regulated by a revenue cap. At the same time, we have a maintained our agreed tariffs for those recycled water and licence applications, which we propose as best regulated via tariff control (either individually or within a tariff ‘basket’).

	2006/07	2007/08	TOTAL
REVENUE CAP			
Revenue Cap ($2005/06)	21,123	20,231	41,354
LESS:			
Revenue Attributable to Activities Proposed for Alternative Price Control:			
WID Recycled Scheme	*(336)*	*(355)*	*(692)*
Licensing Applications	*(1,970)*	*(2,009)*	*(3,979)*
Yallourn Recoverable Works	*(1,500)*	*0*	*(1,500)*
ADD:			
CPI Adjustment	517	533	1,050
Adjusted Cap ($2006/07)	**17,833**	**18,400**	**36,233**
FORECAST REVENUE			
Total Revenue Budget	22,798	21,421	44,219
LESS:			
Budgeted Revenue from Non-Prescribed Activities:			
Salinity Mitigation Charges	*(76)*	*(76)*	*(152)*
Hydro Royalties	*(51)*	*(52)*	*(103)*
Rental & Lease Payments	*(57)*	*(62)*	*(119)*
Customer Interest	*(25)*	*(62)*	*(87)*
Drillers Licensing Board	*(26)*	*(26)*	*(52)*
Contributions:			
Grants	*(1,047)*	*(342)*	*(1,389)*
Less Meter Recovery Charges	*(1,320)*	*(390)*	*(1,710)*
Budgeted Revenue from Activities Proposed For Alternative Price Control:			
WID Recycled Scheme	*(200)*	*(293)*	*(493)*
Licensing Applications	*(1,584)*	*(1,602)*	*(3,186)*
Yallourn Recoverable Works	*(1,275)*	*(607)*	*(1,882)*
Reduction in Sales due to drought	*(1,255)*	*0*	*(1,255)*
Forecast Total	**15,882**	**17,910**	**33,792**
UNRECOVERED REVENUE CAP	**1,951**	**490**	**2,441**

Treatment

We understand that revenue within our cap which is not recovered through our first regulatory period will be rolled forward as a matter of course and recovered through our next regulatory period.

Implication

Recovery of $2,441k over the next regulatory period represents an annual revenue requirement of $565k.

If we are unable to recover this cost of debt through pricing over our second regulatory period, this will mean:

- a downward influence on prices for our irrigation districts; and
- crystallisation of our past deficits as a permanent reduction in equity.

FLOOD RESPONSE

Background

On June 28 2007, torrential rain in the Macalister catchment reached Lake Glenmaggie at a calculated peak inflow of more than 300,000ML per day. Despite the low water depth in Glenmaggie which moderated the impact, these flows caused significant downstream flooding - damaging infrastructure and isolating staff.

The damage bill for SRW as a result of the floods is estimated at around $1M, while we must also be conscious of the potential for those impacted to mount legal claims to recover their own losses.

Proposal

Whilst we continue to pursue all funding opportunities to mitigate the financial implications of this event, we have assumed, for the purpose of providing indicative tariffs, that:

- to the extent that these costs represent capital expenditure in replacing assets, that expenditure will be added to our roll-forward regulatory asset base; and
- to the extent that the costs represent maintenance, we would consider this a variation to our first regulatory determination, and recover those costs over the subsequent regulatory period.

Implication

We currently estimate around $320k of maintenance costs associated with the floods, which requires an annual repayment of $74k over five years.

PART E

OUR DEMAND FORECASTS

OVERVIEW OF DEMAND FORECASTS

Our products are generally entitlements, which represent proportional shares of water resources held by customers. This is true both of our irrigation businesses, in which the entitlements are water rights held by irrigators, and our headworks business, which manages bulk entitlements held by urban water businesses and the Latrobe Valley Power Companies (as well as those entitlements underpinning our irrigators' water rights). Similarly, our unregulated surface and groundwater customers are licensed for fixed maximum volumes of extraction, though our focus here is largely about compliance with licence conditions in order to effectively manage these resources on behalf of all stakeholders, not just licence holders.

The one aspect of our business which has experienced significant demand variability over recent years is our applications function. The drought has seen significantly increased demand for new licences within our unregulated surface water and groundwater systems during our first regulatory period. However, with the introduction of caps on these systems, we anticipate a sharp decline in this activity.

With access to resource entitlements capped at existing levels for most, if not all of our systems, our products are supply constrained - making demand forecasts largely irrelevant. Demand considerations influence only the trade of existing entitlements, which is essentially a secondary market for our products and not one in which we play a significant part.

The key volumetric influences on our revenue for the regulatory period will be:

- an additional 2,500ML of entitlement within the Macalister Irrigation District, representing losses "saved" through recent infrastructure works;
- an additional 1,000 licences and 40,600ML of licensed volume through the recognition of existing usage as we address historical anomalies in the licensing of water for dairy use; and
- a significant decline in processing applications for new entitlements as caps come into effect across all systems.

In addition, we face an as yet unquantified change to the structure of our entitlements in regulated systems as a result of unbundling, which is to commence on 1 July 2008 in our region. Whilst we assume that, on average, the sum of our unbundled tariffs will generate revenue equivalent to our existing bundled tariffs, there may be implications to the extent that our unbundled tariffs contain any element of usage charge.

INDIVIDUAL DEMAND FORECASTS

IRRIGATION ENTITLEMENTS

Entitlements within our three irrigation districts are fundamentally stable and backed by formal Bulk Entitlements. Notwithstanding this, we anticipate two changes to our existing irrigation entitlements:

- the creation of an additional 2,500ML of entitlement within the Macalister Irrigation District, representing losses "saved" through recent infrastructure works; and
- unbundling of existing water entitlements.

Unbundling of Water Entitlements for regulated systems within our region will commence on 1 July 2008, and we anticipate that detailed arrangements and conversion rules will be finalised by late 2007.

In order that unbundled entitlements will become separately tradeable, they will require unbundled tariffs.

For the purposes of assessing tariff impacts, we assume that, on average, the sum of our unbundled tariffs will generate revenue equivalent to our existing bundled tariffs.

Unbundling involves separating existing water rights into:

- a water share – representing an entitlement to a proportion of the water available for consumptive use in the supply system;
- a water allocation – representing a volume of water in the supply system available for consumptive use;
- a delivery share – representing a proportion of the delivery capacity to a supply point; and
- a water use licence – representing an entitlement to use water for irrigation on a specified property subject to specified conditions.

IRRIGATION ENTITLEMENTS (WATER RIGHT AND DOMESTIC & STOCK)

IRRIGATION DISTRICT	2006/07 (ACTUAL)	2007/08 (FORECAST)	WATER PLAN 2 2008/09	2009/10	2010/11	2011/12	2012/13
Macalister	123,459	123,212	125,712	125,712	125,712	125,712	125,712
Werribee	9.953	9.953	9,953	9,953	9,953	9,953	9,953
Bacchus Marsh	4,562	4,562	4,562	4,562	4,562	4,562	4,562

"SALES" IN REGULATED SYSTEMS

In the past we have budgeted to recover a portion of our revenue as "Sales" in our regulated systems. Sales represents usage in excess of entitlement, and is subject to significant supply-driven variability, and to a lesser extent may also be influenced by demand.

As costs are largely fixed within our irrigation businesses, prices have been sensitive to changes in our forecast volumes. As such, we typically face a trade-off when forecasting sales volumes, between maintaining a prudent financial basis and managing price impacts for customers. These decisions have always been made in consultation with our customer committees, who are also conscious of the trade-off and implications.

For our first regulatory period, we estimated 25,000ML of sales in the Macalister irrigation district, with a further 2,830ML for irrigators on the regulated streams in the Gippsland region. In our Werribee and Bacchus Marsh irrigation districts, we recognised the likelihood of zero sales, and established with customers a planning basis of using any sales revenue, should it eventuate, to repay existing accumulated deficits in the business.

The 2006/07 financial has failed to deliver sufficient water to meet entitlements, and so consequently no sales revenue. For the Macalister district, this means a further deficit to be carried forward to our next regulatory period.

Looking to our next regulatory period, we recognise that unbundling of water entitlements will reshape our tariffs, and we will no longer have a sales charge in its current form. Whilst we will likely continue to have some component of revenue exposed to seasonal variability, the basis for this has not yet been established.

Given our uncertainty about future tariff structures, and the fact that we are proposing a revenue cap as the form of regulation for the bulk of our revenue, we propose to:

- address tariff structures through our first tariff submission (prior to 2008/09);
- to the extent that our tariffs are exposed to variable quantities, review these forecasts annually through our subsequent tariff approvals;
- use the flexibility inherent within the revenue cap to manage annual variations in forecast quantities.

SURFACE AND GROUNDWATER LICENSED VOLUMES

The White Paper documents caps for all river basins in southern Victoria at existing entitlement levels, with the exception of the Nicholson, Mitchell, Tambo and Avon basins - across which a further 2,000ML is available - and the low-demand East and South Gippsland, Otway Coast, Corangamite and Portland, which are currently below the sustainable diversion limits. Caps are also in place for most areas of significant groundwater availability or use across the State. Hence there is limited scope for, and expectation of, new licences. Certainly, the White Paper prescribes a future in which new licences will be very uncommon.

At the same time, we are seeing both amalgamation and surrender of existing licences, which we believe is prompted, at least in part, by increasing annual licence fees. With caps in place, and additional water needed for the Environmental Water Reserve in most systems, surrendered licences are not reissued. Consequently, we have reservations about the sustainability of existing volumes and quantities over the longer term.

Notwithstanding this, we have proposed within this plan to undertake a program of addressing historical anomalies in the licensing of water for dairy use - particularly the use of nominal licence volumes and unlicensed use. We anticipate that this program will identify 1,000 additional licences (600 groundwater and 400 surface water) at an average volume of 15ML, plus an additional 12.8ML of entitlement against 2,000 existing licences (1,200 groundwater and 800 surface water).

SURFACE WATER AND GROUNDWATER LICENCES AND VOLUMES

SYSTEM	2006/07 (ACTUAL)	2007/08 (FORECAST)	WATER PLAN 2 2008/09	2009/10	2010/11	2011/12	2012/13
SURFACE WATER							
Licences							
Unregulated	4,130	4,153	4,153	4,253	4,353	4,453	4,553
Regulated	431	431	431	431	431	431	431
Volume							
Unregulated	103,142	101,838	101,838	105,898	109,958	114,018	118,078
Macalister / Thomson	31,197	31,197	31,197	31,197	31,197	31,197	31,197
Maribyrnong	225	225	225	225	225	225	225
Thomson Cowwarr	282	282	282	282	282	282	282
Werribee	1,099	1,099	1,099	1,099	1,099	1,099	1,099
GROUNDWATER							
Licences	3,630	3,630	3,630	3,780	3,930	4,080	4,230

Volume	325,593	325,593	325,593	329433	333,273	337,113	340,953

APPLICATIONS

Despite recent elevated demand for new licences in response to the drought, we anticipate that with the capping of groundwater and surface water resources, our ability to assess new applications will effectively cease, other than perhaps for bore construction applications and surface water licence applications for domestic and stock purposes (groundwater for domestic and stock does not require a licence).

STORAGE OPERATION

Our Headworks business harvests and stores water in accordance with the provisions of Bulk Entitlement Orders, for our own irrigation customers, urban water authorities and Latrobe Valley power generators, in four major systems and utilising seven large dams at Pykes Creek, Merrimu, Rosslynne, Melton, Blue Rock, Yallourn and Glenmaggie.

Our role in this is often misconstrued as that of a wholesaler providing bulk water to retail water business. In fact our role is more akin to a facilities manager, and the "product" of our headworks business is the operation and maintenance of the dams under our stewardship. The various Bulk Entitlement Orders under which we operate specify the manner on which the costs of operating and maintenance the storages are determined and apportioned amongst the entitlement holders.

There is no standard unit of measure applicable to this part of our business.

PART F

OUR PRICES

OVERVIEW

Our operational costs and initiatives will be funded through a combination of present and future:

- annual entitlement fees;
- application fees;
- storage operator charges;
- revenue provided through the cost of debt applied to our urban charges;
- direct recovery of costs;
- grants, capital contribution and other external funding.

INDICATIVE PRICE CHANGES

Importantly, we value our engagement with customer consultative committees in our annual planning and pricing, and propose an annual tariff approval process for our next regulatory period. Therefore, we have not proposed annual price paths within this plan, but rather have provided indicative tariff impacts based on annualised (and discounted) costs across the regulatory period. These range from 9% to 27% across our broad customer groups, and may be higher for some subsets of customers.

Actual tariff changes will be a matter for annual consultation and approval.

FORM OF PRICE CONTROL

For our first regulatory period we have operated under a revenue cap. We seek some hybridisation of our price control in the Water Plan, to exclude from our revenue cap those activities reflective of largely marginal costs, specifically applications processing and recycled water.

TARIFF STRUCTURES

OVERVIEW

Our tariff structures for the second regulatory period will be influenced by the unbundling of water entitlements. This applies to our irrigation districts and regulated surface water.

We will continue with a combined fixed plus volumetric (on entitlement) charge for unregulated surface and groundwater, however will introduce a differential charge for intensive management and continue with a similar suite of specific application fees (with some modification anticipated to reflect unbundled entitlements).

With regard to our storage operation activities, our fixed charges to urban water authorities for storage operation will reflect a continuation of existing practice, while we will undertake further analysis and consultation with power generators to confirm an appropriate charging basis for inclusion in our final Water Plan.

UNBUNDLING OF WATER ENTITLEMENTS

The Victorian Government White Paper; Securing Our Water Future Together established a strategy for the reform of water entitlements, commonly referred to as 'unbundling'. One of the key initiatives associated with unbundling is:

- enlarging irrigator choice and improving the water trading system by unbundling water rights into a water share, a share of delivery capacity and a licence to use water on land.

Therefore SRW's existing entitlements will be unbundled accordingly and incorporated into the new statewide water register. Implementation of unbundled entitlements for regulated surface water systems in our area, including our irrigation districts, is scheduled to coincide with the commencement of our second regulatory period on 1 July 2008.

To achieve enlargement of irrigator choice and improved water trading, it will be necessary to unbundle our existing water right tariffs to align with the newly unbundled entitlements.

FIRST REGULATORY PERIOD

Our tariff structures for the first regulatory period can be broadly categorised as follows:

- for irrigation district customers –
  - charge per ML of water right entitlement, and
  - charge per ML of usage in excess of water right entitlement;
- for surface and groundwater customers –
  - fixed charge per licence, plus
  - charge per ML of licensed volume, and
  - charge per ML of usage in excess of licensed volume (regulated streams only);
- for applicants (new licences, transfers, etc) –
  - specific charges for each type of application, reflective of the costs incurred in assessing the application, and (where appropriate) issuing the appropriate determination;
- for urban water authorities –
  - negotiated charge (with reference to pre-regulation pricing); and
- for power companies –
  - cost-recovery charges for actual costs of operating, maintaining and investing in storages, in accordance with Bulk Entitlement Conversion Orders.

Dealing with unbundled entitlements will also require some amendment to out suite of application fees – for example to provide for transfer of unbundled entitlements. We also understand that fees for some activities associated with unbundled entitlements may be set by government.

For the MID, particularly, unbundling raises a number of technical questions – for its hydrology and other characteristics are quite unlike most other Victorian systems (Lake Glenmaggie is an annual storage, rather than the more common multi-year). For this reason substantial analysis is underway in the lead-up to commencement – with engagement and discussion with local irrigators and stakeholders to ensure that they're empowered to participate in the tailoring of unbundling to local circumstances.

We also recognise that tariff reform, whilst not strictly a part of unbundling, is likely to be triggered by this process – and that a complete revamp of tariffs in our irrigation businesses is possible prior to the 2008/9 irrigation seasons. This work is likely to separate the current 'bundled' pricing (for water right or licence) into components e.g. water share (to recover harvesting costs), delivery share (to recover the costs of maintaining and renewing channels and pipelines), and water use (to recover the direct operating costs of the system).

FORM OF PRICE CONTROL

OVERVIEW

For our first regulatory period, we have been regulated by a "revenue cap", requiring an annual tariff submission for approval by the ESC. We propose that as a general principle this remains an appropriate mechanism, because:

- our costs are largely fixed;
- our products are generally entitlements, and therefore not subject to demand variability;
- the process of unbundling water entitlements will not necessarily see tariffs determined in time for inclusion in our Water Plan;
- we value our annual process of engagement with our customer committees in establishing prices, service requirements and priorities.

However, a revenue cap is less suitable for activities with a significant component of marginal costs, and particularly where quantities can be more unpredictable. For this reason, we propose a hybrid form of price control, under which recycled water, and our various fee-based applications are subject to tariff caps (either as a basket or individually), with the remainder of our operation remaining under a revenue cap.

RECYCLED WATER

The WID Recycled Water Scheme supplies recycled water from Melbourne Water's Western Treatment Plant to the customers within the Werribee Irrigation District, in accordance with Customer Supply Agreements (CSAs).

We pay Melbourne Water a fully variable price for recycled water received into the district, and on our conservative estimates for 2006/07, this represented over 70% of our budgeted cost. Due to the drought, we have delivered significantly more water than budgeted – around 5 times more – and consequently our payments to Melbourne Water have been increased by the same portion. Under a revenue cap, this outcome taken alone would create a significant unrecoverable financial deficit.

FEE-BASED APPLICATIONS

Whilst not so heavily geared toward marginal costs as recycled water, our costs for processing applications are nonetheless influenced by demand, and our recent experience has demonstrated just how unpredictable that demand can be in times of drought. Applications for Bore Construction Licences during 2006/07 have been 2-3 times our prior average, and dealing with that level of activity requires additional resources, which a revenue cap would not provide for.

INDICATIVE TARIFF CHANGES

OVERVIEW

Our tariff-based charges can be broadly described as comprising:

- annual entitlement fees; and
- application fees.

In addition to our tariff-based charges, we also charge urban water businesses and the Latrobe Valley power generators proportional shares of the costs of operating and maintaining the storages in which they hold bulk entitlements.

We value our engagement with customer consultative committees, who have been both influential and constructive in our annual planning and pricing processes. We are keen to continue our positive relationship, and to ensure that regulation is not seen as disempowering, but rather as providing support to our committees. In part, this underpins our preference to maintain an annual tariff approval process within the broader framework of the five-year Water Plan.

We have not proposed annual price paths within this plan, but rather have provided indicative tariff changes based on annualised (and discounted) costs across the regulatory period. These therefore represent, in practical terms, year one step changes in tariffs. This does not however imply our intention to implement tariff changes fully at the beginning of the regulatory period, but rather that the discounted value of total revenue generated over the regulatory period will equate with this. Actual tariff changes will be a matter for annual consultation and approval.

In addition to these indicative changes, appendix iv provides indicative tariffs for the regulatory period. These are nominal tariffs (i.e. including CPI increases), and are based on smoothed annual increases (rather than step changes as used otherwise in this plan). Again, we reinforce that these are indicative, and represent neither a proposed approach to implementing tariff changes, nor a proposed tariff structure (which we expect will be quite different as we unbundled our tariffs for regulated systems).

ANNUAL ENTITLEMENT FEES

Annual entitlement fees apply to our irrigation district customers, for water right and domestic & stock entitlements, and also to licensed volume for our surface and groundwater customers.

With unbundling of water entitlements due to commence on 1 July 2008 for our regulated systems, we recognise that entitlements will not continue in their existing form. However, for the purposes of establishing indicative tariff impacts, we assume that charges to customers on average will remain stable. The extent to which charges for individual customers vary as a result of unbundling will be a matter for further analysis and consideration as we work through the conversion details.

The following table summarises our indicative tariff impacts for our major groups of entitlement holders.

Within these groups, impacts may vary amongst subsets of customers - for example, groundwater tariffs may differ in areas of intensive use and requiring intensive management and compliance efforts.

INDICATIVE TARIFF CHANGES

CUSTOMER GROUP	STEP CHANGE (excl. CPI)	ANNUAL CHANGE (incl. CPI)
REGULATED SYSTEMS (incl. IRRIGATION DISTRICTS)		
Macalister/Thomson/Cowwarr (incl. MID)	9.2%	6.1%
Werribee River (incl. WID)	21.6%	9.8%
Bacchus Marsh Irrigation District	26.5%	11.2%
Latrobe River	9.2%	6.1%
Maribyrnong River	21.6%	9.8%
UNREGULATED SYSTEMS		
Surface Water	19.4%	9.2%
Groundwater	27.4%	11.5%

APPLICATION FEES

Our administrative staff process a range of fee-based applications, including:

- new licences for taking and using water;
- works licences for groundwater bores and farm dams;
- transfers and amendments to existing licences and entitlements;
- property information statements; and
- a range of other minor services.

The average tariff increase for this range of services as we move into our second regulatory will be around 16.5%.

STORAGE OPERATOR CHARGES

Our Headworks business harvests and stores water for urban water authorities and Latrobe Valley power generators. The various Bulk Entitlement Orders under which we operate specify the manner in which the costs of operating and maintenance the storages are determined and apportioned amongst the entitlement holders. These are not unit-based tariffs.

For our first regulatory period, our charges to Western Water and Gippsland Water where partially underpinned by a notional "cost of debt". The revenue this derives we use to fund a range of non-core activities, typically of the nature of community service obligations - activities for which the beneficiaries are the broader population.

We propose to again seek a determination from the Minister to recognise this notional cost of debt and to maintain our charges to Western Water and Gippsland at the current nominal amount, despite underlying cost increases of around 27% and 16% respectively.

For the Latrobe Valley power companies with entitlements in the Yallourn and Blue Rock storages, indicative increases in storage charges will be around 15.5%. This excludes the impact of any "recoverable works" at the Yallourn Storages. These works, which are essentially capital in nature, though expensed in accordance with an existing policy position on the future value of those assets to the State, are

inappropriate for inclusion within a revenue cap. Works programs are developed as necessary in collaboration with entitlement holders, and project costs are passed-through in accordance with Bulk Entitlement Orders. We will be undertaking further analysis and consultation with entitlement holders in order to determine a more appropriate treatment for this.

Melbourne Water also hold a small entitlement in Rosslynne Reservoir, for which costs will increase by around 24%, while the costs associated with the unallocated water in Blue Rock and Merrimu, which we charge to DSE, will increase by around 32%.

INDICATIVE PRICE IMPACTS

The following table shows the impact of the indicative tariff changes on the total charge for indicative customers across SRW's business. These impacts reflect the indicative smoothed annual tariff increase as shown in appendix iv , which include an estimate of CPI.

CUSTOMER	SIZE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
MACALISTER IRRIGATION DISTRICT							
Small	5ML	250	265	281	298	316	335
Medium	50ML	2,499	2,650	2,811	2,981	3,162	3,354
Large	250ML	12,495	13,252	14,055	14,907	15,810	16,769
WERRIBEE IRRIGATION DISTRICT							
Small	**5ML**	1,037	1,138	1,250	1,372	1,506	1,654
Medium	**50ML**	10,371	11,385	12,498	13,720	15,062	16,535
Large	**100ML**	20,741	22,769	24,996	27,441	30,125	33,071
BACCHUS MARSH IRRIGATION DISTRICT							
Small	**5ML**	1,035	1,151	1,280	1,423	1,583	1,760
Medium	**25ML**	5,176	5,755	6,400	7,117	7,914	8,800
Large	**100ML**	20,703	23,022	25,600	28,467	31,656	35,201
SURFACE WATER (UNREGULATED)							
Small	**5ML**	269	294	321	350	383	418
Medium	**50ML**	620	677	739	807	882	963
Large	**200ML**	1,790	1,955	2,135	2,331	2,545	2,779
GROUNDWATER							
Small	**5ML**	243	271	302	336	375	418
Medium	**150ML**	613	683	761	849	946	1,055
Large	**300ML**	995	1,109	1,237	1,379	1,537	1,713

ADJUSTING PRICES

MANAGING WITHIN UNCERTAINTY

SRW faces a challenging business environment over the period of the Water Plan. There is uncertainty in climate and rainfall and so the availability of the product we deliver to customers. Climate will also determine the level of demand from our customers.

There is uncertainty in the policy environment with major changes under way both at a state and federal level.

We have used this draft Water Plan to expose and explore our assumptions, our objectives and major proposals. We have given an estimate of our best professional judgment on the probable project outcomes, timelines and costs.

MECHANISMS TO MANAGE UNCERTAINTY

This section identifies the approaches proposed to responding to changed circumstances within the current regulatory framework.

REVENUE CAP

The revenue cap proposed as the price control mechanism for the majority of our revenue allows for flexibility in recovery between seasons provided the aggregate revenue over the five year period is in line with the proposed total revenue requirement.

Managing changes in programs within the proposed revenue cap will allow us to optimise the timing and extent of specific projects to meet the overall outcomes proposed within the revenue limit. This creates incentives for efficiency and productivity.

ROLL-FORWARD

In some circumstances we may carry-forward the financial implications of variations and seek subsequent recognition as part of our next price determination.

PASS THROUGH

We will seek automatic pass through of changes to imposed and uncontrollable costs, such as licence fees from regulators and changes to legislative obligations.

VARIATIONS TO DETERMINATION

However in a number of circumstances it will be appropriate to reopen the price determination as the extent of the obligations and the implications for costs and prices are significant.

There are two main situations where this could occur:

- New Obligations: where significant new obligations are imposed that will generate the need for significant expenditure; and
- Major Project Validation: where proposed projects and programs included in this Water Plan are not yet at a sufficiently detailed stage to confirm costs, revenue requirements, funding options or prices.

ANTICIPATED ADJUSTMENTS

This section flags the projects in this Water Plan where we anticipate the possible need to seek a variation over the second price period.

MID2030

This is the largest and most significant expenditure program in the Water Plan. It involves significant change to the supply systems within the Macalister Irrigation District. Detailed project proposals have been drawn up and expenditure requirements identified, totalling some $82M over the five years of the plan.

However, there is still uncertainty about the future funding of the scheme. That is likely to rely on a combination of:

- irrigator charges;
- external contributions from government;
- sale of water savings; and
- debt financing through SRW.

Decisions on these issues will be taken over the next twelve months through the extensive consultative processes in place that engage both customers and stakeholders. The outcome will also depend on the proposed Gateway review involving the Department of Treasury and Finance.

SRW expects that there will be little impact on irrigator charges through the price period and that any under recovery of revenue will be absorbed for the remainder of the period through an increase in debt financing. However, SRW will need to revalidate this decision at a check point in August 2008. If at that stage the expected funding arrangements have changed to a material extent then SRW will seek to review the implications for the Price Determination.

STRATEGIC PLANNING FOR THE WERRIBEE BASIN

We propose during the next regulatory period to commence a similar process to MID2030 for both of our western irrigation districts, at Bacchus Marsh and Werribee.

The irrigation systems require modernising to provide service levels compatible with modern irrigation standards and performance, and to address major drivers for change. The outcome of the projects aims to ensure that both the customer base and the irrigation business remain commercially viable and environmentally sustainable.

We anticipate that the implementation of these projects will occur towards or beyond the end of this Water Plan. If in undertaking the analysis we determine that significant expenditure is required within this regulatory period, we may seek a variation to the price determination, or for explicit recognition of the expenditure within our following Water Plan.

NATIONAL METERING STANDARDS

The National Water Initiative will require replacement of Dethridge Wheels, the main form of metering across large-scale irrigation districts, as they will not meet proposed measurement standards. SRW currently has 1,800 wheels in the MID, 250 in the WID and 130 in BMID. A total replacement program would cost more than $20M.

There is considerable uncertainty as to the period of grace that businesses will be given before they have to replace Dethridge Wheels with compliant meters. It

seems likely that any compulsory replacement program will take effect after this Water Plan. However, there may be a requirement to replace any wheels that need maintenance before then.

Limited expenditure has been proposed in this Water Plan to keep abreast of developments and to develop an Irrigation District metering strategy. This will provide an informed basis for any future replacement program required.

However, a variation to the price determination will be required if an earlier replacement deadline is introduced.

REPLACEMENT OF KEY SOFTWARE

At the time of writing, we are commencing a strategic review of our key operating software, IPM, which we use for irrigation planning, but which is also our central customer database and has links to our water ordering, billing, accounts receivable, water information and licensing systems.

This review is precipitated by the introduction of the statewide Water Register, and coincides with advice of the imminent cessation of support for the existing software and platform.

We anticipate that this review will be significant both operationally and financially for Southern Rural Water, and will have strategic implications for almost all of our key systems.

Depending upon the outcomes of the review and the scope of future requirements, we may seek to vary our determination. We hope to know more on this prior to submitting our final plan in September 2007.

APPENDICES

appendix i
statement of obligations

Commences next page

Water Industry Act 1994

STATEMENT OF OBLIGATIONS

I, John Thwaites, Minister for Water, Environment and Climate Change, as Minister administering the **Water Industry Act 1994**, pursuant to section 4I of the **Water Industry Act 1994,** make and issue the attached Statement of Obligations to Gippsland and Southern Rural Water Authority.

JOHN THWAITES MP

Minister for Water, Environment and Climate Change

Water Industry Act 1994

STATEMENT OF OBLIGATIONS

GIPPSLAND AND SOUTHERN RURAL WATER AUTHORITY

INDEX

STATEMENT OF OBLIGATIONS

PART 1 – PRELIMINARY	
1	**Commencement And Term**
	This *Statement* of Obligations commences on 1 July 2007 and operates until it is revoked.
2	**Authorising Provision**
	This *Statement* of Obligations is issued by the *Minister* for Water under section 4I of the **Water Industry Act 1994**.
3	**Purpose**
	The purpose of this *Statement* is to impose obligations on the *Authority* in relation to the performance of its functions and exercise of its powers.
4	**Interpretation**
4.1	The definitions of the terms contained in Schedule A to this *Statement* apply in this *Statement*.[1]
4.2	The following rules also apply in interpreting this *Statement*, except where the content makes it clear that a rule is not intended to apply. (a) Terms defined in the **Water Act 1989** and **Water Industry Act 1994** have the same meaning in this *Statement*. (b) Whenever this *Statement* requires the *Authority* to make something "available to the public", the *Authority* must: (i) publish that thing on the *Authority*'s website; and (ii) make a copy of the thing available for inspection at each of the *Authority*'s offices; and (iii) provide a copy on request at no charge, or where providing the copy involves a significant cost to the *Authority*, for a charge that covers the fair and reasonable costs of making the copy available. (c) Whenever this *Statement* requires an *Authority* to "develop" something, the *Authority* must be taken to have complied with that obligation if it has already developed the thing before this *Statement* commenced.
5	**Availability of Statement**
	The *Authority* must make this *Statement* available to the public.

[1] Terms used in this *Statement* that are defined in Schedule A have been italicised.

PART 2 – GENERAL	
6	**Guiding Principles**
	In performing its functions and providing its services the *Authority* must: (a) manage water resources in a sustainable manner; and (b) effectively integrate economic, environmental and social objectives into its business operations; and (c) minimise the impacts of its activities on the environment; and (d) manage risk to protect public safety, quality and security of supply; and (e) operate as efficiently as possible consistent with sound commercial practice; and (f) manage its business operations to maintain the long-term financial viability of the *Authority*; and (g) undertake continuous review, innovation and improvement; and (h) collaborate with other public authorities and government agencies to take account of regional needs**.**
PART 3 – THE WATER PLAN	
7	**Preparation and Delivery of a Water Plan**
7.1	The *Authority* must develop a *Water Plan* that complies with the requirements of this *Statement* for the purpose of enabling the *Commission* to make a decision with respect to *Price*s for *Prescribed Services* in respect of the *Regulatory Period*.
7.2	The *Authority* must deliver the *Water Plan* to the *Commission* by 8 October 2007.
7.3	The *Authority* must include in the *Water Plan*: (a) outcomes to be delivered in the *Regulatory Period* with respect to *Standards and Conditions of Service and Supply*, meeting future demands on the *Authority*'s services and complying with any obligations specified in this *Statement*, a *Regulatory Obligation* and other obligations imposed by or under legislation; and (b) how the *Authority* proposes to deliver those outcomes; and (c) the *Authority*'s revenue requirements in the *Regulatory Period*; and (d) the proposed *Price*s to be charged for each of the *Authority*'s *Prescribed Services*.
8	**Procedural Requirements**
8.1	In developing the *Water Plan*, the *Authority* must undertake effective consultation with: (a) its customers on matters of concern to its customers; and (b) its customer committees on matters of concern to its customers, that are to be included in the *Authority*'s *Water Plan*.

8.2	The *Authority* must consult: (a) each *Regulatory Agency* on outcomes to be included in the *Water Plan* that relate to a *Regulatory Obligation*; and (b) the *Commission* on *Standards and Conditions of Service and Supply* to be included in the *Water Plan*.
8.3	In developing the *Water Plan*, the *Authority* must consult with the *Department* on matters to be included in the *Water Plan* and that relate to the performance of the *Authority*'s functions and the obligations included in this *Statement*.
8.4	To facilitate consultation on the *Water Plan*, by 31 July 2007 the *Authority* must: (a) make a draft of the *Water Plan* available to the public; and (b) submit a draft of the *Water Plan* to the *Minister*, the Treasurer and each Regulatory Agency.
8.5	The *Authority* must make any variation to the *Water Plan*: (a) requested by the *Minister*, after consultation with the Treasurer, in writing, at least one month before the *Submission Date*; and (b) relating to the performance of the *Authority*'s functions and the obligations included in this *Statement*.
8.6	The *Authority* must have regard to any comments relating to a *Regulatory Obligation* that are provided by a *Regulatory Agency*, in writing, at least one month before the *Submission Date*.
PART 4 – GOVERNANCE AND RISK MANAGEMENT	
9	**Board Performance**
	The *Authority* must annually review and report to the *Minister* and the Treasurer on the performance of the Board of the *Authority*.
10	**Customer and Community Engagement**
10.1	The *Authority* must develop and implement open and transparent processes to engage its customers and the community in its planning processes to ensure, among other matters, that the services it provides reflect the needs and expectations of customers.
10.2	The *Authority* must establish and support the operation of customer committees, having regard to any principles endorsed by the *Minister* for that purpose.
10.3	The *Authority* must: (a) make available to the public, information about the water supply, services it provides; and (b) make available on request, information about the efficient and responsible use of water in respect of rural water systems; and (c) make available on request to schools in its area, educational material about the efficient and responsible use of water in respect of rural water systems, at no charge or, for educational material that involves a significant cost to the *Authority*, at a charge that covers the fair and reasonable costs of making the material available.
11	**Managing Risks**

	The *Authority* must develop and implement plans, systems and processes, having regard to the Australian/New Zealand Standard AS/NZS 4360 – Risk Management to ensure that risks to the *Authority*'s assets or services are identified, assessed, prioritised and managed.
12	**Responding To Incidents And Emergencies**
12.1	The *Authority* must include in any plan, system or process to manage its risks, measures to deal with emergencies and incidents, including measures to deal with: (a) the disruption of services; and (b) incidents resulting in waste discharges to the environment; and (c) a dam failure; and (d) potential security risks, including but not limited to terrorist attacks.
12.2	The *Authority* must undertake such periodic training and exercises as may be necessary to ensure that an emergency management plan can be implemented effectively.
13	**Managing Assets**
13.1	The *Authority* must develop and implement plans, systems and processes to manage its assets in ways which: (a) allow the *Authority* to supply its services sustainably; and (b) maintain the levels and standards of service: (i) specified by the *Commission* in a Code issued under section 4F of the **Water Industry Act**; or (ii) included in a *Water Plan* and approved by the *Commission*; and (c) minimise the overall whole of life costs of assets; and (d) minimise detrimental social, economic or environmental effects of managing its assets.
13.2	The *Authority* must develop and maintain a comprehensive database of all relevant asset information, including the condition and performance of its assets.
14	**Dam Safety**
14.1	The *Authority* must develop and implement processes to identify, assess, manage, prioritise improvements to, and periodically review the safety of, dams operated by the *Authority*.
14.2	In developing processes under sub-clause 14.1, the *Authority* must have regard to the *ANCOLD Guidelines* and have particular regard to: (a) prioritising risks posed by the *Authority*'s dams over all dams, components of dams and the types of failure; and (b) giving priority to reducing risks to life above other risks; and (c) basing the urgency of reducing the risk posed by a dam on the relativity of risks to the tolerability limits as defined in the *ANCOLD Guidelines*; and (d) basing programs for reducing risk on the concept "As Low As Reasonably Practicable" as defined in the *ANCOLD Guidelines*; and (e) where feasible, progressively implementing risk reduction measures to achieve the best outcomes for the available resources.
14.3	The *Authority* must develop and implement a dam safety monitoring and surveillance program for each dam operated by the *Authority*, consistent with the *ANCOLD Guidelines*.

14.4	The *Authority* must develop and maintain a comprehensive database of all relevant dam safety information.
14.5	The *Authority* must prepare and give to the *Secretary* by 30 June each year a report that contains: (a) a prioritised list of proposed dam safety works identified under clause 14.1 and the dates by which the *Authority* proposes to complete each of those works; and (b) a summary of the risk profile of: (i) each dam operated by the *Authority*, at the date of the report; and (ii) each dam on which the *Authority* proposes to undertake safety works, after those works are complete; and (c) a summary of the overall risk reduction profile of the *Authority*'s dams.
14.6	If for any reason the *Authority* is unable to undertake any proposed dam safety works identified under sub-clause 14.1 within the time advised, it must promptly prepare and give to the *Minister* a report which explains why the *Authority* is unable to undertake those works and includes any other information requested by the *Secretary*.
PART 5 – PLANNING AND SERVICE DELIVERY	
15	**Conserving And Recycling Water**
15.1	To implement sustainable water resource management the *Authority* must develop and implement programs for: (a) assessing and monitoring available water supplies; and (b) identifying opportunities to substitute, and if appropriate substituting, surface water and ground water supplies with water from alternative sources that are fit for purpose.
15.2	Programs developed by the *Authority* under sub-clause 15.1 must specify objectives to be achieved and measures for monitoring performance in accordance with any written directions issued by the *Minister* for that purpose.
16	**Efficiency Of Rural Distribution Systems**
16.1	The *Authority*, in consultation with the *Department*, must: (a) develop and implement programs to assess the efficiency of the *Authority*'s distribution systems; (b) develop interim targets for reducing losses from the *Authority*'s distribution systems having regard to the Government's objective of reducing the total losses from rural distribution systems by 25% by 2020; and (c) develop programs to reduce losses from the *Authority*'s distribution systems that: (i) identify costs and funding options; and (ii) establish priorities for implementation.
16.2	The *Authority* must obtain the approval of the *Secretary* to arrangements for assessing and monitoring the efficiency of components of its distribution systems.
16.3	The *Authority* must report to the *Secretary*, as requested by the *Secretary*, on: (a) the efficiency of its distribution systems; and (b) progress in implementing the targets developed under sub-clause 16.1.

17	**Metering**
17.1	The *Authority* must meter all new licences to take and use groundwater or unregulated surface water, for commercial and irrigation use, prior to the use of any water by the licensee.
17.2	The *Authority* must meter all existing licences to use groundwater and unregulated surface water in accordance with the Memorandum of Understanding – Metering Program for Water Use Under Existing Groundwater and Unregulated Surface Water Licences, to which the *Authority* is a party.
17.3	The *Authority* must develop and implement a program to maintain and replace faulty meters.
17.4	The *Authority* must ensure that all meters are read at appropriate frequencies to ensure compliance with a licence.
17.5	The *Authority* must periodically review metering data to ensure compliance and inform the management of the resource.
18	**Responding To Drought**
18.1	The *Authority* must have a drought response strategy to ensure: (a) it meets its obligations to supply in accordance with security of supply and restriction policies specified in a bulk entitlement held by the *Authority*; and (b) that the holders of water entitlements covered by bulk entitlement held by the *Authority* receive timely advice and information regarding the status of, and outlook for, their entitlements; and (c) regular communication with customers regarding how available water will be restricted and shared between entitlement holders during periods of water shortage.
18.2	The *Authority* must review, and if necessary amend its drought response strategy: (a) at intervals of no more than five years; and (b) within twelve months of any major change occurring to works or arrangements for conserving water for, or supplying water to, any water supply system operated by the *Authority*
18.3	In times of actual or anticipated shortage, the *Authority* must provide information requested by the *Secretary* regarding the implementation of drought response plans in the form and manner requested.
19	**Regional and Local Government Planning**
19.1	The *Authority* must participate in and support the development and implementation of any Regional Catchment Management Strategy or catchment sub-strategy or Regional River Health Strategy which may affect, or be affected by, the *Authority*'s activities.
19.2	The *Authority* must participate in and support the development and implementation of any municipal planning scheme, local planning policy framework or municipal strategic statement which may affect, or be affected by, the *Authority*'s activities.
19.3	A principal objective of the *Authority*'s participation will be to promote consistency of any strategy or any scheme with its planning and programs for sustainable water management.

20	**Research and Knowledge**
	The *Authority* must: (a) identify the *Authority's* research needs; (b) prioritise the research needs identified; and (c) identify how the *Authority* proposes to meet its research needs.
25	**Sustainable Management**
25.1	The *Authority* must: (a) in performing its functions, exercising its powers and carrying out its duties, apply the *Sustainable Management Principles*; and (b) demonstrate in its *Water Plan* how the *Authority* proposes to apply those principles.
25.2	In applying the *Sustainable Management Principles* the *Authority* must develop and implement programs for assessing, monitoring and continuously improving the *Authority's* sustainability performance, including: (a) responding to climate change; (b) maintaining and restoring natural assets; (c) using resources more efficiently; and (d) managing everyday environmental impacts, and must include those programs in its *Water Plan.*
PART 6 – ENVIRONMENTAL MANAGEMENT	
21	**Environmental Management System**
	The *Authority* must develop and implement an Environmental Management System which: (a) must be in accordance with the following standards from the Standards Australia AS/NZS ISO 14000 Series of Environmental Management Systems Standards: (i) AS/NZS ISO 14001: – Environmental Management Systems – Requirements with Guidance for Use; and (ii) AS/NZS ISO 14004: – Environmental Management Systems – General Guidelines on Principles, Systems and Support Techniques; but (b) need not be accredited under those standards.
22	**Blue-Green Algal Blooms**
22.1	The *Authority* must report any blue-green algal blooms impacting on water supply services to: (a) the Department of Human Services; and (b) the relevant *Convening Agency*.
22.2	If the *Authority* is a *Convening Agency*, the *Authority* must: (a) develop and maintain on an annual basis a contingency plan for regional blue-green algal blooms; and (b) undertake its duties as a *Convening Agency* in accordance with that contingency plan.

23	**River and Aquifer Health**
23.1	The *Authority* must manage the impact of its activities on any waterway, aquifer or wetland to minimise environmental impacts on and risks to the aquatic ecosystem.
23.2	When the *Authority* renews or carries out major works on a dam or existing structure on a waterway, or constructs a new structure on a waterway, the *Authority* must ensure that (a) it is renewed or constructed so that: (i) the dam or structure does not pose a barrier to native fish movement; and (ii) environmental risks from water releases through variations of temperature, dissolved oxygen, sediment, nutrients or other substances are minimised; and (iii) adequate offtakes are provided for environmental flows, or (b) if it is not practicable to comply with paragraph (a), it is renewed or constructed in accordance with a plan of works approved by the *Secretary*.
23.3	The *Authority* must liaise with Catchment Management Authorities to ensure that environmental flow regimes are managed to maximise ecological benefits.
23.4	Where waterways and wetlands form part of an *Authority*'s system for the supply and distribution of water, the *Authority* must develop and implement plans or programs to manage the environmental impacts of its activities on the system, and in doing so: (a) have regard to the environmental values of the waterways and wetlands dependent on the hydrological regime; and (b) where practical, maximise ecological benefits; and (c) incorporate any environmental management obligations to the *Authority* through, strategies and/or multi-agency programs, agreed by the Authority, to protect, restore or improve the environmental values of waterways and wetlands within the *Authority*'s system; and (d) must consult with relevant agencies; and (e) obtain the approval of the *Secretary* for the plans or programs.
24	**Monitoring River Health**
24.1	The *Authority* must monitor the impact of its activities on waterways and wetlands, including the impact of dams on the thermal regime of waterways.
24.2	The *Authority* must make available to the public: (a) water quality and flow data compiled by the *Authority* relating to waterways; or (b) if the data is available from a central data agency, relevant contact details for that agency.

PART 7 – PAYMENT SCHEMES AND CONTRIBUTIONS	
25	**Providing Concessions And Rebates**
	The *Authority* must administer the following Government-funded programs, as applicable, in accordance with their respective requirements: (a) Utilities Relief Grants Scheme; (b) Concessions for water service and usage charges and sewerage service and sewage disposal charges; (c) Hardship Relief Grant Scheme (Sewerage Connection Scheme); and (d) Water and Sewerage Rebate Scheme.
PART 8 – COMPLIANCE	
26	**Complying With Obligations**
26.1	The *Authority* must monitor compliance with its obligations under Parts 4 to 7 inclusive of this *Statement*.
26.2	If the *Authority* becomes aware of a material failure to comply with its obligation under Parts 5 to 7 of this *Statement*, the *Authority* must give the *Minister* a written report, within 30 days after becoming aware of the failure, that includes: (a) the nature of and reason for the failure; and (b) a proposed plan of action to prevent the failure re-occurring.
26.3	The *Authority* must make any variation to the plan of action referred to in sub-clause 26.2 requested in writing by the *Minister*.
26.4	The *Authority* must: (a) implement the plan of action referred to in sub-clause 26.2, as varied by the *Minister*; and (b) report its progress in implementing the plan, whenever the *Minister* requests in writing; and (c) summarise the contents of any report made under sub-clause 26.2 and its progress in implementing the plan in its annual report.
27	**Compliance Audits**
27.1	The *Authority* must, when requested by the *Commission*, at intervals of not more than once in twelve months, arrange for an audit of its compliance with: (a) clause 13 of this Statement; and (b) such other obligation under Parts 4 to 7 of this *Statement* that the *Commission* has been requested by the *Minister* to audit.
27.2	The *Authority* must ensure that any audit under sub-clause 27.1 is: (a) conducted by an independent auditor nominated by the *Authority* and approved by the *Commission*; and (b) conducted in accordance with any guidelines issued by the *Commission*.
27.3	The *Authority* must ensure that a copy of the auditor's final report is provided to both the *Commission* and the *Minister*.

27.4	The *Minister* may, at any time, require the *Authority* to report to the *Minister* in writing on action taken by the *Authority* on any matter: (a) contained in an auditor's report; and (b) specified by the *Minister* in writing.
28	**Other Audits and Reviews**
	The *Authority* must, when requested by the *Minister*, after consultation with the Treasurer, arrange for an audit or review of any matter specified by the *Minister* in relation to the performance of its functions and the exercise of its powers.

SCHEDULE A

DEFINITIONS

The following definitions apply:

"*ANCOLD Guidelines*" means the Guidelines issued by the Australian National Committee on Large Dams Inc.

"*Authority*" means Gippsland and Southern Rural Water Authority.

"*Commission*" means the Essential Services Commission.

***"Convening Agency*"** means an *Authority* listed as a Convening Agency in Circular No. 287 Blue-Green Algae – Co-ordination Arrangements for 2002-2003 and Related Matters as issued by the *Department*.

"*Department*" means the Department of Sustainability and Environment.

"*Minister*" means the Minister administering the **Water Industry Act 1994**.

"*Prescribed Services*" means the services specified in the *Water Industry Regulatory Order*, as Prescribed Services in respect of which the *Commission* has the power to regulate *Price*s.

"*Price*" includes the manner in which such Prices are to be calculated or otherwise determined.

"*Regulatory Agency*" means the Environment Protection Authority, the Secretary to the Department of Human Services, and the *Commission*;

"*Regulatory Obligation*" means

(i) in relation to the Environment Protection Authority, an obligation imposed by or under the **Environment Protection Act 1970***;*

(ii) in relation to the *Commission*, an obligation imposed by or under a Code made under section 4F of the **Water Industry Act 1994**;

(iii) in relation to the Secretary to the Department of Human Services, an obligation imposed by or under the **Safe Drinking Water Act 2003**, the **Food Act 1984** or the **Health (Fluoridation) Act 1973**.

"*Regulatory Period*" means the five-year period commencing on 1 July 2008.

"*Secretary*" means the person occupying or acting in the position of Secretary of the *Department*.

"*Standards and Conditions of Service and Supply*" means Standards and Conditions of Service and Supply for services specified in the *Water Industry Regulatory Order* as declared services.

"*Statement*" means this Statement of Obligations.

"*Submission Date*" means the date specified in sub-clause 7.2.

"Sustainable Management Principles" are:

- the need to ensure that water resources are conserved and properly managed for sustainable use and for the benefit of present and future generations, and
- the need to encourage and facilitate community involvement in the making and implementation of arrangements relating to the use, conservation and management of water resources; and
- the need to integrate both long-term and short-term economic, environmental, social and equitable considerations; and
- the need for the conservation of biological diversity and ecological integrity to be a fundamental consideration; and

- if there are threats of serious or irreversible environmental damage, lack of full scientific certainty as to measures to address the threat should not be used as a reason for postponing such measures.

"***Water Plan***" means the Water Plan required by this *Statement* to be delivered to the *Commission*.

"***Water Industry Regulatory Order***" means the **Water Industry Regulatory Order 2003**.

appendix ii
dam safety annual report 2007

Commences next page

SOUTHERN
Rural Water

DAM SAFETY
ANNUAL REPORT 2007

HIGH HAZARD DAM RISK PROFILE
AND REMEDIAL WORKS

PREPARED May 2007

TABLE OF CONTENTS

1. INTRODUCTION

In accordance with the Water Industry Act 1994, Statement of Obligations, Southern Rural Water is required to submit an Annual Report on dam portfolio risk profile and proposed remedial works as detailed in Clause 15.5 of the Statement of Obligations. This report covers the areas identified relevant to the high hazard dams operated by Southern Rural Water, and uses the tabular format provided by the Department.

Southern Rural Water manages seven high hazard dams and eight diversion structures of lesser significance. These lesser structures vary in complexity, but generally only "store" sufficient water to permit diversion operations.

The fifteen structures are viewed and monitored by staff experienced in dam management and are the assets of the Headworks Business.

The report is similar in content to the last years report with some minor amendments. Overall the total portfolio risk has increased slightly due to changes following a re-assessment of the consequences at Pykes Creek Dam and a detailed study of the spillway hydraulics. There have also been some changes to the dates proposed for remedial works and the staging of them. A summary of the changes to the risk profile is provided in section 6 of this report.

2. DAM SAFETY DESIGN REVIEWS

Southern Rural Water has since 1996, undertaken a high level dams portfolio risk assessment and subsequently completed Design Reviews for all of its high hazard dams. These reviews have been undertaken on standards-based engineering assessments and risk assessments in accordance with ANCOLD Guidelines.

The attached tables and figures that form **Schedule A** define the status of SRW high hazard dams, as at May 2007.

3. DAM SAFETY REMEDIAL WORKS PROGRAM

Over the past year, Stage 2 remedial works (providing filter facility to the balance of the embankment and enhancing spillway capacity) have been investigated and the detailed design is at draft stage with the works expected to commence in September 2007 and be completed by May 2008.

Detailed design of remedial works for protection of the right abutment at Melton is currently underway but is on hold until the Pykes Creek works are commenced.

4. FUTURE REMEDIAL WORKS PROGRAM

Following the completion of the Pykes Creek Stage 2 works, it is proposed to undertake remedial works to the right abutment of Melton dam. At this stage works are proposed to commence in 2008.

Beyond the Melton upgrade, Blue Rock spillway wall raising and strengthening is programmed to be carried out in 2009, whilst Stage 1 works to improve the flood capacity of Merrimu Dam are programmed for 2014.

Identified works beyond these projects will require further consideration, since the existing risk status is already below the ANCOLD Limit of Tolerability and although in some cases still not complying with the established engineering standards there will be a strong argument for all dams to

be considered in ALARP position. The cost to reduce the risk for further projects becomes very high with limited risk reduction resulting.

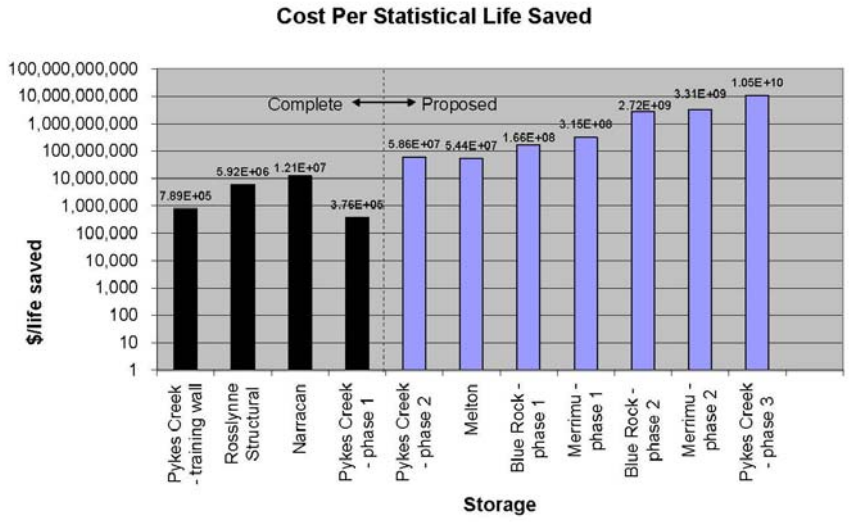


Figure 1 Identified Relative Remedial Priorities

Figure 1 shows the application of resources has been (will be) applied in the most efficient manner. The first four items (projects) have been completed. Pykes Creek Stage 2 is in the final planning stages with a draft design now complete and is programmed for construction in 2007/08. Whilst the Melton works have a slightly lower cost per statistical life saved, Pykes Creek has a significantly greatly existing risk and hence they have been programmed to commence prior to the Melton works.

Table 3 in Schedule A shows the planned timetable for the remedial works programme.

5. PORTFOLIO RISK REDUCTION

The risks associated with the management of dams have been identified in detail and steady progress has been made in the reduction of these risks by the undertaking of dam safety upgrade works at the various sites. The proposed remedial works program (included those projects already completed) is reflected in the total portfolio risks shown in the figure 2.

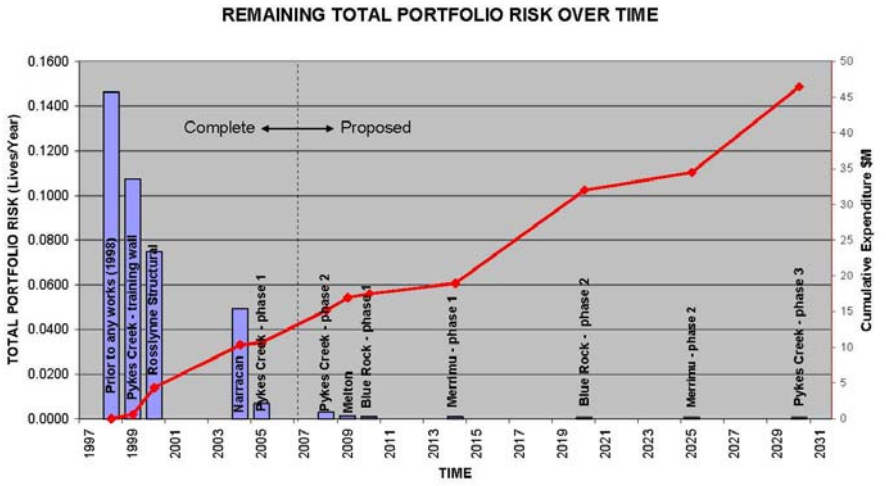


Figure 2
Figure 2 shows both how the Total Portfolio risk reduces and the increase in cost as remedial work at each storage is undertaken in accordance with the proposed remedial works programme. Figures are based on risk following the completion of the works listed above the column.

The graph shows that despite escalating costs, as time goes on the risk reduction will be minimal. This can be most noticeably observed at the completion of the Melton upgrade project after which all storages will fall within the Limit of Tolerability. The works beyond this will have a less dramatic effect on total portfolio risk, but are required to be undertaken if the ANCOLD Guidelines (Deterministic) are to be followed.

Figure 2 also demonstrates that SRW's portfolio risk has been dramatically reduced since 1998.

6. CHANGES FROM PREVIOUS YEARS REPORT

6.1 Changes To Risk Data

There have been some changes made to last years report. These relate to a refinement of the risk numbers as investigation and design works have been carried out and more accurate information has been obtained via further studies and investigations. They also relate to a change staging and timing of proposed remedial works. The main changes in this years report are caused by:

- Further investigation into Pykes Creek Dam – Further investigation including a reassessment of the flood capacity and of the consequences of dam failure as part of the design process resulted in the risk data changing slightly. This has effected both the current and future risk situation.
- Change of scope for Pykes Creek Stage 2 upgrade works – Originally it was planned that the Stage 2 Upgrade works would only address the concerns related to piping. In last years report it was indicated that a small improvement in flood capacity was also likely. However, as the design has progressed it is now planned to have a more significant flood capacity increase from the 1:5,000 AEP to the 1:100,000 AEP.
- Changes in the staging of projects – The Merrimu upgrade has been broken into two stages to maximise the efficiency of dollars spent for risk reduction.
- Extension of overall timeframe for the completion of projects – to prevent excessive impacts on pricing, those works that have a Cost per Statistical Life Saved (CSLS) exceeding

$1Billion have been pushed further into the future, with the programme now planned for completion in 2030 (previously 2019). In addition, there may be future developments in the industry relating to standards and assessment techniques that could render such works unnecessary.

These changes affected both the individual storages and the overall risk profile. Consequently they are reflected in both the figures in the report and the tables in Schedule A.

6.2 Changes to order, staging and timing of proposed works

The refinement of the risk data has also affected the order, staging and the timing of the proposed future remedial works as SRW has sought to programme the works to gain maximum value for risk reduction per dollars spent and prevent excessive price increases. In addition, further studies of the flood capacity at Pykes Creek Reservoir along with the preparation of a business case for the works have also resulted in some delays to the remedial works program. The main changes to the order, staging and timing are:

- The completion date for Pykes Creek Stage 2 works has been pushed May 2008;
- The Merrimu upgrade has been broken into two stages to maximise the efficiency of dollars spent for risk reduction.
- The proposed Stage 1 works at Merrimu have been pushed out to 2013/2014 and will not be included in the next water plan;
- Proposed stage 2 works at Blue Rock Dam have pushed out 5 years to 2020;
- Proposed Stage 3 works at Pykes Creek Dam have been pushed out 12 years to 2030.

These changes are shown in Table 3 of Schedule A. The proposed expenditure for the Dam Safety Improvement Program in 2007/08 and 2008/09 has undergone some changes to reflect the comments above. However, the overall spending programme remains largely the same as per previous reports.

6.2.1 Philosophy Behind The Changes

The changes have been made to comply with the following goals:

- At the end (2012/13) of the next Water Plan, all SRW dams will fall within the Limit of Tolerability
- At the end of the following Water Plan all dams will comply ANCOLD Guidelines in that the risk could be considered to be ALARP at that time.
- Further works to meet ANCOLD deterministic standards will be spread over a number of years to minimise the pricing impacts on customers and to ensure adequate data and industry confidence in its application is available before committing to large scale flood capacity upgrades

7. **SCHEDULE A**

TABLE 1 - Current Safety Status **DAM SAFETY**

AFC = Acceptable Flood Capacity

MDE = Maximum Design Earthquake

NOTES: The Population At Risk (PAR) numbers relate to the dam failure scenario that provides the highest PAR for each dam. This is usually the PMF with dam breach. The figures for Melton and Merrimu Dams include the population of Werribee and consequently are very large. It should be noted that the figures for the "PMF with dam breach" for these two dams are very similar to those for the "PMF without dam breach".

The financial risk figures shown in the charts are based on the direct economic costs of a dam failure. This includes the cost of the dam as well as any public or private assets that are damaged by the flood wave. Indirect costs such as those due to loss of business caused by an inability to trade have not been included.

Loss of Life has been considered for all SRW large dams regardless of the hazard category.

Dam	Current risk profile		Current compliance with traditional practice			Hazard Category (ANCOLD)
	Risk to Life (societal risk)	Economic and Financial Risk	Flood (100% = AFC)	Seismic (100% = MDE)	Other	
Pykes Creek	• This has recently changed due to an update of the consequence information and a re-evaluation of the flood risk. The figures below allow for these changes. • See F-N chart in Figure 1. Estimates in numerical terms are: • Societal Risk – 4.02×10^{-3} lives per annum • Financial Risk - $92,000 per annum • The F-N plot shows that in it's existing condition, Pykes Creek Dam still falls outside the ANCOLD Limit of Tolerability. • SRW considers these risks to be high and is planning further remedial works to lower them. SRW considers that works at Pykes Creek Reservoir have the highest priority in our portfolio of large dams. • The results are based on detailed risk assessment studies carried out in from 2004 to 2006 and the detailed design currently underway.		**35%** Existing Spillway Capacity is only 30% of AFC before crest overtops. This corresponds to a 1:5,000 Annual Exceedance Probability (AEP) if the reservoir is at Full Supply Level at the commencement of the flood. The flood capacity has been re-assessed using a computational fluid dynamics model. It is intended to carry out works to improve the flood capacity in the near future (known as Stage 2 works).	**100%**	**70%** - OK for stability but not for piping. The dam does not have filters and consequently does not meet modern engineering standards. The stage 1 works, which were recently completed addressed the issue of highest concern – piping at the embankment/spillway junction. Stage 2 works will address piping through the remainder of the embankment.	Extreme Population at Risk is up to 2,130 people

Dam	Current risk profile		Current compliance with traditional practice			Hazard Category (ANCOLD)
	Risk to Life (societal risk)	Economic and Financial Risk	Flood (100% = AFC)	Seismic (100% = MDE)	Other	
Melton	• See F-N chart in Figure 2. Estimates in numerical terms are: • Societal Risk - 1.71 x 10^{-3} lives per annum • Financial Risk - $62,000 per annum • SRW considers these risks to be high and is planning remedial works to lower them (See Table 2). The plot of the F-N curve shows that the dam is just outside the Limit of Tolerability. • The results are based on a design review, which included a detailed risk assessment (although not as detailed as Pykes Creek). The review was completed in 2003		**25%** - Following upgrade works in the early 1990's, the embankment is designed to allow overtopping. However, the right abutment is susceptible to erosion during overtopping.	**100%** - All components of the dam acceptable for MDE	**100%** - The dam does not have filters but it does have a concrete core wall downstream of the clay core, which limits the progression of piping and hence it is judged to be a very low risk	Extreme Population at Risk is up to 32,800 people.
Blue Rock	• See F-N chart in Figure 3. Estimates in numerical terms are: • Societal Risk - 0.485 x 10^{-3} lives per annum • Financial Risk - $6,100per annum • SRW considers these risks to be at a moderate level and is planning remedial works to lower them (See Table 2). The dam falls within the Limit of Tolerability and further improvements will be based on the ALARP principle. • The results are based on a design review, which included a detailed risk assessment. The review was completed in 2002		**30%** - The spillway walls are subject to higher than design loads prior to overtopping which may lead to erosion at the embankment toe	**100%**	**100%**	High A Population at Risk is up to 920 people.

ANNUAL DAM SAFETY REPORT 2007- 8of 24

Dam	Current risk profile		Current compliance with traditional practice			Hazard Category (ANCOLD)
	Risk to Life (societal risk)	Economic and Financial Risk	Flood (100% = AFC)	Seismic (100% = MDE)	Other	

Merrimu	• See F-N chart in Figure 4. Estimates in numerical terms are:
	  • Societal Risk - 0.289 x 10^{-3} lives per annum
	  • Financial Risk - $6,900per annum
	• SRW considers these risks to be at a moderate level and is considering remedial works in the long term to lower them (See Table 2). The dam falls within the Limit of Tolerability and further improvements will be based on the ALARP principle.
	• The results are based on a design review, which included a detailed risk assessment (although not as detailed as Pykes Creek). The review was completed in 2003.
			30%
			
			Existing Spillway Capacity is only 30% of AFC before crest overtops. This corresponds to a 1:30,000 Annual Exceedance Probability (AEP) if the reservoir is at Full Supply Level at the commencement of the flood.
				100%	**100%**	Extreme
						
						Population at Risk is up to 20,000 people.

Glenmaggie	• See F-N chart in Figure 5. Estimates in numerical terms are:
	  • Societal Risk - 0.0899 x 10^{-3} lives per annum
	  • Financial Risk - $681 per annum
	• SRW considers these risks to be at a low level and is not considering any significant future works to lower the risk further. The dam falls within the Limit of Tolerability and further improvements will be based on the ALARP principle.
	• The results are based on a design review, which included a detailed risk assessment. The review was completed in 2004
			100% - it should be noted that while the dam passes the stability requirements for the PMF, there is a possibility that erosion of the foundation on the left abutment may occur during overtopping. The risk assessment showed that the probability of this leading to failure was very low and it is not intended to carry out any works to address this	**100%**	**100%**	Extreme
						
						Population at Risk is up to 2,000 people.

Dam	Current risk profile		Current compliance with traditional practice			Hazard Category (ANCOLD)
	Risk to Life (societal risk)	Economic and Financial Risk	Flood (100% = AFC)	Seismic (100% = MDE)	Other	

Rosslynne	• See F-N chart in Figure 6. Estimates in numerical terms are:
	  • Societal Risk - 0.234 x 10^{-3} lives per annum
	  • Financial Risk - $263 per annum
	• SRW considers these risks to be at a low level and is not considering any significant future works to lower the risk further. The dam falls within the Limit of Tolerability and further improvements will be based on the ALARP principle.
	• The results are based on a Design Review (1996), and a Portfolio Risk Assessment (1998). Due to the prior completion of the Design Review, the work done on Rosslynne in the Portfolio Risk Assessment was quite detailed. A further review of foundation piping (2005) has also been incorporated in these results.
			80% - The dam meets an AEP of 1:10^{6} when the storage is at FSL at the commencement of a flood.	100%	100%	High A
						
						Population at Risk is up to 960 people.

Narracan	• See F-N chart in Figure 7. Estimates in numerical terms are:
	  • Societal Risk - 0.0021 x 10^{-3} lives per annum
	  • Financial Risk - $39 per annum
	• SRW considers these risks to be at a very low level and is not considering any future works to lower the risk further. The dam falls within the Limit of Tolerability and further improvements will be based on the ALARP principle.
	• The results are based on a Design Review (2000), which included a risk assessment of moderate detail.
			100%	100%	100%	Significant
						
						Population at Risk is up to 20 people.

ANNUAL DAM SAFETY REPORT 2007- 10of 24

TABLE 2 - Risk profile after proposed improvement works

Refer to Table 3 for description of Works

Dam	Risk profile after any proposed improvement works		Compliance with traditional practice after proposed improvement works			Cost to Save a Statistical Life (S)
	Risk to Life (societal risk)	Economic and Financial Risk	Flood (100% = AFC)	Seismic (100% = MDE)	Other	

Pykes Creek - Stage 2	• See F-N chart in Figure 1. Estimates of remaining risk in numerical terms are:
	  • Societal Risk - 0.069×10^{-3} lives per annum
	  • Financial Risk - $1,400 per annum
	• This brings the risk significantly lower and will allow it to fall within the ANCOLD Limit of Tolerability and be considered as ALARP at this time.
	• Stage 2 will be carried out in 2007.
	• These works are part of a progressive improvement list. However, further improvements (targeting flood capacity) are a low priority and will not be carried out for a number of years. See stage 3 works below.
			65%
			The works will result in an increase in spillway capacity to the 1:100,000 AEP. Further improvements will be made in stage 3 works.
				100%	100%	$59 Million

Melton	• See F-N chart in Figure 2. Estimates of remaining risk in numerical terms are:
	  • Societal Risk - 0.00919×10^{-3} lives per annum
	  • Financial Risk - $615 per annum
	• This brings the risk significantly lower and will allow it to fall within the ANCOLD Limit of Tolerability.
	• These works will be carried out in 2008.
			100%	100%	100%	$54 Million

	Risk profile after any proposed improvement works		Compliance with traditional practice after proposed improvement works			

Blue Rock - Stage 1	• See F-N chart in Figure 3. Estimates of remaining risk in numerical terms are:
	  • Societal Risk - 0.331×10^{-3} lives per annum
	  • Financial Risk - $4,300 per annum
	• This lowers the risk slightly and it falls within the ANCOLD Limit of Tolerability (as it did previously). The spillway now has the capacity to pass the Dam Crest Flood (which is less than the PMF).
	• These works will be carried out in 2009.
	• These works are part of a progressive improvement list. However, further improvements (targeting flood capacity) are a low priority and will not be carried out for a number of years.
			45% Existing Spillway Capacity is 45% of AFC before crest overtops. This corresponds to a 1:350,000 Annual Exceedance Probability (AEP) if the reservoir is at Full Supply Level at the commencement of the flood. Further increases addressed as part of stage 2 works	**100%**	**100%**	$166 Million

Merrimu – Stage 1	• See F-N chart in Figure 4. Estimates of remaining risk in numerical terms are:
	  • Societal Risk - 0.044×10^{-3} lives per annum
	  • Financial Risk - $1,160 per annum
	• This lowers the risk slightly and it falls within the ANCOLD Limit of Tolerability (as it did previously). The spillway would have the capacity to pass the 1:300,000 AEP, which is equivalent to the original design height of the existing rock wave wall.
	• Currently programmed for 2014
	• These works are part of a progressive improvement list. However, further improvements (targeting flood capacity) are a low priority and will not be carried out for a number of years.
	• Change in philosophy in last years report where it was planned to increase flood capacity to PMF in one hit.
			80% Remedial works will increase flood capacity to about 1:300,000 AEP but still not the PMF. Further improvements may occur as part of Stage 2 works	**100%**	**100%**	$315 Million

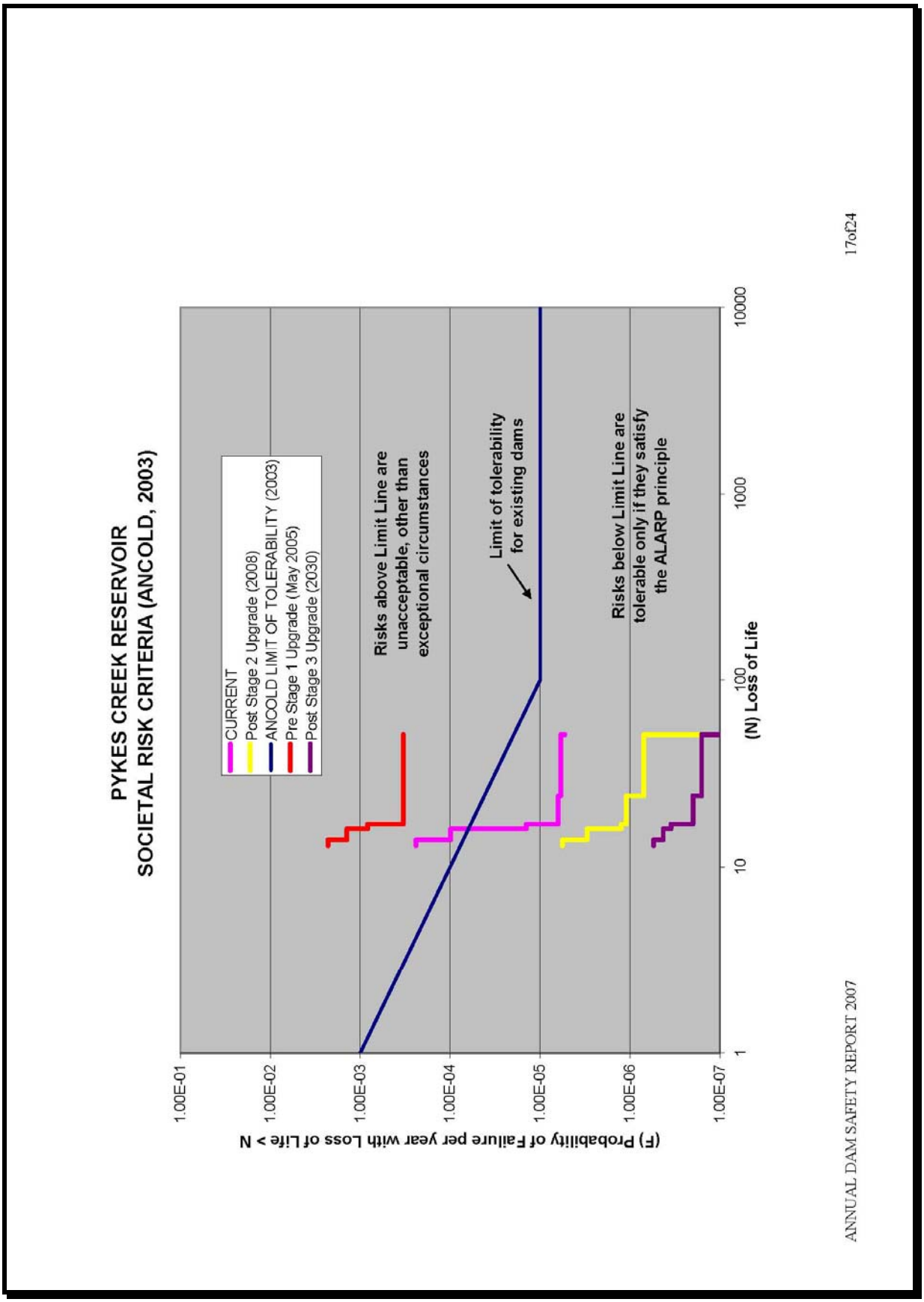
	Risk profile after any proposed improvement works		Compliance with traditional practice after proposed improvement works				
Blue Rock - Stage 2	• See F-N chart in Figure 3. Estimates of remaining risk in numerical terms are: • Societal Risk - 0.0739×10^{-3} lives per annum • Financial Risk - $1,100 per annum • This lowers the risk slightly and it falls within the ANCOLD Limit of Tolerability (as it did previously). The spillway would have the capacity to pass the PMF.		100%	100%	100%		$2,720 Million
Merrimu – Stage 3	• See F-N chart in Figure 4. Estimates of remaining risk in numerical terms are: • Societal Risk - 0.00531×10^{-3} lives per annum • Financial Risk - $258 per annum • This lowers the risk slightly and it falls within the ANCOLD Limit of Tolerability (as it did previously). The spillway now has the capacity to pass the PMF.		100%	100%	100%		$3,310 Million
Pykes Creek - Stage 3	• See F-N chart in Figure 1. Estimates of remaining risk in numerical terms are: • Societal Risk - 0.0589×10^{-3} lives per annum • Financial Risk - $367 per annum • This lowers the risk slightly and it falls within the ANCOLD Limit of Tolerability (as it did previously). The spillway now has the capacity to pass the PMF.		100%	100%	100%		$10,520 Million

TABLE 3 - Description of Dam Safety Improvement Projects

Dam	Description of improvement works	Estimated cost	Expected completion date	Priority (1…n)
Pykes Creek – Stage 1	Reduce the probability of piping occurring at the embankment/spillway junction by: • Extending the concrete cut-off up to the surface • Raising the clay core by ~ 2.2m over a length of ~ 30m • Installing a filter trench over depth of ~ 8m and length of ~ 15m	$350,000	**COMPLETED July 2005**	1
Pykes Creek – Stage 2	Installation of full height filter buttress across the downstream face of the dam. Significant flood improvement works will also be carried out. The flood capacity will increase from 1:5,000 AEP to 1:100,000 AEP. The dam will fall within the ANCOLD Limit of Tolerability for existing dams and also be considered ALARP at this time. The cost per statistical life saved is higher than for the Melton works. However, the residual risk is significantly higher. It is preferable that stage 2 works at Pykes should be done before the works at Melton.	$4.5 Million	Early May 2008	2
Melton	Increase the concrete protection on the right abutment to protect against overtopping flows (flows in the secondary spillway) by the addition of a concrete channel or apron.	$1.8 Million	December 2008	3
Blue Rock – Stage 1	Strengthen the spillway chute walls to prevent collapse during flows less than the Dam Crest Flood	$500,000	2009	4
Merrimu – Stage 1	Combined raising of embankment and widening of spillway to meet the 1:300,000 AEP (equal to original design level of rock wave wall)	$1.5 Million	Programmed for 2014	5
Blue Rock – Stage 2	Spillway upgrade - possibly widening or a combination of widening and raising of embankment	$13 Million	Undecided but possibly 2020	6
Merrimu – Stage 2	Spillway upgrade to PMF	$2.5Million	Undecided but possibly 2025	7
Pykes Creek – Stage 3	Spillway upgrade to meet PMF - possibly the installation of fuse gates	$12 Million	Undecided but possibly 2030	8

8. F-N CHARTS

8.1.1.1 FIGURE 1: SOCIETAL RISK F-N CHART FOR PYKES CREEK DAM


PYKES CREEK RESERVOIR
SOCIETAL RISK CRITERIA (ANCOLD, 2003)
CURRENT
Post Stage 2 Upgrade (2008)
ANCOLD LIMIT OF TOLERABILITY (2003)
Pre Stage 1 Upgrade (May 2005)
Post Stage 3 Upgrade (2030)
Risks above Limit Line are unacceptable, other than exceptional circumstances
Limit of tolerability for existing dams
Risks below Limit Line are tolerable only if they satisfy the ALARP principle
(F) Probability of Failure per year with Loss of Life > N
1.00E-01
1.00E-02
1.00E-03
1.00E-04
1.00E-05
1.00E-06
1.00E-07
1
10
100
1000
10000
(N) Loss of Life
ANNUAL DAM SAFETY REPORT 2007
17of24

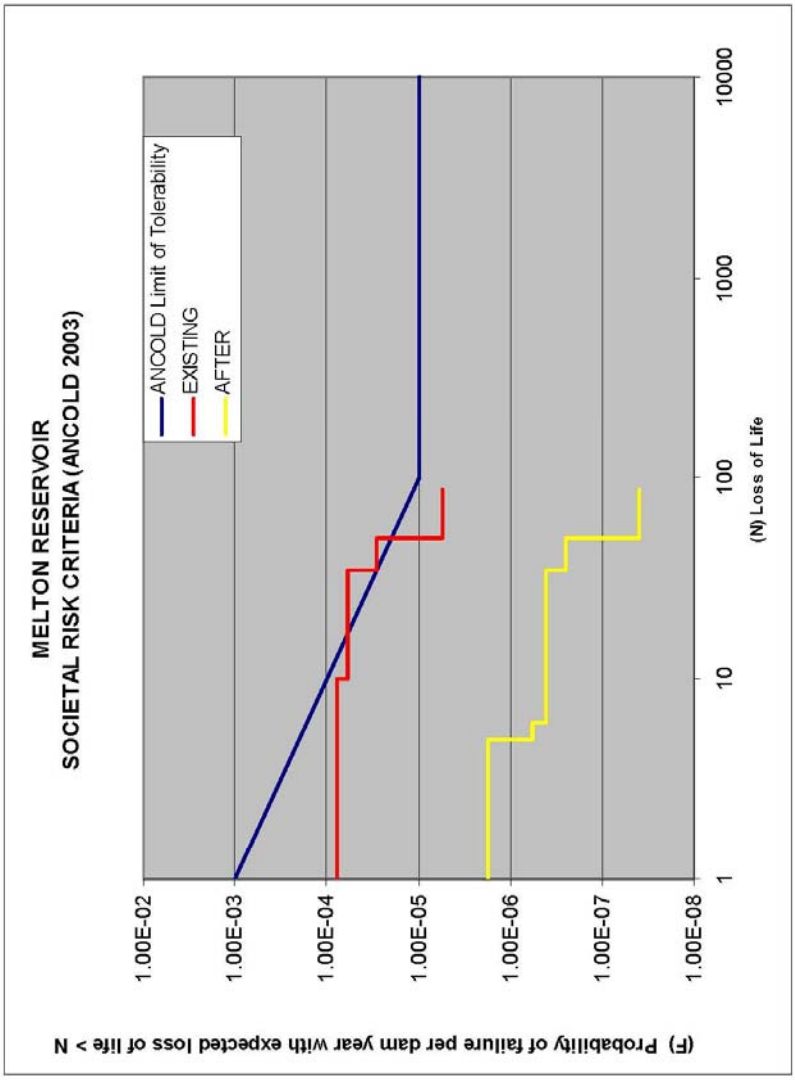
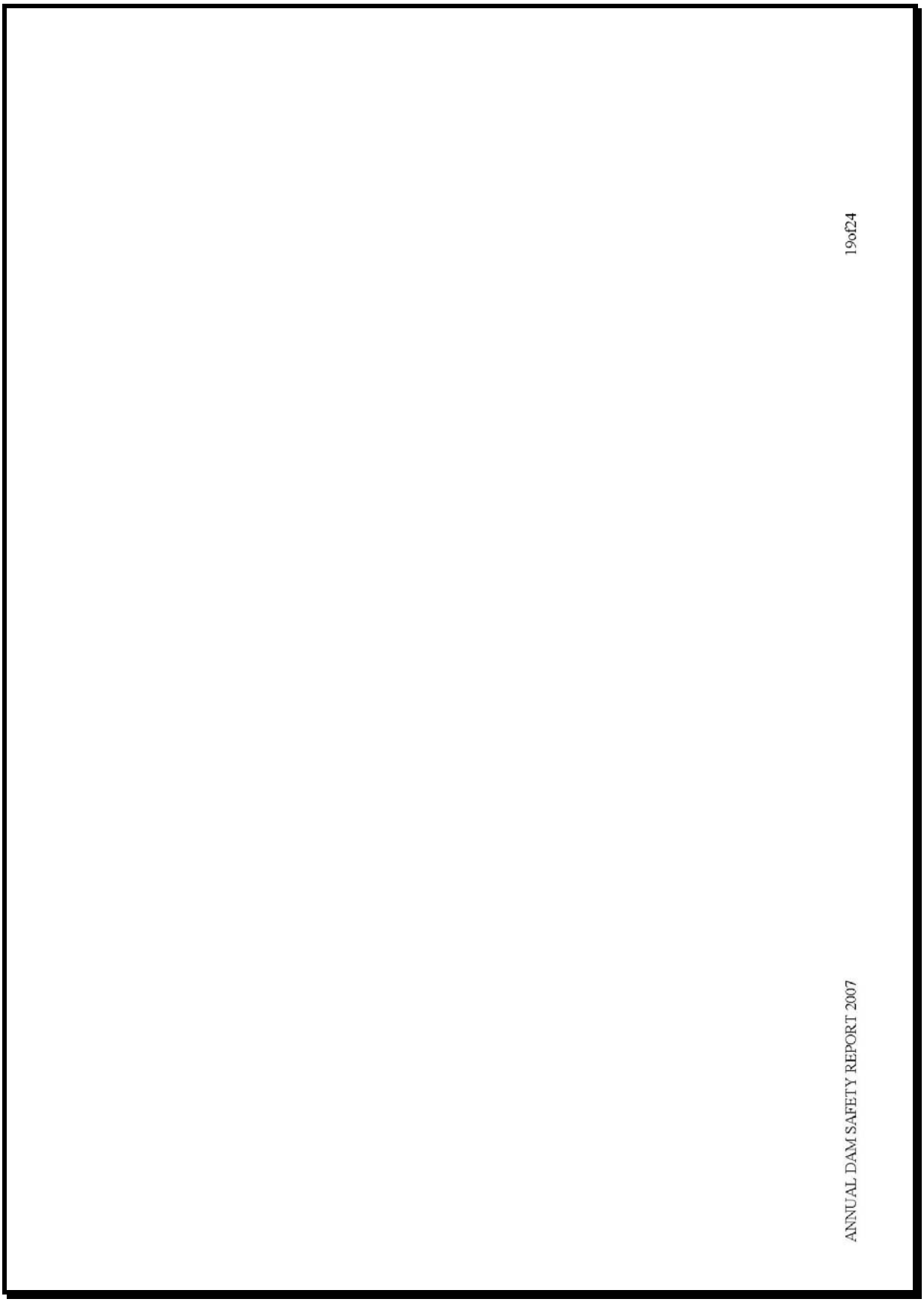


FIGURE 2: SOCIETAL RISK F-N CHART FOR MELTON DAM


19of24
ANNUAL DAM SAFETY REPORT 2007

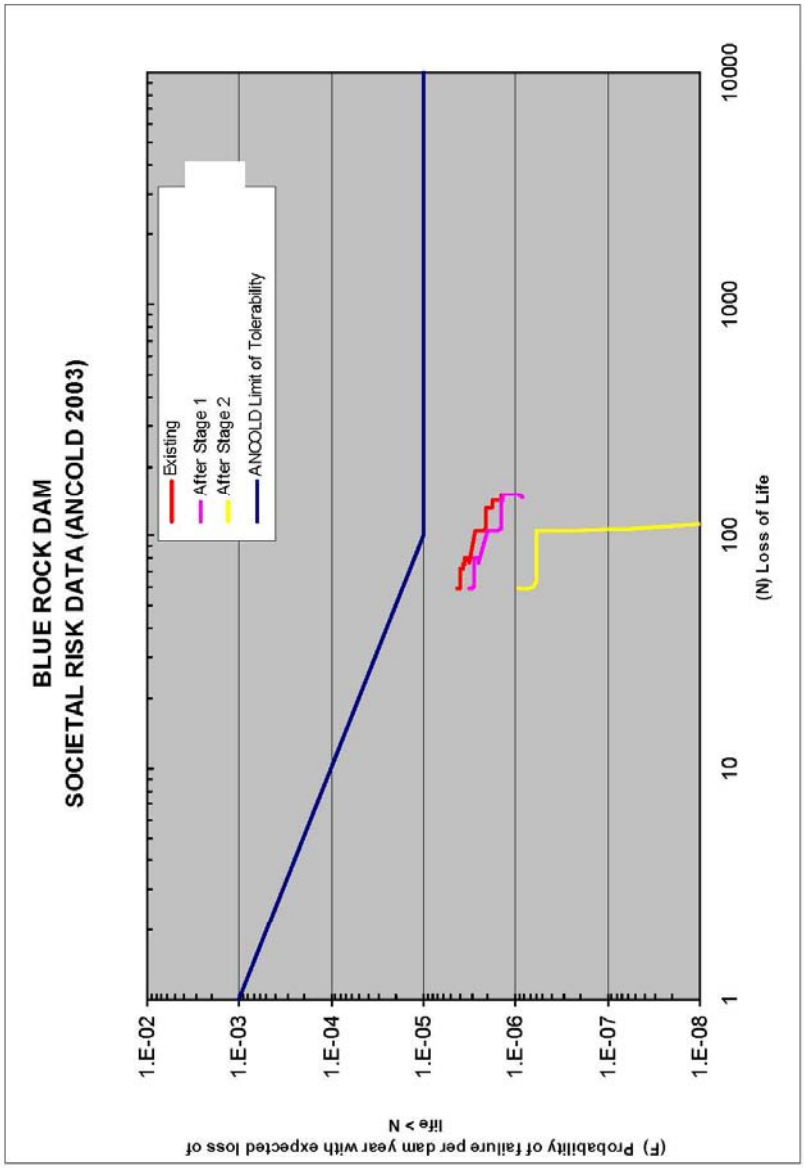


FIGURE 3: SOCIETAL RISK F-N CHART FOR BLUE ROCK DAM

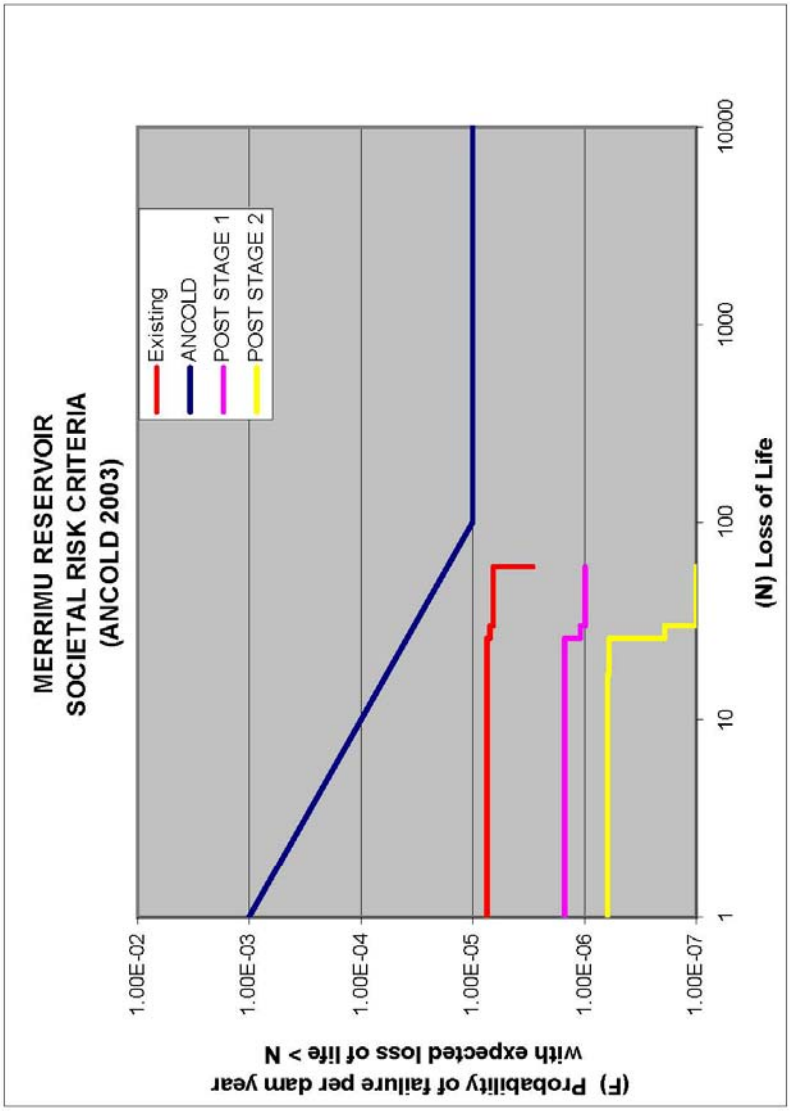


FIGURE 4: SOCIETAL RISK F-N CHART FOR MERRIMU DAM

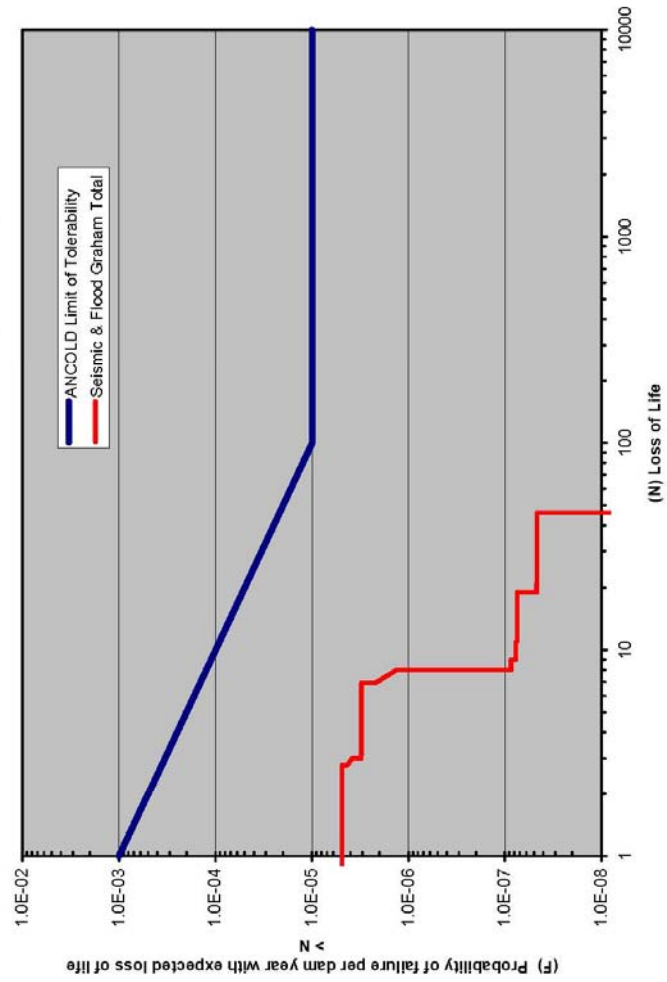


FIGURE 5: SOCIETAL RISK F-N CHART FOR GLENMAGGIE DAM

ANNUAL DAM SAFETY REPORT 2007

22of24

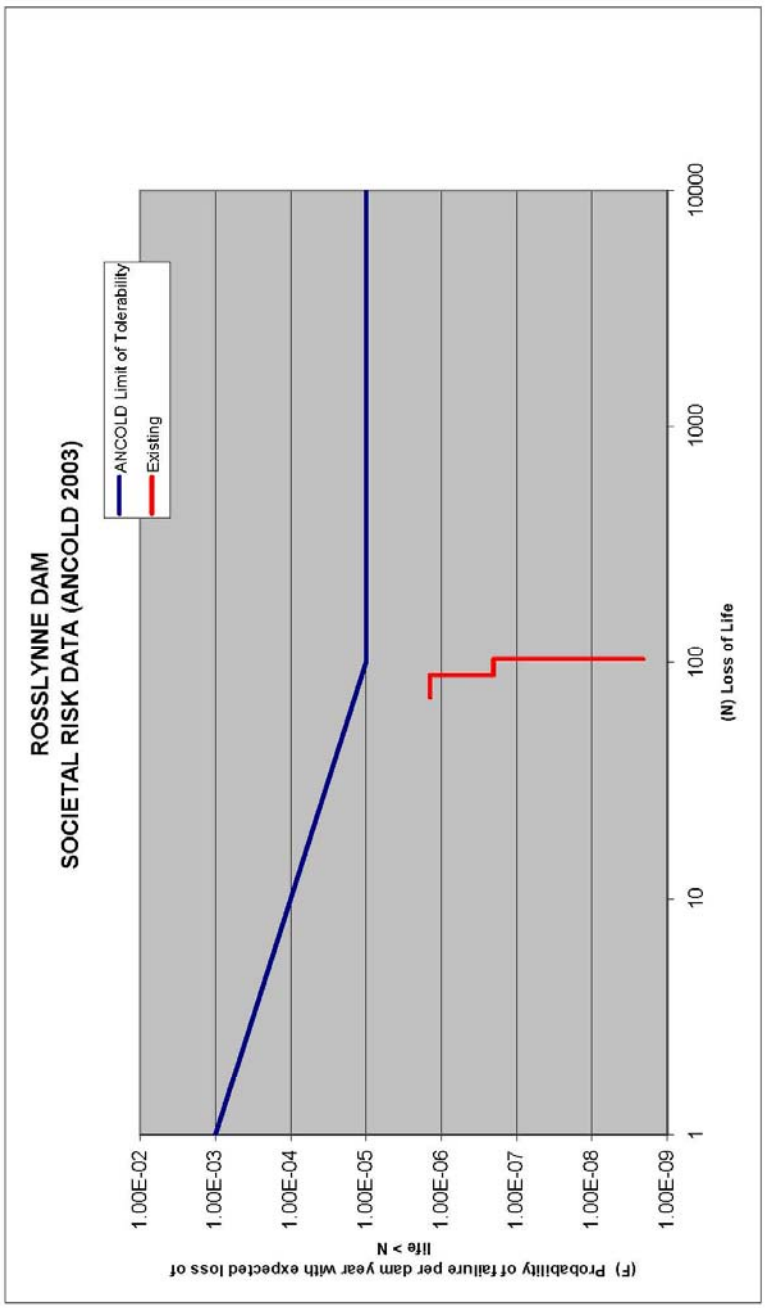


FIGURE 6: SOCIETAL RISK F-N CHART FOR ROSSLYNNE DAM

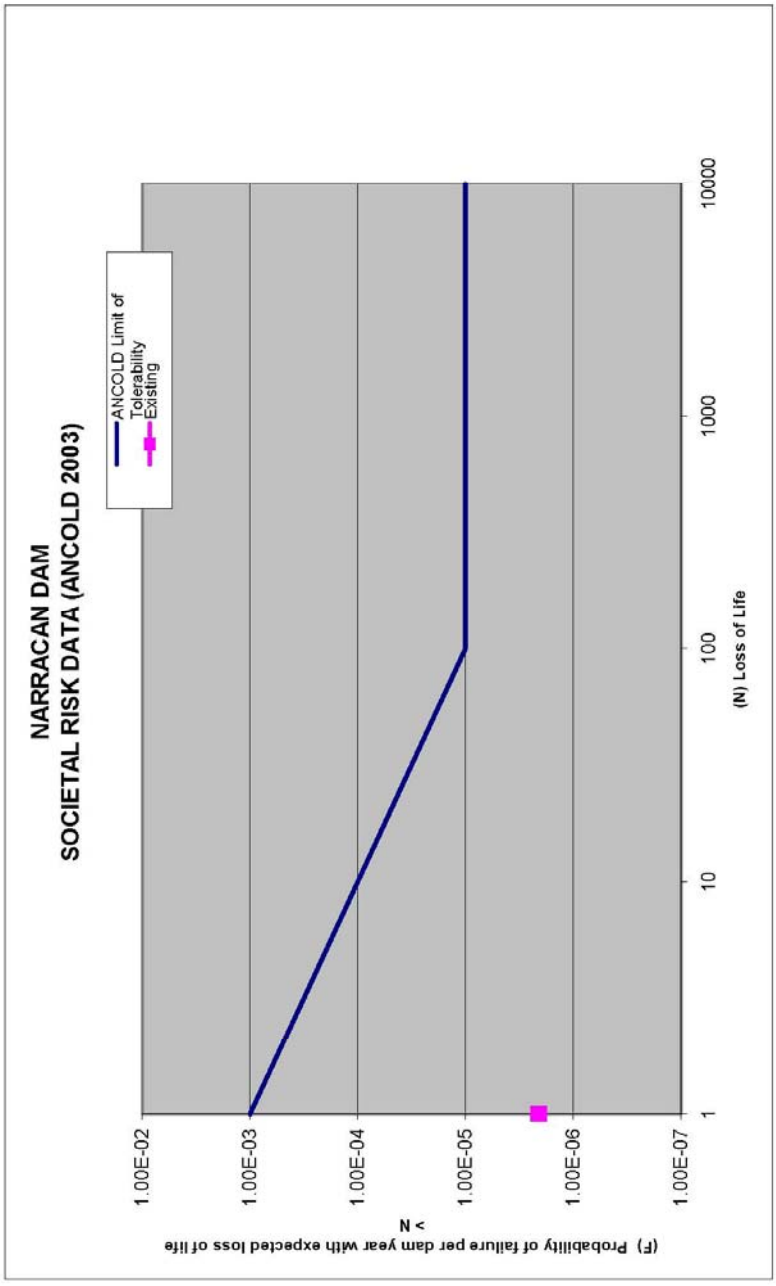


FIGURE 7: SOCIETAL RISK F-N CHART FOR NARRACAN DAM

appendix iii
renewal annuity

The renewal annuity process has been widely adopted as the best technique for determining the funding requirement for long-life assets and in providing reasonable price stability and inter-generational equity.

The renewal annuity process is used to calculate the average level of funding required to provide for the on-going renewal (replacement and rehabilitation) of long-lived infrastructure assets over a predetermined period.

The objectives of the process are to provide:

- adequate funds to replace assets at the end of their service lives;
- stability in setting prices; and
- long term equity in funding works.

Unlike normal financial annuities, its updated annually to reflect changes associated with revised expenditure profiles and carryover reserves, effectively it becomes a moving average.

How the renewal annuity model works

The annuity is calculated using a module of SRW's asset database - AssetLife. The three main steps in the calculation are to:

- estimate the future replacement expenditure profile;
- convert the profile to its Net Present Value (NPV); and then to
- convert the NPV to an annuity, which is conceptually the same as a flat expenditure profile.

Figure 1 provides a high level overview of the model inputs, major model parameters the calculation sequence and output.

The key parameters

The two major model parameters are the modelling period and the interest rates. Significant changes in the renewal annuity occur due to changes in either of these parameters. The annuity calculation considers the time-value nature of money; consequently, the annuity is dependent on the shape of the forecast expenditure profile, which varies for each business. Similarly, the impact of changes in annuity period and interest rates also varies for each business.

Interest rates

The model includes a module to allow annual step calculations of the annuity so that it can progressively apply different real interest rates when the annuity reserve is in surplus (interest rate on investments) to when it is in deficit (interest rates for borrowings).

To avoid any systematic error in the model calculations, regular reviews of the future investment and borrowing rates are required. Our most recent review was in 2002 when we set the investment and borrowing rates at 3.0% and 3.2% (real rate) respectively.

Modelling period

Renewal annuity periods greater than 30 years generally result in a relatively stable annuity, whereas periods of twenty years or less result in a volatile annuity. In 2002, SRW reviewed the renewal annuity period for the irrigation businesses and reduced it from a 100 year modelling period to a 40 year period to provide a balance between price stability and inter-generation equity. The headworks business uses a 90 year period, as the expenditure profiles for these businesses are even more variable the irrigation businesses and so they require a longer period to buffer the pricing impacts from large individual projects.

One important aspect of the renewal period is the model excludes any asset that has a renewal life longer than the modelling period from the renewal calculations.

How the process ensures convergence between the model and reality

The inclusion of renewal reserve in the calculations (see Figure 1) is a critical component of the model. It provides feedback into the model, which over time effectively compensates for differences between model predictions and reality. For example, if a new maintenance regime extended the life of assets, then the cumulative renewal annuity balance would be larger then required to meet the future liability, consequently the revised annuity calculations would result in reducing the renewal annuity until it approaches the “true” value.

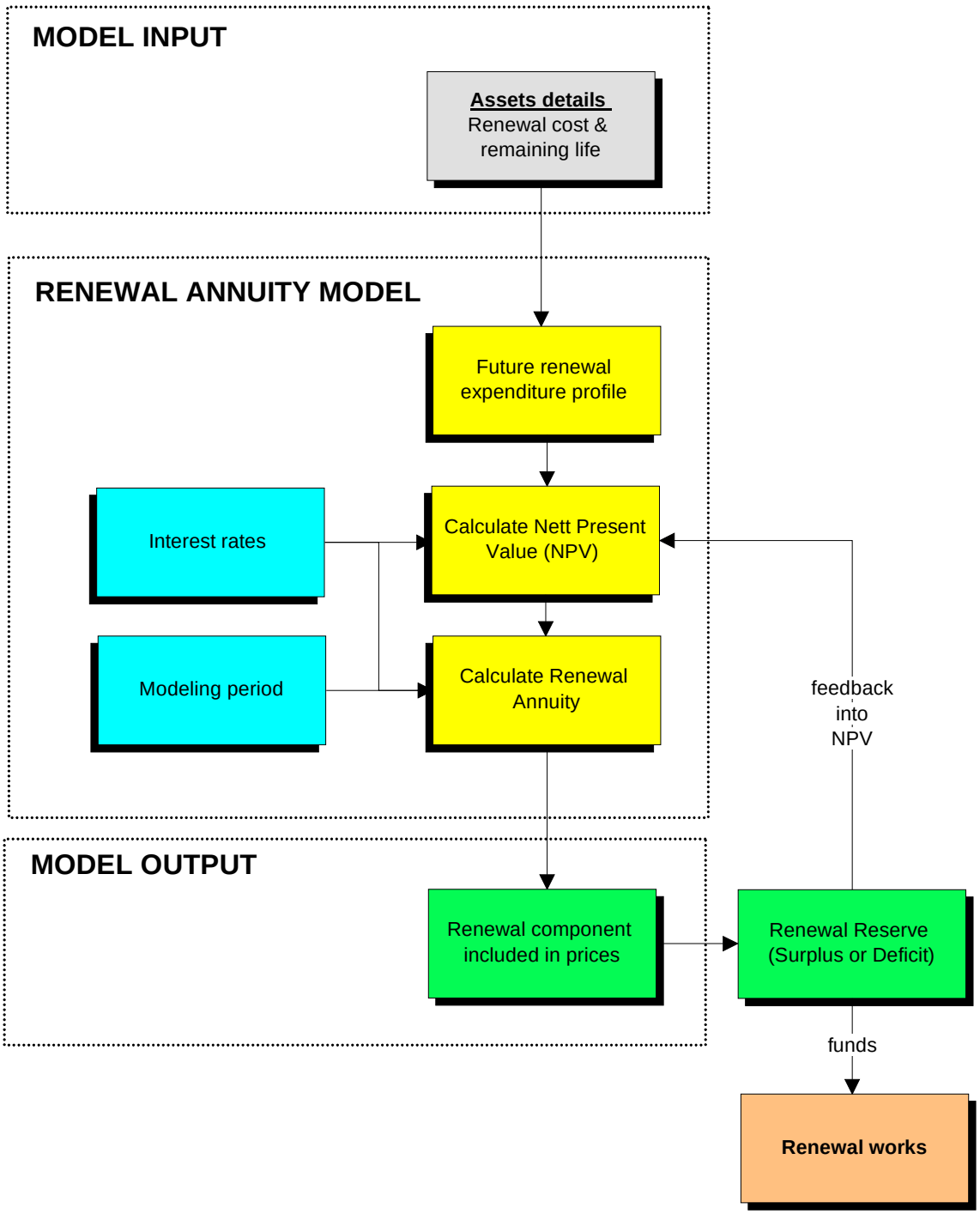


Figure 1 - Renewal annuity model

Model inputs

The model uses inputs of remaining service life and renewal cost assigned for each individual asset. The remaining life estimate is either directly assigned for large or unique assets or indirectly derived from its condition using a decay curve. Figure 2 following shows a typical decay curve used in AssetLife. A four-year rolling asset inspection program provides a cyclic review of asset conditions.

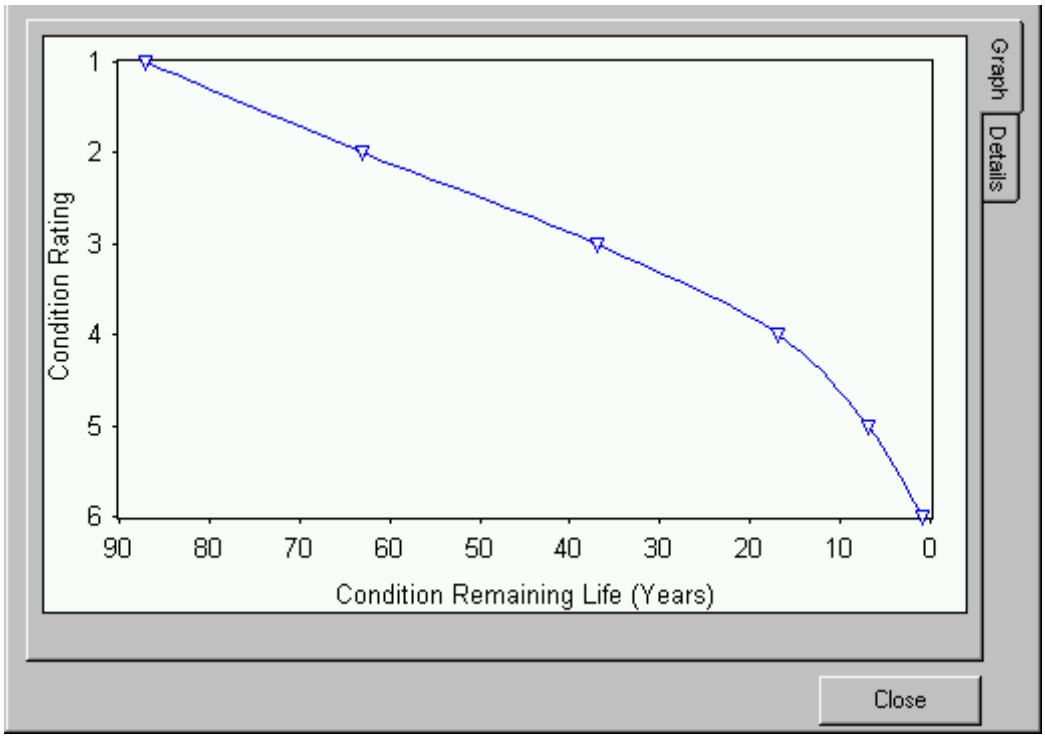


Figure 2 - Decay curve for 100-year life structures

appendix iv
INDICATIVE TARIFFS

We have not proposed annual price paths within this plan, but rather have provided indicative tariff changes based on annualised (and discounted) costs across the regulatory period. These therefore represent, in practical terms, year one step changes in tariffs. This does not however imply our intention to implement tariff changes fully at the beginning of the regulatory period, but rather that the discounted value of total revenue generated over the regulatory period will equate with this. Actual tariff changes will be a matter for annual consultation and approval.

In addition to these indicative changes, this appendix provides indicative tariffs for the regulatory period. These are nominal tariffs (i.e. including CPI increases), and are based on smoothed annual increases (rather than step changes as used otherwise in this plan). Again, we reinforce that these are indicative, and represent neither a proposed approach to implementing tariff changes, nor a proposed tariff structure (which we expect will be quite different as we unbundled our tariffs for regulated systems).

Schedule commences next page

INDICATIVE TARIFFS

ASSUMING CPI INFLATION AT: 3.0%

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
1	**ANNUAL FEES AND CHARGES**								
1.1	**MACALISTER IRRIGATION DISTRICT**								
	Indicative Annual Increase (assuming CPI at 3.0%)				6.1%	6.1%	6.1%	6.1%	6.1%
1.1.1	Water Right	ML/Ent		49.98	53.01	56.22	59.63	63.24	67.07
1.1.2	Domestic & Stock Allowance	ML/Ent		49.98	53.01	56.22	59.63	63.24	67.07
1.1.3	New Domestic & Stock Allocation	ML/Ent		124.62	132.17	140.18	148.68	157.69	167.24
1.1.4	Water Sales	ML	1	49.98	53.01	56.22	59.63	63.24	67.07
1.1.5	Domestic & Stock Pipe Permit	ML/Ent		33.52	35.55	37.71	39.99	42.41	44.98
1.1.6	Drainage Diversion	ML/Ent		12.55	13.31	14.12	14.97	15.88	16.84
1.1.7	Conditional Drainage Diversion	ML/Ent	2	6.27	6.65	7.05	7.48	7.93	8.41
1.1.8	Irrigation Bulk Supply	ML/Ent		9.50	10.08	10.69	11.33	12.02	12.75
1.2	**WERRIBEE IRRIGATION DISTRICT (RIVER)**								
	Indicative Annual Increase (assuming CPI at 3.0%)				9.8%	9.8%	9.8%	9.8%	9.8%
1.2.1	Irrigation Water Right	ML/Ent		207.41	227.69	249.96	274.41	301.25	330.71
1.2.2	Domestic & Stock Allowance	ML/Ent		207.41	227.69	249.96	274.41	301.25	330.71
1.2.3	Water Sales	ML	1	207.41	227.69	249.96	274.41	301.25	330.71
1.2.4	Drainage Diversion	ML/Ent		51.86	56.93	62.50	68.61	75.32	82.69
1.2.5	Drainage Diversion Sales	ML	1	51.86	56.93	62.50	68.61	75.32	82.69
1.2.6	Drainage Tariff - Division 1	ML/Ent		30.81	33.82	37.13	40.76	44.75	49.13
1.2.7	Drainage Tariff - Division 2	ML/Ent		23.09	25.35	27.83	30.55	33.54	36.82
1.2.8	Drainage Tariff - Division 3	ML/Ent		15.42	16.93	18.58	20.40	22.40	24.59
1.3	**WID RECYCLED WATER SCHEME**								
	Indicative Annual Increase (assuming CPI at 3.0%)				9.8%				
1.3.1	Recycled Water Entitlemement	ML/Ent		207.41	227.69	TO BE DEVELOPED			
1.3.2	Recycled Water Sales	ML	1	207.41	227.69				

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
1	**ANNUAL FEES AND CHARGES (Cont)**								
1.4	**BACCHUS MARSH IRRIGATION DISTRICT**								
	Indicative Annual Increase (assuming CPI at 3.0%)				11.2%	11.2%	11.2%	11.2%	11.2%
1.4.1	Irrigation Water Right	ML/Ent		207.03	230.22	256.00	284.67	316.56	352.01
1.4.2	Domestic & Stock Allowance	ML/Ent		207.03	230.22	256.00	284.67	316.56	352.01
1.4.3	Water Sales	ML	1	207.03	230.22	256.00	284.67	316.56	352.01
1.5	**SURFACE WATER**								
	UNREGULATED SYSTEMS								
	Indicative Annual Increase (assuming CPI at 3.0%)				9.3%	9.3%	9.3%	9.3%	9.3%
1.5.1	Fixed Charge	Licence		230.00	251.32	274.62	300.08	327.89	358.29
1.5.2	Entitlement Charge - Standard	ML/Ent		7.80	8.52	9.31	10.18	11.12	12.15
1.5.3	Entitlement Charge - Offstream Winterfill	ML/Ent	3	5.46	5.97	6.52	7.12	7.78	8.51
	REGULATED - MACALISTER THOMSON SYSTEM								
	Indicative Annual Increase (assuming CPI at 3.0%)				6.1%	6.1%	6.1%	6.1%	6.1%
1.5.4	Fixed Charge	Licence		138.00	146.36	155.23	164.64	174.62	185.20
1.5.5	Entitlement Charge - Macalister & Thomson Rivers	ML/Ent		13.25	14.05	14.90	15.81	16.77	17.78
1.5.6	Entitlement Charge - Macalister & Thomson Rivers - Offstream Winterfill	ML/Ent	3	9.28	9.84	10.44	11.07	11.74	12.45
1.5.7	Sales - Macalister & Thomson Rivers	ML	1	13.25	14.05	14.90	15.81	16.77	17.78
1.5.8	Entitlement Charge - Thomson Cowarr Channel	ML/Ent		49.98	53.01	56.22	59.63	63.24	67.07
1.5.9	Sales - Thomson Cowarr Channel	ML	1	49.98	53.01	56.22	59.63	63.24	67.07
	REGULATED - LATROBE SYSTEM								
	Indicative Annual Increase (assuming CPI at 3.0%)				12.2%	12.2%	12.2%	12.2%	12.2%
1.5.10	Fixed Charge	Licence		138.00	154.89	173.85	195.13	219.01	245.82
1.5.11	Entitlement Charge	ML/Ent		13.25	14.87	16.69	18.74	21.03	23.60
1.5.12	Entitlement Charge - Offstream Winterfill	ML/Ent	3	9.28	10.42	11.69	13.12	14.73	16.53
1.5.13	Sales	ML	1	13.25	14.87	16.69	18.74	21.03	23.60

1 ANNUAL FEES AND CHARGES (Cont)

1.5 SURFACE WATER (Cont)

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
	REGULATED - MARIBYRNONG SYSTEM								
	Indicative Annual Increase (assuming CPI at 3.0%)				12.0%	12.0%	12.0%	12.0%	12.0%
1.5.14	Fixed Charge	Licence		138.00	154.60	173.20	194.04	217.38	243.53
1.5.15	Entitlement Charge	ML/Ent		36.60	41.00	45.94	51.46	57.65	64.59
1.5.16	Entitlement Charge - Offstream Winterfill	ML/Ent	3	25.62	28.70	32.15	36.02	40.36	45.21
	REGULATED - WERRIBEE SYSTEM								
	Indicative Annual Increase (assuming CPI at 3.0%)				12.0%	12.0%	12.0%	12.0%	12.0%
1.5.17	Fixed Charge	Licence		138.00	154.60	173.20	194.04	217.38	243.53
1.5.18	Entitlement Charge - Werribee System	ML/Ent		68.20	76.40	85.60	95.89	107.43	120.35
1.5.19	Sales - Werribee System	ML	1	68.20	76.40	85.60	95.89	107.43	120.35
	FARM DAMS								
	Indicative Annual Increase (assuming CPI at 3.0%)				9.3%	9.3%	9.3%	9.3%	9.3%
1.5.20	Hazardous Dam Operating Licence	Licence		295.00	322.35	352.23	384.88	420.56	459.54
	NON CONSUMPTIVE - AQUACULTURE								
	Indicative Annual Increase (assuming CPI at 3.0%)				9.3%	9.3%	9.3%	9.3%	9.3%
1.5.21	Diversion rate up to 3ML/Day	Licence		400.00	437.08	477.60	521.87	570.25	623.11
1.5.22	Additional ML	ML		53.50	58.46	63.88	69.80	76.27	83.34
	NON CONSUMPTIVE - POWER GENERATION								
	Indicative Annual Increase (assuming CPI at 3.0%)				9.3%	9.3%	9.3%	9.3%	9.3%
1.5.23	Diversion rate up to generate up to 5kW	Licence		140.00	152.98	167.16	182.65	199.59	218.09
1.5.24	Additional ML	ML		27.50	30.05	32.83	35.88	39.20	42.84

1.6 GROUNDWATER

	Indicative Annual Increase (assuming CPI at 3.0%)				11.4%	11.4%	11.4%	11.4%	11.4%
1.6.1	Fixed Charge - General	Licence		230.00	256.24	285.48	318.05	354.34	394.77
1.6.2	Fixed Charge - Koo-Wee-Rup/Dalmore	Bore	4	150.00	167.12	186.18	207.43	231.09	257.46
1.6.3	Entitlement Charge - General	ML/Ent		2.55	2.84	3.17	3.53	3.93	4.38
1.6.4	Usage Charge - Koo-Wee-Rup/Dalmore	ML	4	35.85	39.94	44.50	49.57	55.23	61.53

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
2	**APPLICATION FEES**								
	Indicative Annual Increase (assuming CPI at 3.0%)				8.4%	8.4%	8.4%	8.4%	8.4%
2.1	**WATER RIGHTS**								
	SECTION 96 – AMENDMENT OF IRRIGATION DISTRICT BOUNDARY								
2.1.1	General	App		870.00	942.91	1,021.92	1,107.56	1,200.37	1,300.96
	SECTION 224/226 – TRANSFER OF WATER RIGHTS								
2.1.2	Temporary	App		180.00	195.08	211.43	229.15	248.35	269.16
2.1.3	Temporary via Trade Agency	App	5	135.00	146.31	158.57	171.86	186.26	201.87
2.1.4	Permanent	App	6	605.00	655.70	710.65	770.20	834.74	904.69
	SECTION 230 – AMALGAMATION OF WATER RIGHTS								
2.1.5	Temporary	App		180.00	195.08	211.43	229.15	248.35	269.16
2.1.6	Temporary (water right plus diversion licence)	App		365.00	395.59	428.74	464.67	503.60	545.81
2.1.7	Permanent	App		605.00	655.70	710.65	770.20	834.74	904.69
2.2	**DRAINAGE DIVERSION AGREEMENTS (SECTION 124)**								
2.2.1	Application	App		180.00	195.08	211.43	229.15	248.35	269.16
2.2.2	Renewal	App		180.00	195.08	211.43	229.15	248.35	269.16
2.2.3	Transfer	App		305.00	330.56	358.26	388.28	420.82	456.08
2.3	**TAKE AND USE LICENCES**								
	SECTION 51 – ISSUE OF LICENCE: NON REFUNDABLE COMPONENT								
	SURFACE WATER								
2.3.1	Domestic & Stock	App		305.00	330.56	358.26	388.28	420.82	456.08
2.3.2	Under 10ML & Not Significant	App		725.00	785.76	851.60	922.97	1,000.31	1,084.14
2.3.3	Under 10ML & Significant	App		2,180.00	2,362.68	2,560.68	2,775.26	3,007.83	3,259.88
2.3.4	10ML–200ML - Fixed Component	App		2,180.00	2,362.68	2,560.68	2,775.26	3,007.83	3,259.88
2.3.5	10ML–200ML - Volumetric Component	ML/App	7	12.10	13.11	14.21	15.40	16.69	18.09
2.3.6	Over 200ML - Fixed Component	App		4,475.00	4,850.01	5,256.44	5,696.92	6,174.33	6,691.74
2.3.7	Over 200ML - Volumetric Component	ML/App	7	24.20	26.23	28.43	30.81	33.39	36.19
2.3.8	Water Availability Assessment Fee	App		1,390.00	1,506.48	1,632.73	1,769.55	1,917.84	2,078.55
2.3.9	Advertising Fee (under 20ML)	App		1,120.00	1,213.86	1,315.58	1,425.82	1,545.31	1,674.80
2.3.10	Advertising Fee (20ML and over)	App		1,485.00	1,609.44	1,744.31	1,890.49	2,048.91	2,220.61
2.3.11	Technical Information Analysis Fee	App		605.00	655.70	710.65	770.20	834.74	904.69

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
2	**APPLICATION FEES (Cont)**								
	Indicative Annual Increase (assuming CPI at 3.0%)				8.4%	8.4%	8.4%	8.4%	8.4%
2.3	**TAKE AND USE LICENCES (Cont)**								
	SECTION 51 – ISSUE OF LICENCE: NON REFUNDABLE COMPONENT (Cont)								
	GROUNDWATER								
2.3.12	Under 20ML & Not Significant	App		725.00	785.76	851.60	922.97	1,000.31	1,084.14
2.3.13	Under 20ML & Significant	App		2,180.00	2,362.68	2,560.68	2,775.26	3,007.83	3,259.88
2.3.14	20ML–200ML - Fixed Component	App		2,180.00	2,362.68	2,560.68	2,775.26	3,007.83	3,259.88
2.3.15	20ML–200ML - Volumetric Component	ML/App	7	6.05	6.56	7.11	7.70	8.35	9.05
2.3.16	200ML-400ML - Fixed Component	App		3,265.00	3,538.61	3,835.14	4,156.53	4,504.84	4,882.35
2.3.17	200ML-400ML - Volumetric Component	ML/App	7	12.10	13.11	14.21	15.40	16.69	18.09
2.3.18	Over 400ML - Fixed Component	App		5,685.00	6,161.40	6,677.73	7,237.32	7,843.81	8,501.12
2.3.19	Over 400ML - Volumetric Component	ML/App	7	24.20	26.23	28.43	30.81	33.39	36.19
2.3.20	Advertising Fee (under 20ML)	App		1,120.00	1,213.86	1,315.58	1,425.82	1,545.31	1,674.80
2.3.21	Advertising Fee (20ML and over)	App		1,485.00	1,609.44	1,744.31	1,890.49	2,048.91	2,220.61
2.3.22	Technical Information Analysis Fee	App		605.00	655.70	710.65	770.20	834.74	904.69
	SECTION 51 – ISSUE OF LICENCE: REFUNDABLE COMPONENT								
	SURFACE WATER								
2.3.23	Domestic & Stock	ML/App	8	0.00	0.00	0.00	0.00	0.00	0.00
2.3.24	Other	ML/App	8	605.00	655.70	710.65	770.20	834.74	904.69
	GROUNDWATER								
2.3.25	General	ML/App	8	605.00	655.70	710.65	770.20	834.74	904.69
	SECTION 58 – RENEWAL OF LICENCE								
2.3.26	General	App		180.00	195.08	211.43	229.15	248.35	269.16
	SECTION 62 – AMENDMENT / AMALGAMATION OF LICENCE								
2.3.27	General	App		305.00	330.56	358.26	388.28	420.82	456.08

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
2	**APPLICATION FEES (Cont)**								
	Indicative Annual Increase (assuming CPI at 3.0%)				8.4%	8.4%	8.4%	8.4%	8.4%
2.3	**TAKE AND USE LICENCES (Cont)**								
	SECTION 62 – TRANSFER OF LICENCE								
2.3.28	Temporary	App		180.00	195.08	211.43	229.15	248.35	269.16
2.3.29	Temporary via Trade Agency	App	5	135.00	146.31	158.57	171.86	186.26	201.87
2.3.30	Permanent (Sale of Property)	App		305.00	330.56	358.26	388.28	420.82	456.08
2.3.31	Permanent (Splitting Licence)	App		725.00	785.76	851.60	922.97	1,000.31	1,084.14
2.3.32	Permanent (Other)	App		605.00	655.70	710.65	770.20	834.74	904.69
2.4	**CONSTRUCTION LICENCES**								
	SECTION 67 – ISSUE OF LICENCE								
	NEW WORKS								
	- Farm Dams								
2.4.1	Farm Dam - <1m high, <1ML capacity	App		1,090.00	1,181.34	1,280.34	1,387.63	1,503.91	1,629.94
2.4.2	Farm Dam - <5m high & <3ML capacity & <50ha catchment	App		1,755.00	1,902.07	2,061.46	2,234.21	2,421.44	2,624.36
2.4.3	Farm Dam - <5m high & <20ML capacity & <200ha catchment	App		2,420.00	2,622.80	2,842.59	3,080.80	3,338.97	3,618.77
2.4.4	Farm Dam - >5m high or >20ML capacity or >200ha catchment	App		3,145.00	3,408.55	3,694.19	4,003.76	4,339.28	4,702.91
	- Bores								
2.4.5	Bore – Category A or B	App		560.00	606.93	657.79	712.91	772.65	837.40
2.4.6	Bore – Category C	App	9	870.00	942.91	1,021.92	1,107.56	1,200.37	1,300.96
2.4.7	Bore – Category D	App	9	1,155.00	1,251.79	1,356.69	1,470.38	1,593.60	1,727.14
2.4.8	Bore – additional bore	App		60.00	65.03	70.48	76.38	82.78	89.72
	EXISTING WORKS								
	- Farm Dams								
2.4.9	Hazardous Dam – Operating Licence	App	10	725.00	785.76	851.60	922.97	1,000.31	1,084.14
	- Bores								
2.4.10	Bore – Category A or B – Licence to Modify	App		560.00	606.93	657.79	712.91	772.65	837.40
2.4.11	Bore – Category C – Licence to Modify	App		870.00	942.91	1,021.92	1,107.56	1,200.37	1,300.96
2.4.12	Bore – Category D – Licence to Modify	App		1,155.00	1,251.79	1,356.69	1,470.38	1,593.60	1,727.14
2.4.13	Bore – Category A or B – Decommissioning Licence	App		0.00	0.00	0.00	0.00	0.00	0.00
2.4.14	Bore – Category C – Decommissioning Licence	App	9	870.00	942.91	1,021.92	1,107.56	1,200.37	1,300.96
2.4.15	Bore – Category D – Decommissioning Licence	App	9	1,155.00	1,251.79	1,356.69	1,470.38	1,593.60	1,727.14

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
2	**APPLICATION FEES (Cont)**								
	Indicative Annual Increase (assuming CPI at 3.0%)				8.4%	8.4%	8.4%	8.4%	8.4%
2.4	**CONSTRUCTION LICENCES (Cont)**								
	SECTION 72 – RENEWAL OF LICENCE								
2.4.16	General	App		180.00	195.08	211.43	229.15	248.35	269.16
2.4.17	Hazardous Dam – Operating Licence	App		725.00	785.76	851.60	922.97	1,000.31	1,084.14
	SECTION 74 – TRANSFER OF LICENCE								
2.4.18	General	App		180.00	195.08	211.43	229.15	248.35	269.16
2.5	**UNDERGROUND DISPOSAL**								
	SECTION 76 – ISSUE OF LICENCE		12						
2.5.1	Under 10ML & Not Significant	App		725.00	785.76	851.60	922.97	1,000.31	1,084.14
2.5.2	Under 10ML & Significant	App		2,180.00	2,362.68	2,560.68	2,775.26	3,007.83	3,259.88
2.5.3	10ML–1000ML - Fixed Component	App		2,180.00	2,362.68	2,560.68	2,775.26	3,007.83	3,259.88
2.5.4	10ML–1000ML - Volumetric Component	ML/App		6.05	6.56	7.11	7.70	8.35	9.05
2.5.5	Over 1000ML - Fixed Component	App		8,170.00	8,854.65	9,596.67	10,400.87	11,272.46	12,217.09
2.5.6	Over 1000ML - Volumetric Component	ML/App		24.20	26.23	28.43	30.81	33.39	36.19
2.5.7	Advertising Fee (under 20ML)	App		1,120.00	1,213.86	1,315.58	1,425.82	1,545.31	1,674.80
2.5.8	Advertising Fee (20ML and over)	ML/App		1,485.00	1,609.44	1,744.31	1,890.49	2,048.91	2,220.61
	SECTION 76 – ISSUE OF LICENCE								
2.5.9	General	App		180.00	195.08	211.43	229.15	248.35	269.16
	SECTION 76 – TRANSFER OF LICENCE								
2.5.10	General	App		180.00	195.08	211.43	229.15	248.35	269.16
2.6	**GENERAL**								
	SECTION 158 – INFORMATION STATEMENT								
2.6.1	General	Cert		75.00	81.29	88.10	95.48	103.48	112.15
	SECTION 227 – VALUATION CERTIFICATE								
2.6.2	General	Cert	6	75.00	81.29	88.10	95.48	103.48	112.15

		UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
2	**APPLICATION FEES (Cont)**								
	Indicative Annual Increase (assuming CPI at 3.0%)				8.4%	8.4%	8.4%	8.4%	8.4%
2.6	**GENERAL (Cont)**								
	INFORMATION REPORT (Surface & Groundwater)								
2.6.3	Standard	App		240.00	260.11	281.91	305.53	331.14	358.89
2.6.4	Short	App		85.00	92.12	99.84	108.21	117.28	127.11
2.6.5	Complex	App		725.00	785.76	851.60	922.97	1,000.31	1,084.14
	WATER METERS								
2.6.6	Special Meter Reading	Meter		75.00	81.29	88.10	95.48	103.48	112.15
2.6.7	Meter Test	Meter	11	115.00	124.64	135.08	146.40	158.67	171.97
	PRIVATE WORKS								
2.6.8	Issue Fee (also Domestic & Stock Permit)	App		180.00	195.08	211.43	229.15	248.35	269.16
2.6.9	Application Fee	App		350.00	379.33	411.12	445.57	482.91	523.38
	SUBDIVISION OF LANDS								
2.6.10	Category A	App		240.00	260.11	281.91	305.53	331.14	358.89
2.6.11	Category B	App		385.00	417.26	452.23	490.13	531.20	575.71
2.6.12	Category C	App		835.00	904.97	980.81	1,063.00	1,152.08	1,248.63
2.6.13	Category D	App		1,760.00	1,907.49	2,067.34	2,240.58	2,428.34	2,631.83
2.6.14	Category E	App		2,530.00	2,742.01	2,971.79	3,220.83	3,490.74	3,783.26
	DIVERSION WORKS ON CROWN LANDS								
2.6.15	Issue of Licence	App		180.00	195.08	211.43	229.15	248.35	269.16

UNIT	NOTE	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13

NOTES

1 Applies to usage in excess of entitlement (irrigation district) or licenced volume (regulated surface

2 Charged at 50% of standard rate

3 Offstream storage Licences subject to winterfill condition charged at 70% of standard rate.

4 Groundwater licences in the Koo Wee Rup/Dalmore region subject to fixed charge per bore (rather than per licence) and variable charge per ML of usage (rather than licenced volume).

5 Temporary trades undertaken via thir-party trade agencies subject to 25% reduction in standard rate.

6 Subject to Regulation under Section 228 (d), Water Act 1989.

7 Applies to ML above lower bound - not total ML.

8 Applies to application volume, but will be refunded for any ML not granted,

9 Provides for SRW commitment of 6 hours (category C) or 8 hours (category D). An additional hourly rate of $100 applies to any further work by SRW.

10 Applies only to dams licensed after 1 July 2003.

11 Fee refunded if meter found to be outside SRW tolerances.

12 For pumping water in aquifer, eg aquifer recharge, return of water used for geothermal heating etc.

appendix v
NON-PRESCRIBED SERVICES

Clause 6 of the Water Industry Regulatory Order 2003 lists the following prescribed and declared services that are applicable to SRW:

- retail water services;
- retail recycled water services;
- storage operator services;
- irrigation drainage services; and
- diversion services.

This list covers most of SRW's operations, however the following fall outside the list and are therefore considered "non-prescribed":

- salinity programs;
- nutrient management programs;
- 'sale of water savings' projects;
- hydropower agreements;
- property rentals and leases;
- recreation facilities;
- provision of technical or specialist advice;
- water resource appraisals and planning processes (including water management plans, associated metering etc);
- supervision of private works;
- services associated with appointment as resource manager pursuant to S.43A of the Water Act; and
- services associated with the Drillers' Licensing Board.

Where these activities have a distinct identifiable revenue and cost base, they have been excluded from our proposals. Where such activities have been excluded from our proposals, we have also excluded an appropriate portion of our corporate and overhead costs.

appendix v
glossary & acronyms

ANCOLD	Australian National Committee on Large Dams
BCL	Bore Construction Licence
BMID	Bacchus Marsh Irrigation District
CapEx	Capital Expenditure
CCC	Customer Consultative Committee
CMA	Catchment Management Authority
DHS	Department of Human Services
DSE	Department of Sustainability & Environment
EI/EIB	Eastern Irrigation Business (of SRW)
EMS	Environmental Management System
EPA	Environment Protection Authority
ESC	Essential Services Commission
EWOV	Energy & Water Ombudsman of Victoria
FOI	Freedom of Information
GMA	Groundwater Management Area
GMP	Groundwater Management Plan
GW	Groundwater
Lic	Licence
MID	Macalister Irrigation District
ML	Megalitre
NEIP	Neighbourhood Environment Improvement Plan
NRP	Nutrient Reduction Plan
O&M	Operations & Maintenance
OpEx	Operating Expenditure
PAV	Permissible Annual Volume
ROR	Rate of Return
RWA	Rural Water Authority
SFMP	Streamflow Management Plan
SoO	Statement of Obligations
SRW	Southern Rural Water
SW	Surface Water
TBL	Triple Bottom Line
VicWater	Victorian Water Industry Association
WACC	Weighted Average Cost of Capital
WI/WIB	Western Irrigation Business (of SRW)
WID	Werribee Irrigation District
WIRO	Water Industry Regulatory Order
WMP	Water Management Plan (a GMP or SFMP)
WSPA	Water Supply Protection Area