



Lower Murray Water

Part A Urban Water Plan

2013/14 to 2017/18

September 2012

Contents

	LMW's 2013-14 to 2017-18 Urban Water Plan in Brief	i
1	Executive Summary	ii
1.1	Water Plan Structure	ii
1.2	Recent Major Achievements	ii
1.3	Overview of Customer Consultation Processes	iii
1.4	Overview of Key Outcomes for the Period	iii
1.5	Overview of Revenue Requirement	v
1.6	Overview of Demand	v
1.7	Overview of Planned Urban Operating Expenditure	vi
1.8	Overview of Planned Capital Expenditure	vii
1.9	Overview of Proposed Urban Tariff Structures and Levels	ix
2	Lower Murray Water Urban Business Summary	12
2.1	LMW Urban Services	12
2.2	Customers and Assets	12
2.3	Business Context	14
3	Outcomes for Second Regulatory Period	17
3.1	Service Standards and Other Outcomes	17
3.2	Delivery of Key Capital Projects	17
3.3	Actual Capital Expenditure for the Delivery of Outcomes	18
3.4	Changes in Statutory Obligations	19
3.5	Drought and Flood Related Impacts	19
3.6	Change in Number of Customers	21
3.7	Actual Operating Expenditure	21
3.8	Revenues	22
4	Proposed Service Outcomes	24
4.1	Overview of Customer Consultation	24
4.2	Regulatory and Government Obligations – Business as Usual	25
4.3	New Obligations	32
4.4	Service Standards	32
4.5	Guaranteed Service Levels (GSLs)	33
5	Revenue Requirement	34

5.1	Overview of Revenue Requirement	34
5.2	Operating Expenditure	35
5.3	Capital Expenditure	39
5.4	Prudent and Efficient Capital Expenditure Levels	43
5.5	Financing Capital Investments	45
5.6	Taxation	46
6	Demand	47
6.1	Summary of Approach to Demand Forecasting	47
6.2	LMW Context	47
6.3	LMW Demand Assumptions	49
6.4	Demand Forecast Methodology	56
6.5	Water & Sewerage Connection Forecasts	58
6.6	Water Volumetric Demand	59
6.7	Recycled Water	64
6.8	Developer Lots	64
7	Prices	66
7.1	Introduction	66
7.2	Tariff Structures	66
7.3	Proposed Tariffs	72
7.4	Customer Contributions	73
7.5	Negotiated Trade Waste	74
7.6	Miscellaneous Revenues	75
7.7	Form of Price Control	76
7.8	No Adjustment to Prices for Revenue Losses	76
8	Non-Prescribed Services	77
8.1	Classification of Services as Non-Prescribed	77
8.2	Expenditure and Revenue Associated with Non-Prescribed Services	77

Table Index

Table 1	Proposed Guaranteed Service Levels	iv
Table 2	Revenue Requirement (\$M 1/1/13)	v
Table 3	Actual and Planned Operating Expenditure	vii
Table 4	Proposed Capital Expenditure	viii
Table 5	Major Capital Projects	ix
Table 6	Proposed tariffs – (\$ 1/1/13)	xi

Table 7	Urban Water Supply Customers (2011-12)	13
Table 8	Urban Water Supply Assets	13
Table 9	Urban Wastewater Customers (2010-11)	13
Table 10	Urban Wastewater Assets	14
Table 11	Urban Goals and Objectives	15
Table 12	Delivery of Key Capital Projects	17
Table 13	Capital Expenditure Associated with Outcomes (\$M nominal)	19
Table 14	Changes in Obligations	19
Table 15	Operating Expenditure Associated with Delivering Outcomes (\$M nominal)	22
Table 16	Draft Statement of Obligations	26
Table 17	Environmental Obligations Summary	30
Table 18	Department of Health Obligations	31
Table 19	Proposed Guaranteed Service Levels	33
Table 20	Revenue Requirement	34
Table 21	Actual and Planned Operating Expenditure	36
Table 22	BAU Water Operating Expenditure	37
Table 23	BAU Sewerage Operating Expenditure	38
Table 24	BAU Capital Expenditure	39
Table 25	Major Capital Projects	40
Table 26	ESC Cost Driver Summary	41
Table 27	Updating the Regulatory Asset Base	45
Table 28	Rolling Forward the Regulatory Asset Base	46
Table 29	Demand Forecast Regression r-square Statistics	50
Table 30	Demand Forecast Regression Coefficients	50
Table 31	Restriction Levels	51
Table 32	Demand Forecast Regression Coefficients	53
Table 33	Price Elasticities Estimated by Abrams et al (2011)	53
Table 34	Price Elasticity for LMW	54
Table 35	Average Temperature and Rainfall in Mildura	55
Table 36	Forecasts of Demand per Connection	56
Table 37	Equivalent Residential Connections (Number)	58
Table 38	Equivalent Non-Residential Connections (Number)	59
Table 39	Average Water Demand per Connection – Residential (kL)	59
Table 40	Total Residential Demand Forecast for LMW (ML pa)	60
Table 41	Non-residential Water Demand per Equivalent Connection – kL pa	61
Table 42	Non-residential Water Demand Forecast - ML pa	62
Table 43	Total Water Demand Forecast - ML pa	63
Table 44	Number of Developer Lots	64

Table 45	Water and Sewerage Tariffs – (\$ 1/1/13)	66
Table 46	Water Service Charge by Meter Size - 2011-12 charges	68
Table 47	Proposed Tariffs – (\$ 1/1/13)	72
Table 48	Water and Sewerage Bill Increases for Residential Customer - (\$ 1/1/13)	73
Table 49	Water and Sewerage Bill Increases for Non-Residential Customers – (\$ 1/1/13)	73
Table 50	Miscellaneous Revenue – (\$M 1/1/13)	76
Table 51	Non- Prescribed Revenues	78
Table 52	Non Prescribed Expenditure	78

Figure Index

Figure 1	Water Plan Process Structure	ii
Figure 2	Revenue Requirement (\$M 1/1/13)	v
Figure 3	Total Water Demand Forecast – ML pa	vi
Figure 4	Planned Operating Expenditure 2008-09 – 2017-18 (\$M 1/1/13)	vii
Figure 5	Actual and Planned Capital Expenditure 2008-09 to 2017-18	viii
Figure 6	LMW Operating Area	12
Figure 7	Outturn Versus Predicted Demand	20
Figure 8	Outturn Versus Predicted Customer Equivalent Connections – Water	21
Figure 9	Outturn Versus Predicted Customer Equivalent Connections - Sewerage	21
Figure 10	Outturn Versus Predicted Revenue (\$M 1/1/13)	23
Figure 11	Revenue Requirement (\$M 1/1/13)	35
Figure 12	Actual and Planned Operating Expenditure 2008-09 – 2017-18 (\$M 1/1/13)	36
Figure 13	Water BAU Operating Expenditure 2008-09 to 2017-18	37
Figure 14	Sewerage BAU Operating Expenditure 2008-09 to 2017-18	38
Figure 15	Actual and Planned Capital Expenditure 2008-09 to 2017-18	40
Figure 16	Water Mains Renewal – Long Term Forecast	42
Figure 17	Sewer Pipeline Renewal - Long Term Forecast	43
Figure 18	Average Annual Rainfall	48
Figure 19	Residential Consumption and Rainfall Trends	49
Figure 20	Predicted Versus Average Demand	52
Figure 21	Total Residential Demand for Water – Historic and Forecast	61
Figure 22	Total Non-residential Demand for Water – Historic and Forecast	63
Figure 23	Total Demand for Water	64
Figure 24	Inclining Block Structures for Victorian Water Businesses	70

Appendices

- A Service Standards and other Outcomes
- B Customer Consultation Register
- C Urban Service Standards and Targets
- D Miscellaneous Charges
- E Capital Expenditure

LMW's 2013-14 to 2017-18 Urban Water Plan in Brief

This third Water Plan (WP3) is prepared by Lower Murray Urban and Rural Water Corporation (LMW) for the Essential Services Commission (ESC) as part of the requirements for water industry regulation detailed by the Water Industry Regulatory Order (WIRO). The document is our final Plan and details the needs of the business for the regulatory period of 1 July 2013 to 30 June 2018. LMW is pleased to still receive public feedback.

The Water Plan details outcomes to be delivered by LMW to meet its legislative and regulatory obligations, and customer demand for services. It summarises LMW's strategic responses, operating and capital costs, and the associated revenue and tariff requirements to meet those obligations and demands.

As a result of the commitments and outcomes presented in this Water Plan, the average price increase for a water and sewerage customer will be 2.18% before inflation. For an average residential customer taking a water consumption of 488kL per annum with a 2012-13 water and sewerage bill of \$864.12, this translates into an average increase of \$19.67 per annum, before inflation. This level of water bill remains among the lowest in the State of Victoria including metropolitan and regional water corporations.

The increase in bills is largely caused by the following factors:

- ▶ Regulatory depreciation of assets and return on assets existing at the commencement of the regulatory period.
- ▶ Additional depreciation of and return on new assets created during the regulatory period, directly resulting from capital expenditure.
- ▶ Increase in electricity costs.
- ▶ Unfunded superannuation liability.

LMW's operating costs (comprising operations, maintenance and corporate recurring expenditure) for both urban water and sewerage services, are expected to remain relatively static in real terms over the regulatory period. Drought, flood and economic challenges posed over the recent past reduced demand and placed financial hardship on customers. In response LMW drove a "survival" approach to budgeting whereby all non-critical expenditure was eliminated. This has placed LMW in a strong position to sustain those efficiency gains in the next regulatory period. Costs associated with growth in the customer base over the period will be absorbed, demonstrating further productivity gains and efficiencies in operations.

As part of the development of this Water Plan LMW sought information on the likely increases in electricity as a result of the implementation of the Federal Government's carbon tax. There are many conflicting reports on the impact and LMW has adopted the findings from the Australian Energy Market Commission final report "*Possible Future Retail Electricity Price Movements : 1 July 2011 to 30 June 2014*". LMW has allowed for a 11.41% increase in energy costs for 2012/13, followed by a 6.0% increase in 2013/14 and only increases in line with inflation beyond that. No above inflation adjustments have been made for the ongoing electricity distribution costs.

Capital investment planned for the next regulatory period is estimated at \$55.32 million, comprising:

- ▶ Water system capacity improvements to meet growth in Mildura and Red Cliffs.
- ▶ Water quality improvements across all water treatment plants to handle "blackwater" and other poor raw water quality events.
- ▶ Sewerage capacity improvements for Swan Hill and Merbein, and sewer overflow storages to improve emergency response capacity in Mildura.
- ▶ Water main, sewer pipeline and manhole renewals to maintain service levels and asset condition
- ▶ Asset replacements at treatment plants, pump stations and other facilities to maintain service reliability, water and effluent quality, and compliance with health and safety requirements

Since the release of our draft Plan, end of May, we have held further customer committees meetings and public consultation meetings across our region. Feedback received has been considered as part of updating our draft to this Water Plan.

1 Executive Summary

1.1 Water Plan Structure

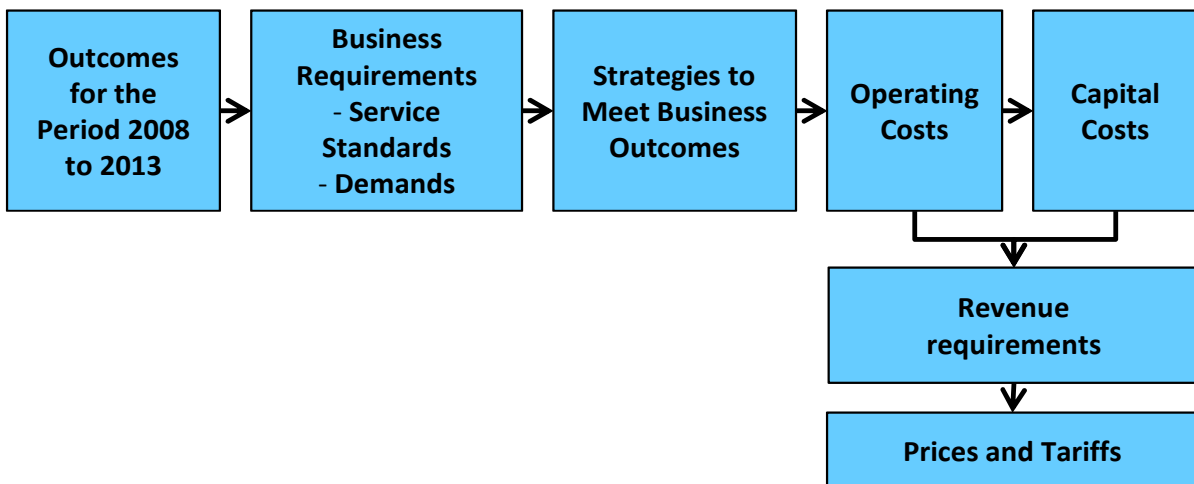
While LMW operates as a single business entity, it reports to different regulators – the ESC for urban services and the Australian Competition and Consumer Commission (ACCC) for rural services operated within the Murray-Darling Basin. Consequently, the Water Plan is presented in two parts:

- ▶ Part A - Urban Services
- ▶ Part B - Rural Services

This **Water Plan Part A** is for the **Urban water supply and wastewater services**. Costs for common services, such as corporate, are allocated between the urban and rural parts of the business.

The Water Plan structure follows the decision-making process of LMW, as illustrated in Figure 1.

Figure 1 Water Plan Process Structure



The process detailed in Figure 1 has been replicated for both urban and rural services.

1.2 Recent Major Achievements

The region has weathered a number of major challenges since 2008:

- ▶ Serious impacts from the drought for the region in terms of the community, economy and environment
- ▶ Major flooding in early 2011, along with longer term recovery
- ▶ Local economic impacts as a result of commodity prices and local seasonal effects on primary production, as well as the global financial crisis

LMW has responded to these challenges and remained focused on its core service objectives. Major achievements of LMW with respect to urban services during the period 2008 to date are:

- ▶ Upgrading of Mildura, Kerang and Robinvale water treatment plants for various treatment processes

- ▶ Completion of fluoridation facilities at Mildura, Red Cliffs, Swan Hill and Kerang water treatment plants
- ▶ Commissioning of Mildura West Water Treatment Plant
- ▶ Completion of sewerage schemes for Nichols Point and Murrabit under the Victorian Town and Country Water and Wastewater Scheme
- ▶ Completion of the Koorlong Wastewater Treatment Plant Augmentation and decommissioning of the Red Cliffs Wastewater Treatment Plant with diversion of flows to Koorlong
- ▶ Ongoing replacement of water mains and rehabilitation of sewers that reached the end of their service life and posed risks to service obligations
- ▶ Implementation of LMW's Emergency Management Plan in response to the February 2011 flood event and completion of remedial works to assets impacted by the flood

1.3 Overview of Customer Consultation Processes

LMW has well-established urban customer consultation arrangements which are a combination of:

- ▶ Direct consultation through two area-based urban Customer Consultative Committees (Northern and Southern)
- ▶ Various media communications including public notices and newsletters, website, Twitter and media releases
- ▶ Structured consultation processes such as customer surveys, direct email or complaint tracking and response
- ▶ Public meetings across LMW's region

Many key State and local government, industry and community stakeholders are briefed and issues discussed individually.

LMW's Customer Consultative Committees (CCCs) typically meet 2 or 3 times a year, and have been briefed on relevant matters such as the Water Plan process, service standards, demands, operating expenditure and capital works. Feedback from the committees is provided to the Board and discussion about the price paths from changes in service standards has been undertaken.

In particular, LMW is mindful of its role in the community and the economic issues affecting the region, and actively considers these issues when considering the balance between service needs and their affordability.

LMW welcomes feedback on its policies and strategies, and engagement in the Essential Services Commission's process of determining prices for LMW services.

1.4 Overview of Key Outcomes for the Period

LMW proposes to meet its corporate values and goals, which recognise that our overall well-being and livelihood is directly linked to the agricultural, tourism and support industries which form our economic backbone.

LMW’s core business objectives are to meet the present and future needs of our customers and community by providing reliable and secure water services, and to manage water resources, use water responsibly, and communicate the value of water to the community.

LMW proposes to meet all current and expected regulatory obligations during the forthcoming regulatory period arising from:

- ▶ A currently draft revision to the Statement of Obligations, expected to come into effect later in 2012.
- ▶ Environment Protection Authority requirements specified for environmental compliance; sewerage system management; wastewater treatment and disposal; sludge and biosolids management; water efficiency; and assessment, monitoring, auditing and reporting
- ▶ Department of Health requirements specified for drinking water quality including compliance with the Safe Drinking Water Act; compliance with Water Quality Standards; operator training; and improved risk management practice
- ▶ LMW’s Customer Charter, will be updated for inclusion of Guaranteed Service Levels for the next period

The LMW Board has approved a range of service performance standards and targets that it intends to meet relating to:

- ▶ Water services – unplanned interruptions, time to attend bursts and leaks and restore services, frequency and duration of water supply interruptions, customers experiencing multiple interruptions, and unaccounted for water
- ▶ Sewerage services – sewer blockages, time to attend sewer spills and blockages and restore services, containment of sewer spills, and customers experiencing multiple blockages
- ▶ Customer services – complaints to the Energy and Water Ombudsman of Victoria, and response to telephone calls
- ▶ Greenhouse gas emissions

In general, the service standard targets are based on the average performance outcomes delivered over the past 5 years. In the case of planned water supply interruptions, their frequency and duration will increase for one year, due to the reinstatement of LMW’s water main air scouring program designed to maintain drinking water quality to customers.

LMW, for the next regulatory period, proposes a set of Guaranteed Service Levels, as set out in Table 1.

Table 1 Proposed Guaranteed Service Levels

Service	Rebate Applies Under Service Circumstances	Proposed Rebate
Water Supply	More than 5 unplanned water supply interruptions in a year	\$75
Sewerage	More than 3 sewer blockages in a year	\$75
	Priority 1 and 2 sewerage spills not contained within 5 hours	\$500
Financial - Hardship	Restricting the water supply of, or taking legal action against, a customer prior to taking reasonable endeavours (as defined by the Essential Services Commission) to contact the customer to test for hardship	\$300

LMW, through this Water Plan, outlines the strategies, processes and expenditures required to meet the above obligations and commitments to its customers.

1.5 Overview of Revenue Requirement

Under the ESC’s approach to regulation, prices are set by reference to a “revenue requirement” which covers operating costs, a return on assets, regulatory depreciation of assets and taxation.

Figure 2 below show the movement in these different elements of the revenue requirement over time. The figure shows that in the second regulatory period, LMW’s revenue requirement increased in 2010-11. The increase in costs was caused by the need to purchase temporary water allocations during restrictions on bulk entitlements in the drought, and the severe flooding that occurred in the latter part of 2010-11. The floods came just as LMW was working to reducing its operating costs following the drought and the reduced volumes being demanded by customers. As a consequence, operating costs for 2011-12 and expected for 2012-13 are lower, with the restoration of more normal weather conditions and the achievement of economies, including a reduction in staff numbers.

Figure 2 Revenue Requirement (\$M 1/1/13)



1.6 Overview of Demand

Forecasts of residential and non-residential demand for water have been developed for the regulatory period. Forecasts for the number of residential equivalent connections were based on the population and household growth rates contained in the Victoria in Future 2008 report, and growth in non-residential equivalent connections were assumed to mirror this growth. The forecast number of equivalent connections was then multiplied by the forecast average demand per connection to derive total water demand for residential and non-residential customers.

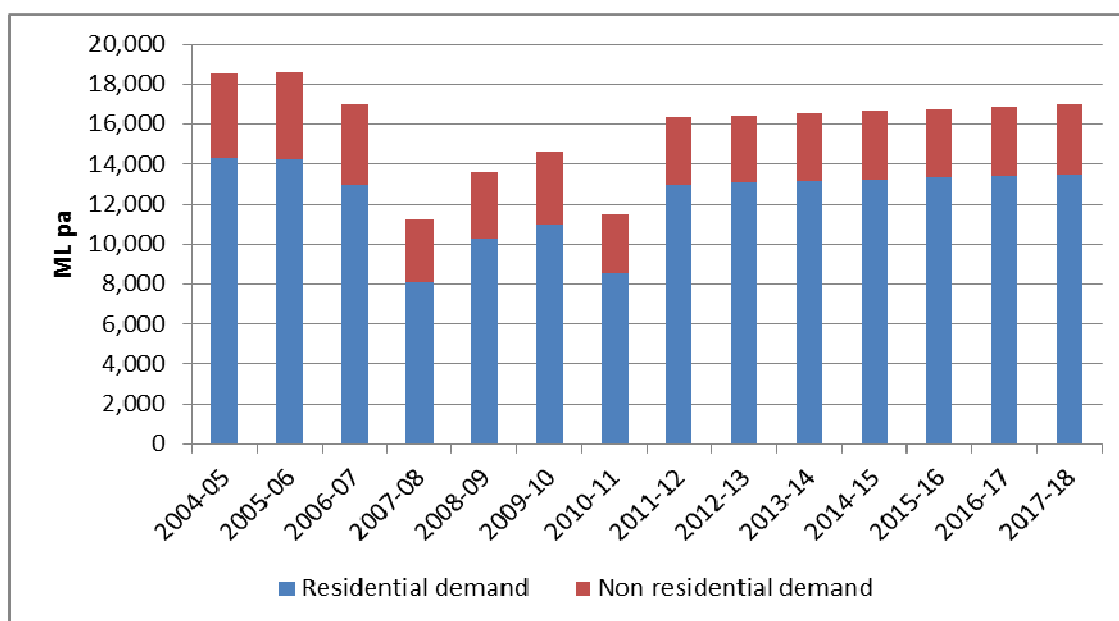
Demand per connection for residential customers was estimated econometrically, to take account of the impact of weather and restrictions on past demand. This process found that higher temperatures result in increased demand for water, and higher rainfall results in a reduction in demand. Restrictions were also found to have reduced the demand for water, with the presence of ongoing permanent water saving rules resulting in demand returning to some 88% of pre-restriction levels.

For the third regulatory period, demand was assumed to reflect a simple weighted average of demand under long term weather conditions (over 65 years) and more recent history (the last 6 years). This approach assumes that temperature and rainfall will not move too far from long term averages, while recognising that there are cycles which make more recent experience relevant for medium term forecasting purposes. The forecasts also assumed a continuation of permanent water saving rules. These assumptions gave a forecast for residential demand per connection of 488 kL per annum for existing properties. New properties were assumed to consume 80% of the volumes taken by existing properties, as new properties tend to have smaller and more water efficient gardens and more water efficient appliances.

The forecast of residential demand also takes into account the likely price sensitivity of customers. Price sensitivities have been reviewed and are assumed to be lower than previously assessed, reflecting the past and ongoing demand management activities undertaken by LMW and its customers, which limits the potential for customers to further reduce demand in response to future price rises.

Figure 3 shows past actual and forecast total water demand for residential and non-residential customers. The impact of the various levels of restrictions over the period 2007-08 to 2009-10, and the effects of a wet summer and flooding on demand in 2010-11 is readily apparent.

Figure 3 Total Water Demand Forecast – ML pa



1.7 Overview of Planned Urban Operating Expenditure

Table 2 sets out planned operating expenditures, starting in 2011/12 (which is the ESC's base years for the purpose of making productivity comparisons). All expenditure is expressed in real 2012/13 dollars unless otherwise specified.

The table separates out the costs that are not controllable by LMW. Controllable operating expenditures are expected to remain reasonably steady over the third regulatory period, and generally lower than in the second regulatory period, which was impacted adversely by the drought and then the floods. In

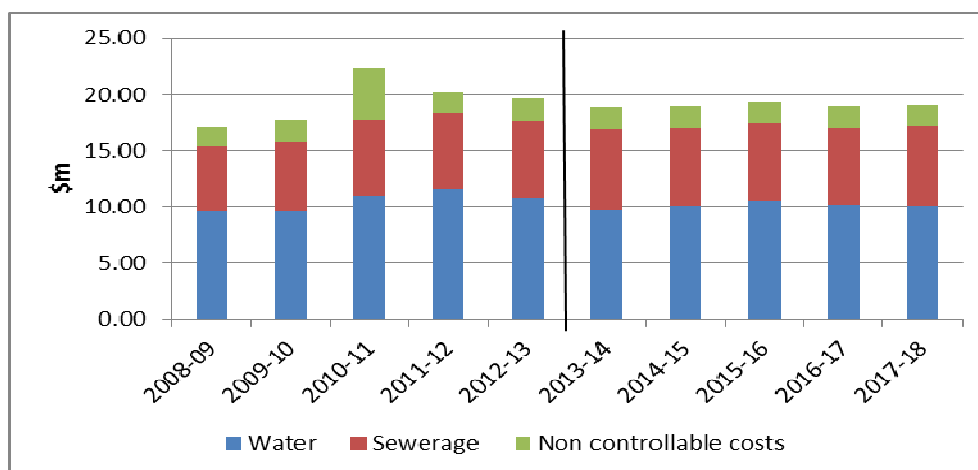
addition, LMW introduced efficiency measures in 2011 which resulted in some staff redundancies to contain costs.

Table 2 Actual and Planned Operating Expenditure (\$M 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Water	11.53	10.74	9.82	10.04	10.61	10.18	10.10
Sewerage	6.88	6.90	7.06	6.96	6.82	6.85	7.07
Total controllable opex	18.41	17.64	16.88	17.00	17.43	17.03	17.17
<i>Non controllable opex</i>							
External bulk water charges and temporary purchases	0.67	0.69	0.67	0.67	0.67	0.67	0.67
Licence fees	0.09	0.05	0.10	0.10	0.10	0.10	0.10
Environment Contribution	0.99	1.27	1.24	1.20	1.17	1.14	1.11
Total Prescribed Operating Expenditure	20.16	19.65	18.89	18.97	19.37	18.94	19.05

Figure 4 shows actual and forecast operating expenditure for the second regulatory period and forecast expenditure over the third regulatory period. The figure clearly shows the impact of the drought (in additional temporary water purchases) and floods in terms of increasing and then decreasing operating costs.

Figure 4 Planned Operating Expenditure 2008-09 – 2017-18 (\$M 1/1/13)



1.8 Overview of Planned Capital Expenditure

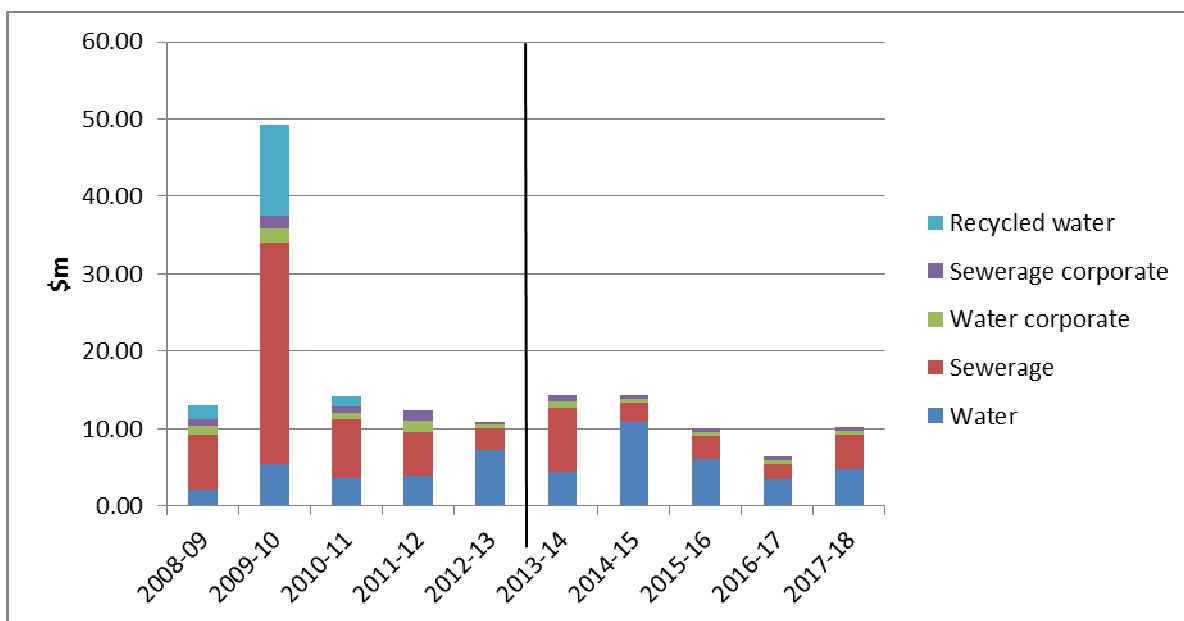
LMW is planning to invest \$55.34 million in capital over the regulatory period. Table 3 shows capital expenditure forecast for the last two years of the current regulatory period and for the forthcoming regulatory period.

Figure 5 compares the actual and planned capital expenditure between the current and next regulatory periods.

Table 3 Actual and Proposed Capital Expenditure (\$M 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Water	3.95	7.22	4.36	10.94	6.12	3.41	4.70
Water corporate	1.53	0.50	0.84	0.59	0.58	0.49	0.54
Sewerage	5.61	2.77	8.36	2.38	2.90	2.07	4.48
Sewerage corporate	1.30	0.43	0.71	0.50	0.49	0.42	0.46
Recycled water	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total capital expenditure	12.39	10.92	14.27	14.41	10.09	6.39	10.18

Figure 5 Actual and Planned Capital Expenditure 2008-09 to 2017-18 (\$M 1/1/13)



Major capital investment projects planned for the third regulatory period are summarised in Table 4.

Table 4 Major Capital Projects

Major Project	Service	Estimated Cost (\$M 1/1/13)	ESC Cost Driver
Mildura Water Supply Strategy	Water supply	9.4	Growth
Red Cliffs WTP upgrade	Water supply	2.4	Renewals/growth
WTP water quality improvements	Water supply	6.6	Improved service
WTP PLC replacement	Water supply	2.7	Renewals
Water mains renewals	Water supply	4.5	Renewals
Emergency sewer overflow storages	Sewerage	0.75	Improved service
Merbein diversion to Koorlong	Sewerage	0.8	Growth
Sewer renewals	Sewerage	4.5	Renewals

The remaining projects consist of various renewals and minor works as well as developer gifted assets.

1.9 Overview of Proposed Urban Tariff Structures and Levels

LMW proposes to retain its existing tariff structure, including the three tier volumetric tariff, on the basis that it provides an appropriate balance between efficiency and equity considerations.

Although the ESC has indicated a preference for a two part tariff (with a single volumetric tariff), LMW considers that its circumstances are rather different from many of the other water businesses, for whom the Commission's concerns about tiered tariffs may be more directly relevant. In particular:

- ▶ LMW's tariff structure is much wider and flatter than other Victorian businesses, with the result that the distortion to efficiency involved in a tiered tariff is lessened.
- ▶ LMW's customer base is characterised by a high degree of "polarisation" in terms of household income, with clearly wealthy residents living alongside one of the more socially disadvantaged populations within Victoria.
- ▶ Unlike the metropolitan water businesses, LMW's supply arrangements were not augmented during the drought. This means that LMW faces the same risks of supply variability as previously. Indeed, the risks have if anything worsened as a result of the recently released Murray-Darling Basin Draft Plan. LMW remains active in balancing supply and demand and is preparing for the purchase of further entitlements in the future beyond the next regulatory period.
- ▶ One of the most important reasons for retaining the three tiered tariff is its ability to afford some protection to low income and vulnerable customers. Investigation by LMW indicates that the 300 kL threshold covers most families requiring income support, with the average consumption of these families being 278 kL per annum. At the same time, the essential usage of even large families is likely to lie within the first and at most the second tier.

LMW's accepts that a tiered tariff involves some compromises with regard to the efficiency of the price signals given to customers. However the inefficiencies involved are minimised for LMW given the relatively flat profile of its three tier tariff.

In addition, the use of an upper tier tariff provides a tariff profile which more easily accommodates the MAC's recommendation to incorporate a resource value for water in prices. LMW would be concerned that removing the upper tier could result in prices which were reduced temporarily, only to be increased again should resource pricing become government policy.

Importantly, LMW's existing tiered tariff structure is supported by customers, both for the protection it affords low income and vulnerable customers and for the manner in which it accommodates garden watering in a region that relies on being a "green oasis" for the amenity of residents and for its tourism business.

The expenditure and demand proposals presented in this Water Plan result in tariffs needing to increase by 2.18% per annum in real terms. For a residential customer taking 488 kL, this would translate into an average increase in their annual water and sewerage bill of \$19.67. For a non residential customer taking 3,000 kL, this would give an average annual increase in bills of \$74.62 per annum.

Table 5 sets out current and proposed tariffs for the period to 2017-18.

Table 5 Proposed tariffs – (\$ 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
<u>Water Service Charges (20 mm connection)</u>							
Residential	178.50	178.48	182.37	186.34	190.40	194.55	198.79
Non residential	178.50	178.48	182.37	186.34	190.40	194.55	198.79
<u>Sewerage Service Charges (base charge)</u>							
Residential	421.17	421.12	430.30	439.67	449.25	459.04	469.05
Non residential	421.17	421.12	430.30	439.67	449.25	459.04	469.05
<u>Water usage charges- per kL</u>							
1 st tier residential	0.3913	0.4120	0.4210	0.4302	0.4395	0.4491	0.4589
2 nd tier residential	0.7119	0.7496	0.7659	0.7826	0.7997	0.8171	0.8349
3 rd tier residential	0.9149	0.9633	0.9843	1.0057	1.0277	1.0500	1.0729
Non residential	0.7119	0.7496	0.7659	0.7826	0.7997	0.8171	0.8349
<u>Minor trade waste</u>							
Charge	58.76	58.72	60.00	61.31	62.64	64.01	65.40

2 Lower Murray Water Urban Business Summary

2.1 LMW Urban Services

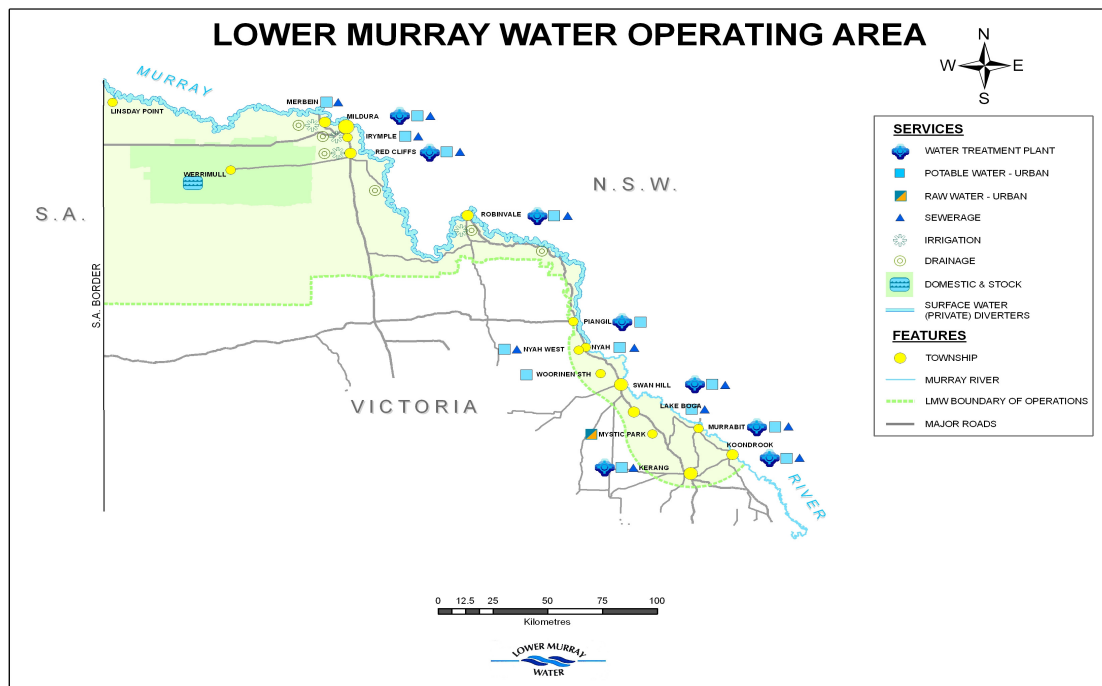
LMW operates across the municipalities of Mildura, Swan Hill and Gannawarra in North-Western Victoria.

LMW delivers urban water supply and wastewater services to towns along the Murray River in Victoria, from Kerang to Mildura providing:

- ▶ Treated drinking water to 14 cities & towns
- ▶ Wastewater collection, treatment and effluent disposal to 12 cities/towns

Figure 6 provides details of the LMW's operating area in Victoria and key services.

Figure 6 LMW Operating Area



2.2 Customers and Assets

2.2.1 Urban Water Supply

LMW pumps and treats raw water from the Murray and Loddon Rivers and from Goulburn Murray Water irrigation channels. It supplies almost 32,000 customers from both residential and commercial/industrial sectors. They collectively utilise an approximate annual average of 17,000 megalitres (ML) of water. Table 6 summarises population and customer data for urban water.

Table 6 Urban Water Supply Customers (2011-12)

Permanent Population Served	68,697
Peak Population Served	Approx. 100,000
Total Equivalent Residential Connections	26,689
Total Equivalent Non-residential Connections	7,132
Total Equivalent Connections	33,821
Consumption:	
Residential	8,678 ML
Non-residential	2,901 ML
Total Volume Supplied	12,908 ML
Maximum Amount under Bulk Entitlement	31,959 ML

Table 7 summarises LMW's urban water supply assets. It provides water supply services via eight individual systems:

Table 7 Urban Water Supply Assets

Treatment Plants	9
Pump Stations	35
Water Mains	899 km

2.2.2 Urban Wastewater Collection and Treatment

LMW collects and treats waste from both residential and trade supplies. LMW services more than 27,000 connections and collects an annual average of approximately 6,000 ML. Table 8 summarises population and customer data for urban wastewater.

Table 8 Urban Wastewater Customers (2010-11)

Permanent Population Served	59,064
Peak Population Served	Approx. 100,000
Equivalent Residential Connections	24,330
Equivalent Non-residential Connections	4,478
Total Equivalent Connections	28,808
Total Volume of Wastewater (Current Forecast)	6,000 ML

Table 9 summarises LMW's wastewater assets.

Table 9 Urban Wastewater Assets

Wastewater Treatment Plants (secondary)	10
Wastewater Pump Stations	108
Sewer Mains	623 km

2.3 Business Context

Lower Murray Urban and Rural Water Corporation was created under the provisions of the Water Act 1989 via Order in Council effective 1st July 2004. It assumed the water and wastewater responsibilities of the Lower Murray Region Water Authority (LMW - managing urban water supply and wastewater services) and the Sunraysia Rural Water Authority (SRW - managing irrigation and rural (domestic and stock) water supplies).

LMW is a State-owned Government Business Enterprise. The Water Governance Act 2006 varied the form and title of LMW and established new governance arrangements that took effect from 1 July 2007. Lower Murray Urban and Rural Water Authority became Lower Murray Urban & Rural Water Corporation.

On 19th August 2008, the Minister for Water issued a determination for LMW to take over the whole of the functions, powers and duties of the First Mildura Irrigation Trust (FMIT).

LMW continues to operate under the Water Act 1989 and is responsible to the Minister for Water and the Treasurer for the governance and performance of the Corporation.

The primary focus of the Board is to meet the Victorian Government's objectives for water, sewerage, irrigation water and drainage services whilst operating as a commercially oriented body with a high degree of autonomy. LMW provides financial and logistical support to Directors to maintain or update their skills and knowledge base on an annual basis.

2.3.1 Our Vision

Vital Resource: Vital Service

Managing our water resources responsibly to promote the economic and social advancement of our region, whilst protecting our environment.

2.3.2 Our Core Business

In the LMW region, our overall well-being and livelihood is directly linked to the agricultural, tourism and support industries which form our economic backbone.

How we manage our water resources must recognise the intrinsic interrelation between this resource and the social and economic fabric of our region.

We have to manage and use water responsibly to ensure that the health and prosperity of our community and environs are protected.

We need to communicate with our community to ensure they appreciate the value of the water resource encouraging them to conserve it.

Our core business is to meet the present and future needs of our customers and community by providing reliable and secure water services.

2.3.3 Our Corporate Goals and Objectives

LMW has developed strategies and programs to meet its goals and objectives described in Table 10.

Table 10 Urban Goals and Objectives

Goals	Objectives
Quality Service Delivery	<ul style="list-style-type: none"> ▶ Provide quality potable drinking water in accordance with the Safe Drinking Water Act 2003 to urban customers in prescribed areas ▶ Improve water quality service levels in rural areas ▶ Collect, treat and manage wastewater throughout the region applying appropriate methods of wastewater management which are commensurate with end use ▶ Seek opportunities to recycle wastewater ▶ Continuously monitor and review trade waste agreements with industrial users
Positive Customer, Staff and Stakeholder Relationships	<ul style="list-style-type: none"> ▶ Keep customers, staff and the community informed about water issues generally and issues which directly affect them ▶ Maintain open and constructive relationships with customers and staff and listen to and respect their ideas and input ▶ Maintain customer-representative and advisory structures and processes through which customers can have meaningful input to the corporation's planning processes ▶ Maintain multi-level communication strategies with our shareholder, regulators, staff and other key stakeholders to ensure the Corporation's interests and views are effectively communicated
Building a Prosperous Region	<ul style="list-style-type: none"> ▶ Actively promote the economic growth of our region and provide the necessary infrastructure to cater for growth ▶ Manage the business of Lower Murray Water in a manner which recognises our interrelationship with the economic, social and cultural well-being of our region ▶ Promote the security of the bulk water entitlement of our region and ensure that it continues to reflect the economic importance of the region in a National context ▶ Seek opportunities to on-sell the services and expertise of Lower Murray Water ▶ Expand the geographic and economic activity of Lower Murray Water where feasible
Sustainability of Our Environment	<ul style="list-style-type: none"> ▶ Minimise the environmental impact of water usage by all customer groups ▶ Implement State Environmental Sustainability Objectives

Goals	Objectives
Motivated and Empowered People	<ul style="list-style-type: none"> ▶ To develop and maintain a workplace culture focused on efficiency and customer satisfaction ▶ To have staff retention rates better than industry and regional averages ▶ To be innovative in recruitment
Efficient Financial and Asset Management	<ul style="list-style-type: none"> ▶ To align the business objectives with Pricing Regulator's Principles ▶ Continue to plan, maintain and improve the Corporation's asset base to meet the projected long-term needs of the community and customers ▶ Develop pricing structures/tariffs for urban and rural services that are equitable and reflect the funding needs for long-term infrastructure
Responsible Corporate Governance	<ul style="list-style-type: none"> ▶ Provide strong leadership for the Corporation and within the Victorian water sector generally ▶ Maintain positive Board and staff relationships to underpin a performance-based organisational culture where people strive to improve and innovate in the ways things are done ▶ Undertake risk management and audit processes, which balance mitigation with contingency planning designed to protect the interests of the Corporation and its customers ▶ To have effective planning and decision making processes

3 Outcomes for Second Regulatory Period

3.1 Service Standards and Other Outcomes

LMW has generally met outcomes or made progress in line with expectations in the Statement of Obligations, Customer Charter, service standards, environmental and water quality obligations, and other obligations and initiatives outlined in the Water Plan (WP2) for the second regulatory period – 2008-09 to 2012-13.

LMW's progress in the second regulatory period for the following obligations are summarised in Appendix A.

- ▶ Statement of Obligations
- ▶ Service Standards
- ▶ Environmental Obligations
- ▶ Water Quality Obligations
- ▶ Other Obligations & Initiatives

3.2 Delivery of Key Capital Projects

Table 11 summarises progress on key capital projects planned for the second regulatory period.

Table 11 Delivery of Key Capital Projects

Project	WP2 Budget (\$2007)	Progress	Comment
Water			
Mildura trunk main extensions	\$3.0m	Deferred	Lower than expected demands have resulted in prudent deferral of projects and review of the Mildura Water Supply Strategy
Relocation of 14th Street tower	\$2.0m	Deferred	As above
Water Main replacements	\$3.7m	Ongoing	
Fluoridation projects	\$2.0m	Completed	
Red Cliffs WTP Automation	\$1.7m	Deferred	Red Cliffs water supply strategy being reviewed
Robinvale WTP Automation	\$1.6m	Completed	
Developer – Gifted Assets	\$1.0m	Ongoing	
Sewerage			
Koorlong Wastewater Treatment Plant augmentation	\$8.5m	Completed	Final costs increased over WP1 and WP2 estimates

Project	WP2 Budget (\$2007)	Progress	Comment
Koorlong Wastewater Treatment Plant recycled water	\$4.2m	Completed	Included above
Red Cliffs Decommission Wastewater Treatment Plant	\$2.22m	Completed	
Cowra Ave Catchment Development	\$0.9m	Completed	
Kerang Wastewater Treatment Plant	\$3.3m	In progress	Construction has commenced
Rehabilitation of sewers	\$4.0m	Ongoing	
Murrabit & Nichols Point Sewerage Scheme	\$0.5m	Completed	
Developer gifted assets	\$3.0m	Ongoing	
Mildura WWTP Elec & Control Upgrade		Under review due to implementation of Koorlong WWTP	Incorporated into WP3
Robinvale Wet Weather Storage	\$0.75m	Completed	
Corporate			
Fourteenth Street - Head Office Extension (as a result of FMIT merger)		Stage 2 completed	Stage 3 Workshop/Car Park on hold
Vehicles		On track	Ongoing replacement program
Hardware/software		On track	Ongoing replacement and upgrade program

Other comments:

- ▶ Fluoridation projects were funded by the Department of Health.
- ▶ Swan Hill WTP filter refurbishment (\$0.5m) – unbudgeted works not mentioned above.

3.3 Actual Capital Expenditure for the Delivery of Outcomes

Table 12 compares actual capital expenditure against forecast capital expenditure outlined in the WP2 ESC Determination.

The most significant variance was caused by the Koorlong Wastewater Treatment Plant Augmentation and Recycled Water Project. The final cost for this project was \$41.1m compared to the WP2 approved (indexed) cost of \$19.4m. The additional cost was due to major rescoping of the project to upgrade the capacity of the plant to include trade waste, flows from decommissioning of the Red Cliffs WWTP and treated effluents off site reuse. Other net capital expenditure was close to the approved amount.

Table 12 Capital Expenditure Associated with Outcomes (\$M nominal)

	Approved WP2	08/09 to 10/11 Actual	11/12 Actual	12/13 Forecast	Expected Total WP2
Water	23.88	10.26	3.88	7.19	21.34
Wastewater	40.76	53.85	5.52	2.77	62.13
Corporate	6.12	6.72	2.79	0.92	10.44
Total	70.76	70.83	12.19	10.88	93.90

3.4 Changes in Statutory Obligations

Table 13 lists changes in statutory obligations introduced during the Water Plan 2 period. LMW has not separately identified additional costs associated with delivering these outcomes.

Table 13 Changes in Obligations

Change in Obligations	Outcome Delivered
Water Supply Fluoridation	Fluoridation of the Mildura West, Mildura, Red Cliffs, Swan Hill and Kerang Water Treatment Plants was completed in accordance with the Department of Health requirements. This obligation was not included in the Water Plan
ESC Trade Waste Customer Service Code	The Code was published in late 2011 and applied from 1 January 2012. LMW has reviewed its internal processes and procedures for compliance and is aligning them with the Code. LMW's draft Trade Waste Customer Charter was submitted to the ESC in April 2012 and approved in 1 June 2012.

3.5 Drought and Flood Related Impacts

The regulatory period 2008/09 to 2012/13 has so far been characterised by two extreme events that have impacted on the performance and costs of Lower Murray Water – drought and floods.

Drought

The drought commencing in the early 2000's meant the continuation of the reduced water allocations and restrictions introduced in 2006. LMW had a 60% water allocation in 2008, and actively purchased temporary water allocations on the market to secure 2009/10 needs against a low projected water allocation from Goulburn-Murray Water. Allocations reverted to 100% in February 2010.

Commencing the period in 2008 with Stage 3 restrictions, these were progressively relaxed with carryover and allocations until all restrictions were removed in October 2010 and LMW reverted to permanent water saving rules.

LMW's demand forecast and the ESC's revised forecast took into account the continuation and eventual relaxation of water restrictions and the demand outcome has been reasonably closely aligned with the forecast. See Demand Impacts below.

Floods

Increased rainfall in 2010/11 culminated in a significant flood event in the region in February 2011. The result of the flood was inundation of the sewerage systems, especially in Kerang, and subsequent damage to underground infrastructure. In addition, water supply systems were required to cope with poor water quality during the floods, and subsequently the 'blackwater' event in the Murray River and its tributaries.

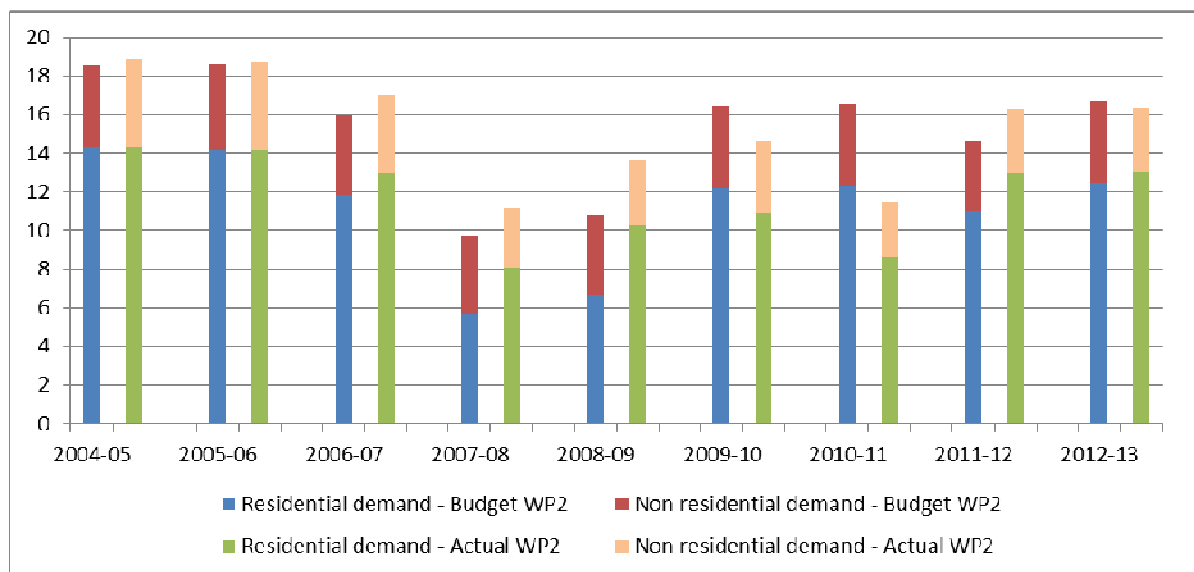
Costs were incurred for emergency response and service restoration, water treatment costs (labour, chemicals and power), additional wastewater pumping and treatment, cleanup, and repair of infrastructure. Much of the emergency response cost was reimbursed from government.

The significantly higher rainfall in 2010/11, 924 mm in Mildura, compared to an annual average of 289 mm, much of this during the typically dry summer period, also reduced water demands throughout the region. This demand reduction occurred after the lifting of drought restrictions. See Demand Impacts below.

Demand Impacts

The combined impact of restrictions and high rainfall/flooding on demand is depicted in Figure 7.

Figure 7 Outturn Versus Predicted Demand



At the time of the previous regulatory review, the impact of the drought on residential demand had been anticipated for 2007-08. However, restrictions were expected to be eased thereafter, whereas in fact they continued until October 2010. The impact of the floods in 2010-11 in reducing actual demand can be seen clearly in Figure 7. Mild weather in 2011-12 resulted in lower than expected use. 2012-13 demand is expected to recover to a level which is close to previously predicted levels.

3.6 Change in Number of Customers

Outturn growth in the number of properties connecting to LMW’s services has also been lower than predicted. Figure 8 compares the actual/expected numbers of equivalent connections for water services with that predicted for the second regulatory period, and Figure 9 does the same for sewerage.

Figure 8 Outturn Versus Predicted Customer Equivalent Connections – Water

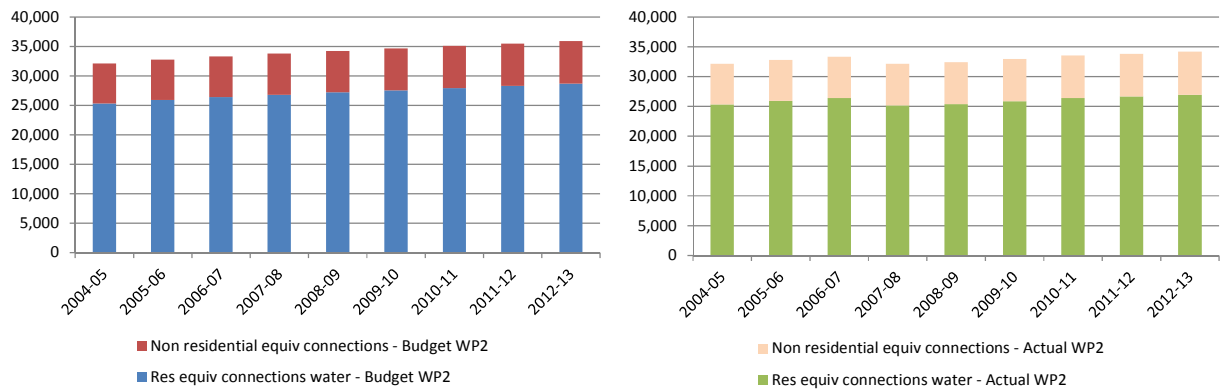
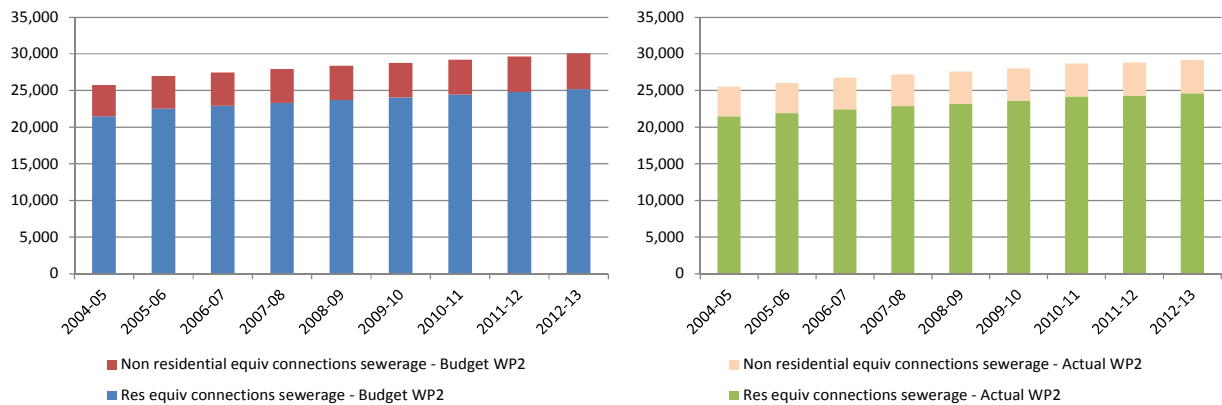


Figure 9 Outturn Versus Predicted Customer Equivalent Connections - Sewerage



3.7 Actual Operating Expenditure

Table 14 summarises the total operating expenditure for the WP2 period, with supporting commentary on the variation from the ESC WP2 determination. Overall the operating expenditure is lower than the approved determination by 2.1%, demonstrating LMW’s capability to deliver efficiencies.

Table 14 Operating Expenditure Associated with Delivering Outcomes (\$M nominal)

	Approved WP2 (indexed)	08/09 to 10/11 Actual	11/12 Actual	12/13 Forecast	Expected Total WP2
Water	49.62	27.57	10.21	10.03	47.80
Wastewater	25.29	13.29	5.41	5.76	24.47
Corporate	19.64	12.21	4.24	3.85	20.30
Total	94.55	53.07	19.86	19.64	92.57

Key variances in operating expenditure are:

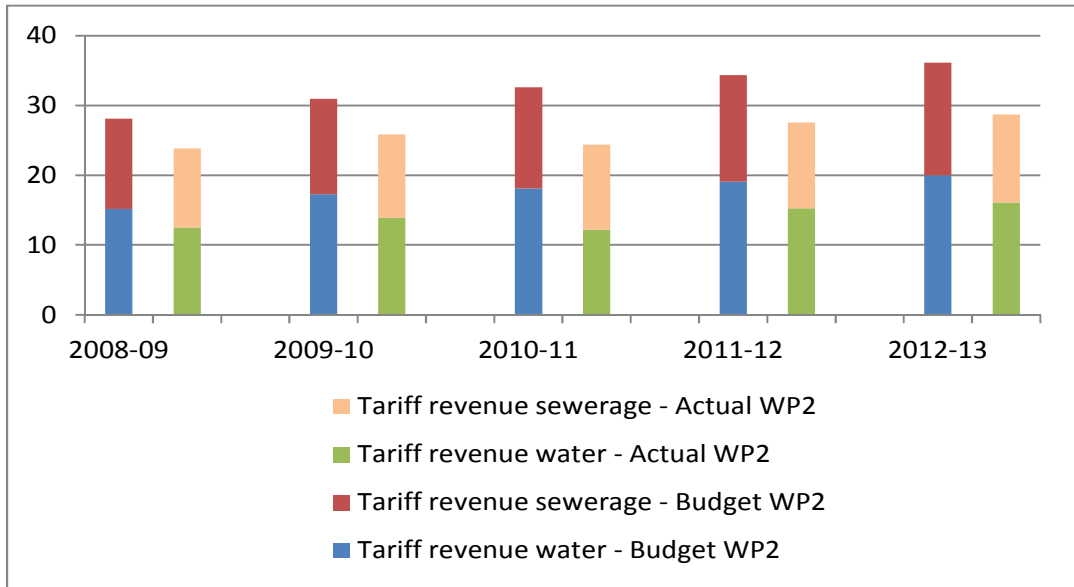
- ▶ Initially reduced costs comprising electricity for pumping and chemicals for water treatment during the drought period, followed by increased treatment costs during and after the flood
- ▶ Additional operating costs for fluoridation of water supplies, estimated at \$265,000 over the current regulatory period
- ▶ Additional costs for flood recovery, as outlined above, were reimbursed by government (\$115,000 to date)
- ▶ Efficiencies through staff redundancies and 'survival' budgeting (reducing all non-critical expenditure) through the latter part of the drought period.

3.8 Revenues

Under the price cap set for the second regulatory period, outturn prices are those set at the previous prices review in real terms, i.e. they are adjusted only for outturn inflation. As a consequence, the lower than predicted numbers of customers combined with lower than predicted volumes of water delivered to customers resulted in a significant under-recovery of revenue in the second regulatory period.

Figure 10 shows the comparison of actual/expected tariff revenues with those predicted for the second regulatory period. (Tariff revenues comprise the revenues obtained from levying the proposed water, sewerage and minor trade waste charges, and comprise some 95% of total revenue).

Figure 10 Outturn Versus Predicted Revenue (\$M 1/1/13)



4 Proposed Service Outcomes

LMW has had changes made to obligations in some service outcomes for the third regulatory period, as detailed in:

- ▶ Statement of Obligations (draft)
- ▶ Environmental Obligations
- ▶ Water Quality Obligations
- ▶ Customer Charter (Urban)

The following section overviews customer consultation on service outcomes and summarises LMW's key service outcomes for the third regulatory period.

4.1 Overview of Customer Consultation

LMW urban customer consultation arrangements include:

- ▶ Two area-based urban Customer Consultative Committees (Northern and Southern)
- ▶ Public notices and newsletters
- ▶ Customer complaint tracking
- ▶ Stakeholder engagement
- ▶ Website / Twitter
- ▶ Customer Survey
- ▶ Direct email to customers
- ▶ Media releases on new Water Plan to regional media
- ▶ Public meetings across LMW's region

LMW's Customer Consultative Committees (CCCs) typically meet 2 or 3 times a year. Meetings in late 2011 and early 2012 have introduced the CCCs to the Water Plan process and provided briefings on service standards, demands, operating expenditure and capital works. Feedback from the committees is provided to the Board and discussion about the price paths from changes in service standards has been undertaken.

Key stakeholders are briefed and issues discussed individually, and include:

- ▶ Victorian Farmers Federation
- ▶ Department of Sustainability and Environment
- ▶ Department of Health
- ▶ Department of Treasury and Finance
- ▶ Mildura Rural City, Swan Hill Rural City and Gannawarra Shire Councils
- ▶ Environment Protection Authority

Specific feedback on proposals for the new WP3 from local agencies was sought from:

- ▶ Mildura Development Corporation
- ▶ Mallee Family Care
- ▶ Department of Primary Industries
- ▶ Mallee Catchment Management Authority
- ▶ Parks Victoria
- ▶ Regional Development Victoria

LMW conducts an annual customer satisfaction survey. The survey seeks views on satisfaction and value for money associated with a range of services offered by LMW.

LMW continues to provide formal tracking and reporting on key customer interactions. The emphasis is on tracking customer complaints through to resolution, but all significant customer interactions are tracked to assist in improving corporate performance and reporting. Workflow improvements have been introduced to formalise and support key customer related processes.

Refer to Appendix B for additional information on Consultation undertaken by LMW.

4.2 Regulatory and Government Obligations – Business as Usual

The following section deals with outcomes that LMW will deliver due to obligations placed on the business from government and regulatory agencies.

4.2.1 Customer Charter

The urban customer charter has been approved for the current period between 2008 and 2013 to meet the requirements of the ESC's Customer Service Code and operates across our urban environment. This charter prescribes set levels of service to be provided to customers. Changes to the Charter are mainly associated with Guaranteed Service Levels (GSL) LMW has incorporated, from 1 July 2012 the requirements of the Hardship GSL and will further update with the proposed GSLs as detailed in this submission.

4.2.2 Statement of Obligations

The Statement of Obligations for the 2008-09 – 2012-13 regulatory period will not apply for the forthcoming regulatory period, and will be replaced with a new Statement of Obligations which is expected to come into effect later in 2012. At this stage the Water Plan is based on a draft (issued in August 2011) Statement of Obligations, the main sections of which are summarised below in Table 15 along with LMW's intended response for the next regulatory period.

Table 15 Draft Statement of Obligations

Obligation Topic and Drivers	Target and Outcomes
Sustainable Management Principles	Refer Section 4.2.3 below
Preparation & Delivery of Water Plan	LMW will deliver a Water Plan to the ESC for the regulatory period. Two separate Water Plans are required – one for urban services and one for rural services
Corporate Governance	The Board has an Audit Committee and a Governance Committee to assist with various aspects of its governance role. LMW annually reviews and reports its performance to the Minister
Customer and Community Engagement	LMW engages its customers and community in planning processes through the Customer Charter and consultation through the Water Plan process, so that the services it provides reflect the needs and expectations of customers.
Managing Risks	Refer Section 4.2.4 below. Project-related costs are included in relevant project budgets
Managing Incidents and Emergencies	Refer Section 4.2.5 below
Blue-Green Algal Blooms	LMW has processes in place to report algal blooms to relevant agencies
Water Supply Demand Strategy	Refer Section 4.2.6 below
Water Shortage Plans for Urban Systems	LMW has developed a Water Shortage Plan in accordance with requirements, based on its earlier Drought Response Plan
Managing Assets	Refer Section 4.2.7 below. Capital costs and maintenance costs are included in relevant budgets. Costs in this section relate to process and system improvements
Metering	LMW meters all new urban water supply services
Sewerage Services to Unsewered Urban Areas	LMW has no remaining unsewered urban areas
Sewerage Services to New Urban Areas	LMW has processes in place to consider fit for purpose options for sewerage of new developments
Sewerage Connections to Properties	LMW ensures properties provided with a sewerage service are connected to LMW's works
Trade Waste	LMW worked with the ESC and Water Industry to develop a generic Trade Waste Customer Charter based on the ESC's Trade Waste Customer Service Code. Each Corporation has then tailored the Charter to meet their own operating conditions
Capital Contributions by Property Owners	LMW offers to property owners the ability to pay contributions over 20 quarterly instalments
Compliance with Obligations	LMW monitors compliance with this Statement of Obligations and has processes for reporting a material failure
Compliance Audits	LMW, through the ESC, arranges an audit of compliance as required
Other Audits and Reviews	LMW will comply with any requirement of the Minister for a review or audit of any matter relevant to its functions and powers

4.2.3 Sustainable Management Principles

LMW is committed to planning and managing all its functions in a socially and environmentally responsible and sustainable manner.

In relation to the environment, LMW has been and continues to be involved in the following areas:

- ▶ Water Recycling Targets
- ▶ Permanent Water Saving Rules
- ▶ Water Supply Demand Strategy
- ▶ Regional Catchment Management Strategy
- ▶ Victorian Biodiversity Strategy
- ▶ Corporate Water Consumption
- ▶ Greenhouse Gas Emissions
- ▶ Waste Reduction

As part of the management of Greenhouse Gas Emissions, LMW has implemented its green energy purchase, after a report on the impact of green power on customer charges and unanimous support from committee members for a changeover to green power for urban operations.

LMW is a partner agency for the Mallee Catchment Management Authority in implementing the Mallee Regional Catchment Strategy. LMW undertakes various salinity and drainage management activities and projects on behalf of the Mallee CMA and is also represented on many of their committees and groups.

In relation to social responsibility and sustainability, LMW has supported a wide range of community initiatives, as part of its role as environmental custodian and corporate citizen. Some of these include:

- ▶ LMW has continued its sponsorship to local schools, sporting clubs, service clubs and community groups, such as the Country Fire Authority, garden and swimming clubs, senior citizens and the Rotary clubs
- ▶ Water conservation is actively promoted through LMW's involvement in providing at no cost devices such as water efficient shower heads, trigger nozzles for hoses and tap timers. This is a part of the state-wide conservation message promoted by Victorian Water Corporations
- ▶ LMW encourages and assists urban non-residential customers to develop a water management action plan (waterMAP) to demonstrate how they will use water more efficiently in the future
- ▶ LMW provides funding assistance to Mallee Waterwatch, providing a valuable forum for community education on the importance of water quality
- ▶ LMW actively participates in visits to schools across the region
- ▶ LMW offers a wide variety of rebates to customers with regards to the installation of water saving and efficient devices
- ▶ LMW provides teaching guidance through study ad curriculum guides to local schools promoting the water cycle message
- ▶ LMW participates in the Sunraysia Regional Algal Coordination Committee providing advice to the community and local Tourist bodies on water quality threats from Blue Green Algae Blooms.

In addition, LMW has a hardship process which assists in the identification of customers who find themselves in difficulty in being able to pay their account. Utility Relief Grants are also offered to customers who meet the set criteria. The ESC wanted to trial a guaranteed service level associated with customers in hardship and selected a number of Corporations to trial the set criteria. LMW although not selected, voluntarily introduced processes to trial the requirements. The ESC determined it would introduce a guaranteed service level associated with customer hardship to commence for all Water Corporations 1 July 2012.

4.2.4 Managing Risk

LMW continues to integrate risk management into its business activities. The enterprise risks are recorded, monitored and mitigated through a number of systems based on ISO31000:2009 Risk Management. These include SafetyMap to manage occupational health and safety exposures, HACCP (Hazard and Critical Control Point) management plans for water quality, and environmental management systems for environmental and cultural hazards. Five risk registers are maintained within the framework.

All high and extreme rated risks are reported to an Audit Committee and the Board, with the highest rated risks being:

- ▶ (Corporate) Failure of LMW, or a contractor, to fulfil contractual obligations
- ▶ (OH & S) Contractor Management – poor contractor safety attitudes
- ▶ (Corporate) Failure of irrigation or drainage system
- ▶ (Asset) Water Treatment Plant failure – unable to supply potable water
- ▶ (Asset) Water Reticulation system – unable to provide customers with water

Most critically, LMW has worked to establish a risk management culture that recognises risks in daily activities, so that they are appropriately addressed and managed.

4.2.5 Managing Incidents and Emergencies

LMW is involved in a number of emergency management planning actions, which it is obligated to comply with under the Statement of Obligations.

LMW also has its own internal Emergency Management Plan consisting of numerous contingency plans, databases, standard operating procedures and are participants in a number of Municipal Emergency Plans.

LMW's Risk Management Policy provides a corporate framework with more specific Contingency Plans developed for critical assets such as pump stations. LMW has improved the availability and management of risk information through coordinated file management on the intranet and document management system.

LMW's Emergency Management Plan process were well tested during the floods of 2011, with the outcomes being reviewed and a number of important changes made to response and management arrangements. In particular, LMW has moved towards a more business-oriented approach, and is incorporating the emergency Management Plan into a wider Business Continuity Plan.

4.2.6 Water Supply Demand Strategy

LMW reviewed, updated and submitted its Water Supply Demand Strategy (WSDS) to the Minister for Water in March 2012.

The Strategy identified that the major uncertainty in Lower Murray Water's supply system relates to the impact on allocations resulting from climate change. The supply-demand balance highlights a wide range in future outcomes relating to supply. These outcomes significantly influence decisions to address the volume and timing of potential shortfalls.

Lower Murray Water's preferred action for securing the region's water supply will focus on the purchasing of additional water share and allocation volumes from the water markets. This provides a flexible and cost effective approach to balance future supply and demand. On this basis, the major issue to be addressed by Lower Murray Water is the timing and volume of water purchases. At this stage, no new purchases are expected to be required in the proposed regulatory period.

A range of complementary actions which will offset the impacts of potential future shortfalls have been identified as part of the Strategy.

4.2.7 Managing Assets

LMW has mature and systematic processes in place for managing its asset base. LMW is building its asset management strategy for the forthcoming regulatory period, and key activities identified include:

- ▶ Establishing improved governance arrangements to support strategic asset decision-making and data management
- ▶ Alignment of asset management framework with PAS 55 / ISO 55000
- ▶ Review data standards and update data hierarchy, valuations, performance, condition and risk data
- ▶ Develop an asset management systems' strategy to derive maximum value from the (current) implementation of Hansen 8, LMW's asset management information system, and integrate this with an updated Technology One Projects system
- ▶ Develop a management strategy for all assets, including a consistent approach to asset maintenance
- ▶ Improve the robustness of asset renewal forecasts using improved asset performance and condition data, the understanding of management strategies, and asset valuation information.

Further information on LMW's asset management processes for developing this Water Plan's expenditure forecasts are discussed under Section 5.4 Prudent and Efficient Expenditure Levels.

4.2.8 Environment Obligations

LMW's Environmental requirements, programs and activities as proposed during the regulatory period are summarised in Table 17. LMW intends to build on the outcomes of the previous period. Specifically, this will include an improved understanding of environmental risks and to progressively improve processes for managing environmental obligations. High risk issues identified by the EPA include managing emergency discharge events, sewer spills, stockpiling of biosolids and licence requirements.

Table 16 Environmental Obligations Summary

Key activities relevant to 2013/14 to 18/19 price path

Sewerage Treatment & Disposal

Continue upgrade program for treatment plants	All WWTPs have regular condition inspections and upgrade plans. Specifically, LMW is investigating diversion of Merbein to Koorlong and closure of the Merbein WWTP
Recycle reclaimed water in accordance with EPA and DoH guidelines	Recycling is largely practiced via a commercial arrangement at the Koorlong WWTP, with a variety of other arrangements in place at smaller WWTPs – tree lots, pasture, evaporation
Recycled water and its beneficial properties (e.g. water, nutrients) reused for higher value users	As above

Sludge and Biosolids Management

Implement plans to reuse 100% of biosolids and reduce existing stockpiles over time	Biosolids reuse investigation to be completed in WP3
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Management of the Sewerage System

Implement a risk-based improvement program for sewerage system	Mildura sewerage investigation has resulted in detention storages to minimise emergency overflows. Other investigations to be completed in WP3
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Water Efficiency

Work with communities and businesses to implement efficient water-use practices	Extensive water conservation strategies implemented. Refer Water Supply Demand Strategy
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4.2.9 Water Quality Objectives

All of LMW's water supply systems are currently compliant with water quality requirements. The compliance is supported by the recent 2011/2012 Drinking Water Quality Management Plant audit report issued by the Department of Health to LMW.

The Safe Drinking Water Act (SDWA) came into effect from 1 July 2004, and has been included as business as usual. Department of Health Guidance Note 14 "Guidance to water corporations on the Department of Health's regulatory requirements with regard to Water Plan 3" advises that the current Regulations are due to sunset in mid-2015, some two years into the next regulatory period, at which time proposed new regulations will be required.

A summary of the obligations associated with the SDWA and proposed LMW key activities is provided in Table 17 below, including comment on the proposed new regulations and how LMW has allowed for them.

In general, LMW has undertaken risk assessments and developed HACCP plans for all water treatment plants. There are no specific capital projects identified during the regulatory period derived from the Safe Drinking Water Act or the preparation of HACCP plans.

Additional activities associated with implementing HACCP across LMW, such as improved monitoring and control of treatment facilities, completion of risk assessments and other operational activities will be completed within "Business as Usual" costs.

LMW has not allowed for an accreditation system for water sample collectors or for the use of independent person(s) as collectors.

Table 17 Department of Health Obligations

Obligation and Topic	Key Activities and Status
Business As Usual Obligations	
Risk Management Plan Audits. SDWA Cl. 10, 11.	LMW will have its Water Quality RMP audited when required up to 2015.
Publish Water Quality Information. SDWA Cl. 23.	LMW will compile water quality information on each of its systems and publish these quarterly. This information includes E.Coli, Turbidity, Aluminium, THM's and the Mono- Di and Tri chloroacetic acid and is available on the LMW's website and is updated quarterly.
Annual Report to DHS. SDWA Cl. 25.	LMW will supply, by 31 October each year, a report on water quality and any related issues, for the previous financial year. The report will include other requirements of regulations, which are yet to be developed.
Administration Levy. SDWA Cl.51.	LMW will pay a levy to assist in defraying the cost of administering the Act.
Regulations. SDWA Cl.56.	LMW will comply with the additional frequency and locations of collecting and analysing water samples. LMW will comply with the sampling requirements as determined by the DoH.
Unfiltered water supplies and managing their risks	Lower Murray Water manages a number of non-potable (non-drinking) water supplies that are disinfected only. Lower Murray Water has developed a public awareness program with the objective to eliminate/reduce the risk of confusing the non-potable supply with drinking water supplies, including pamphlet mail out to new customers, signage at public and business taps advising not to drink water, biennial audit of signage and re-issue of pamphlets.
Operate/Upgrade WTPs to ensure drinking water supplied satisfies regulatory obligations.	LMW is carrying out trials at some of the treatment plants to assess the removal efficiency of colour, TOC (Total Organic Carbon), turbidity, and others substances using alternative chemicals such as Ferric Chloride. LMW is also upgrading its online monitoring instrumentation, based on the recommendations of the service report associated with servicing all the instrumentation at the WTPs by an accredited contractor.

Obligation and Topic	Key Activities and Status
Raw water supply system upgrades/remediation to improve water quality	LMW has no raw water offstream storages except at Murrabit WTP. The dam is in good condition; however, extraction from the Murray River is available through a direct supply line.
Upgrade non-potable to regulated supply	Refer to Part B – Rural Water Plan.
Security of works	All WTPs are well secured with fencing and fire protection.
Compliance with Water Quality Standards Schedule 2	LMW complies with water quality standards for all potable supplies.
Elevated TDS	LMW meets ADWG for TDS levels.
WTP Operator Training	An extensive training program has been organised for the water operators at LMW which is being implemented. It is anticipated that most operators will have finished their Certificate III in water industry operations by end of 2013.
SCADA Controls	PLC and SCADA upgrades at WTPs across LMW will be completed in WP3 to improve data security and reporting, and enable operational control and alarming of Critical Control Points.
Turbidimeters	All treatment plants have individual online turbidimeters and it is proposed to install turbidimeters on individual filters at WTPs.

4.2.10 Other Obligations

Other obligations which arose during the current period and which LMW comply with include:

- ▶ Management of fluoridation facilities.

4.3 New Obligations

New obligations which will arise during the regulatory period include:

- ▶ Department of Health requirements for drinking water quality will require new sampling requirements post mid-2015 as per guidance by DoH - LMW will comply with the sampling requirements.

4.4 Service Standards

Service standards for the third regulatory period are similar to those in the second regulatory period and have been endorsed by the Customer Consultative Committees and approved by the LMW Board. Revised targets for service standards are proposed for the third regulatory period. Generally, these have been based on 5 year averages over the period 2006/07 to 2010/11. Service standards and proposed targets are listed in Appendix C.

4.5 Guaranteed Service Levels (GSLs)

Guaranteed service levels have been adopted by the Board of LMW as summarised in Table 18. The proposed rebate will apply to any customer not receiving the guaranteed level of service.

Table 18 Proposed Guaranteed Service Levels

Service	Rebate Applies Under Service Circumstances	Proposed Rebate
Water Supply	More than 5 unplanned water supply interruptions in a year	\$75
Sewerage	More than 3 sewer blockages in a year	\$75
	Priority 1 and 2 sewerage spills not contained within 5 hours	\$500
Financial - Hardship	Restricting the water supply of, or taking legal action against, a customer prior to taking reasonable endeavours (as defined by the Essential Services Commission) to contact the customer to test for hardship	\$300

A trial process for the financial hardship GSL was set up by LMW in 2011 in anticipation of the introduction of this GSL.

5 Revenue Requirement

5.1 Overview of Revenue Requirement

Under the ESC's approach to regulation, prices are set by reference to a "revenue requirement" which covers operating costs, a return on assets, depreciation of assets and taxation.

Table 19 and Figure 11 below show the movement in these different elements of the revenue requirement over time. The figure shows that in the second regulatory period, LMW's revenue requirement increased in 2010-11. The increase in costs was caused by the need to purchase temporary water allocations during restrictions on water allocations in the drought, and the severe flooding that occurred in the latter part of 2010-11. The floods came just as LMW was working to reducing its operating costs following the drought and the reduced volumes being demanded by customers. As a consequence, operating costs for 2011-12 are lower and expected to be lower in 2012-13 with the restoration of more normal weather conditions and the achievement of economies, incorporating the reduction in staff numbers.

Table 19 Revenue Requirement (\$M 1/1/13)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Operating expenditure	19.64	18.88	18.98	19.37	18.94	19.06
Return on assets to 30/6/13	3.27	6.87	6.59	6.31	6.03	5.75
Regulatory depreciation of assets to 30/6/13	2.29	4.94	4.94	4.91	4.83	4.83
Return on new assets	-	0.35	1.01	1.53	1.83	2.11
Regulatory depreciation of new assets	2.15	0.29	0.83	1.27	1.60	1.93
Adjustments from last period	-	-	-	-	-	-
Benchmark tax liability	-	-	-	-	-	-
Total Revenue Requirement	27.35	31.33	32.35	33.39	33.23	33.68

Figure 11 Revenue Requirement (\$M 1/1/13)



The forecast revenue requirement includes a return on and depreciation of “new” assets, i.e. assets which are created within the third and fourth regulatory periods.

The following sections detail the key factors underlying each component of the revenue requirement.

5.2 Operating Expenditure

Table 20 sets out planned operating expenditures, starting in 2011-12 (which is the ESC’s base year for the purpose of making productivity comparisons). All expenditure is expressed in real 2012/13 dollars unless otherwise specified.

The table separates out the costs that are not controllable by LMW. Controllable operating expenditures are expected to remain reasonably steady over the third regulatory period, and generally lower than in the second regulatory period, which was impacted adversely by the drought and then the floods. In addition, LMW introduced efficiency measures in 2011 which resulted in some staff redundancies to contain costs.

As part of the development of this Water Plan LMW sought information on the likely increases in electricity as a result of the implementation of the Federal Government’s carbon tax. There are many conflicting reports on the impact and LMW has adopted the findings from the Australian Energy Market Commission final report ‘Possible Future Retail Electricity Price Movements : 1 July 2011 to 30 June 2014’. LMW has allowed for a 11.41% increase in energy costs for 2012/13, followed by a 6.0% increase in 2013/14 and only increases in line with inflation beyond that. No above inflation adjustments have been made for the ongoing electricity distribution costs.

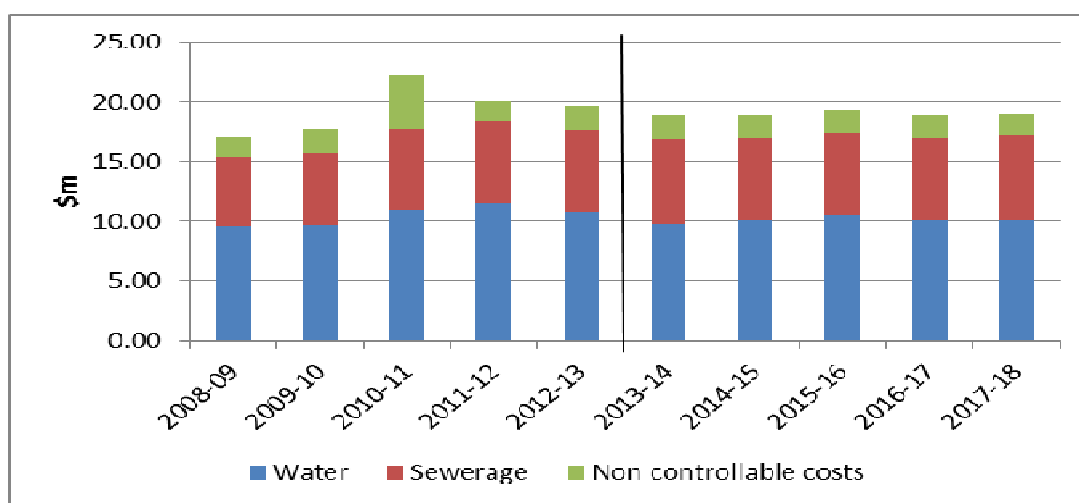
LMW has included in operating expenditure its share of Vision Super’s Defined Benefit Plan unfunded liability. The Urban component is \$171K per annum.

Table 20 Actual and Planned Operating Expenditure (\$M 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Water	11.53	10.74	9.82	10.04	10.61	10.18	10.10
Sewerage	6.88	6.90	7.06	6.96	6.82	6.85	7.07
Total controllable opex	18.41	17.64	16.88	17.00	17.43	17.03	17.17
<i>Non controllable opex</i>							
External bulk water charges and temporary purchases	0.67	0.69	0.67	0.67	0.67	0.67	0.67
Licence fees	0.09	0.05	0.10	0.10	0.10	0.10	0.10
Environment Contribution	0.99	1.27	1.24	1.20	1.17	1.14	1.11
Total Prescribed (BAU) Opex	20.16	19.65	18.89	18.97	19.37	18.94	19.05

Figure 12 shows actual and forecast operating expenditure for the second regulatory period and forecast expenditure over the third regulatory period. The figure clearly shows the impact of the drought (in additional temporary water purchases) and floods in terms of increasing and then decreasing operating costs.

Figure 12 Actual and Planned Operating Expenditure 2008-09 – 2017-18 (\$M 1/1/13)



5.2.1 Key Components of Operating Expenditure

The key components of business as usual operating expenditure are different for each service.

Water services account for 60% of operating costs and sewerage services account for 40% of costs.

Water

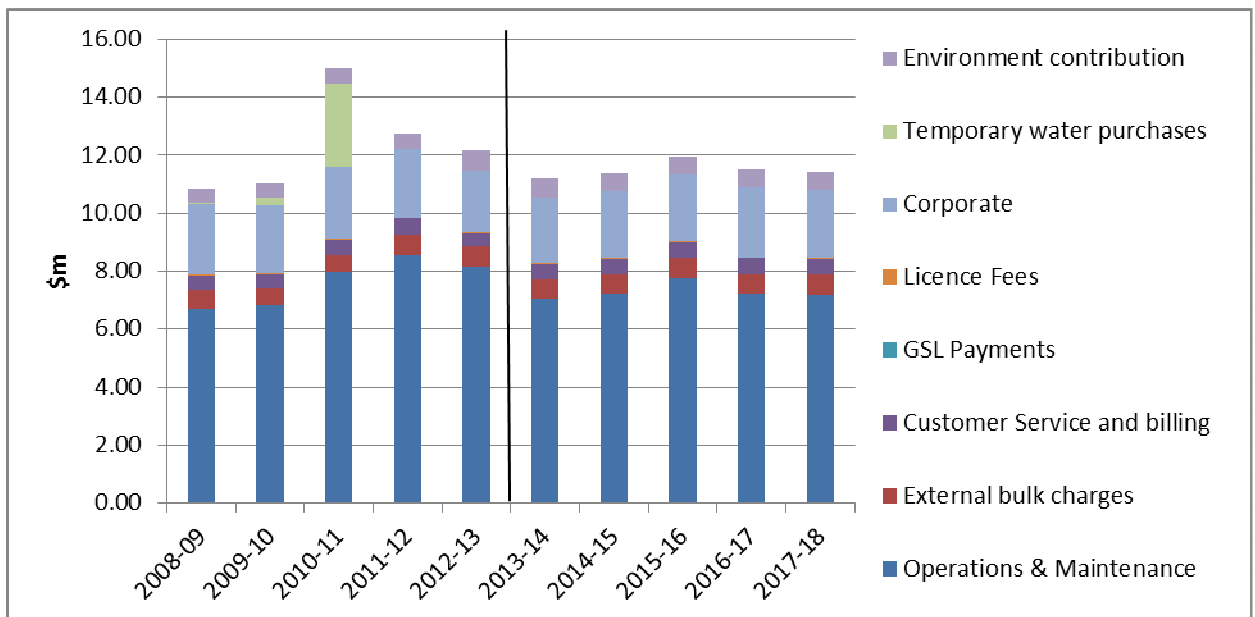
Table 21 BAU Water Operating Expenditure (\$M 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Operations & maintenance	8.55	8.16	7.05	7.22	7.77	7.23	7.18
External bulk charges	0.67	0.69	0.67	0.67	0.67	0.67	0.67
Customer service and billing	0.58	0.47	0.53	0.53	0.54	0.55	0.55
GSL payments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Licence fees	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Corporate	2.39	2.12	2.25	2.29	2.30	2.41	2.36
Temporary water purchases	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Environment contribution	0.54	0.69	0.67	0.65	0.63	0.61	0.60
Total BAU Water operating costs	12.75	12.16	11.19	11.39	11.94	11.50	11.39

Water operating and maintenance expenditure is the major component, accounting for \$36.44 million or 64% of Business as Usual (BAU) operating expenditure. Variations in operations and maintenance are associated with cyclical air scouring of water mains as well as specific large maintenance items.

Figure 13 shows the variation in water expenditure over time. 2010-11 shows a significant one-off jump in operating expenditure due to the temporary water purchases utilised that year due to the drought. (The temporary water had been purchased over two or three previous years but treated as a pre-purchase balance sheet item until they were actually utilised).

Figure 13 Water BAU Operating Expenditure 2008-09 to 2017-18 (\$M 1/1/13)



Sewerage

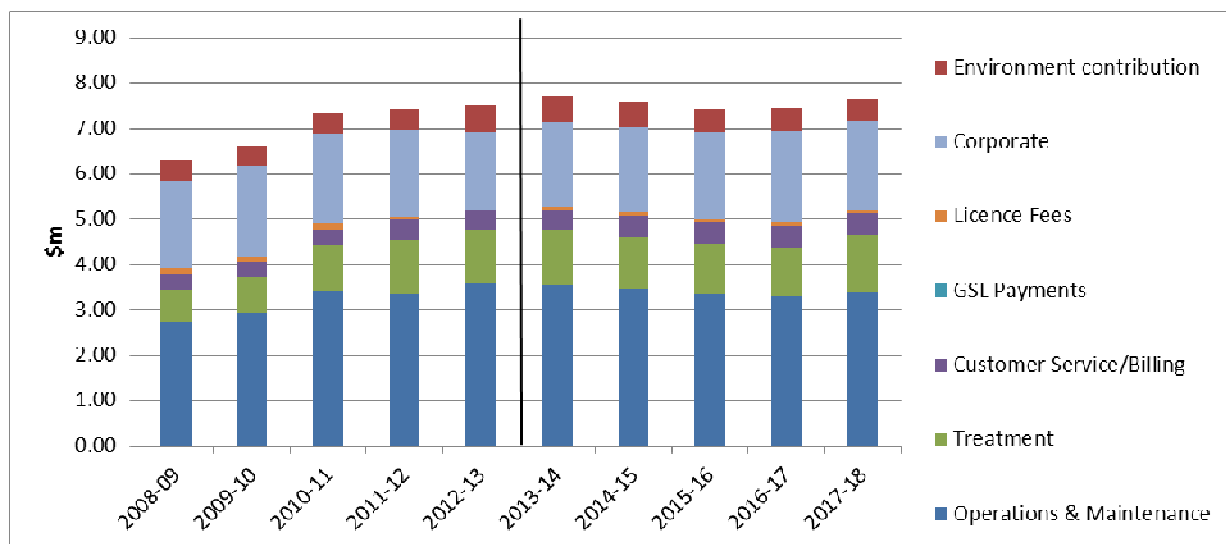
Table 22 BAU Sewerage Operating Expenditure (\$M 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Operations & maintenance	3.33	3.59	3.54	3.48	3.34	3.31	3.40
Treatment	1.19	1.19	1.21	1.13	1.12	1.08	1.26
Customer service & billing	0.43	0.39	0.45	0.46	0.46	0.46	0.47
GSL Payments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Licence Fees	0.08	0.01	0.07	0.07	0.07	0.07	0.07
Corporate	1.92	1.73	1.86	1.89	1.90	2.00	1.95
Environment contribution	0.46	0.58	0.57	0.55	0.54	0.52	0.51
Total BAU Sewerage Operating costs	7.41	7.49	7.70	7.58	7.43	7.44	7.66

Sewerage operating and maintenance expenditure accounts for \$17.05 million or 45% of BAU operating expenditure over the regulatory period. Variations in operations and maintenance costs are associated with specific maintenance such as desludging of lagoons. . Treatment and reuse / disposal expenditure accounts for \$5.80 million or a further 15%.

Figure 14 shows the variation of sewerage expenditure over time.

Figure 14 Sewerage BAU Operating Expenditure 2008-09 to 2017-18 (\$M 1/1/13)



Corporate

Corporate related costs such as finance and human resources, are allocated between the urban and rural businesses. During the second regulatory period corporate costs were allocated 60:40 to the urban and rural businesses respectively, while IT and billing costs were allocated 90:10 to the urban and rural businesses. Following the merger of LMW with FMIT, the proportion of corporate costs allocated to the urban business for the second regulatory period decreased to 51.6%. For the forthcoming regulatory period, LMW is allocating 52.5% of corporate costs to the urban business, based on approved assets and engineering spending.

Corporate operating expenditure accounts for \$21.21 million over the third regulatory period or 22% of total urban operating expenditure during the regulatory period. This is the same for the second regulatory period and reflects the efficiencies delivered by LMW.

5.2.2 Productivity Improvements Over the Regulatory Period

Operating expenditure is proposed to be fairly stable in aggregate over the regulatory period, which indicates the recent efforts in improving efficiency driven by lower revenues. Efficiencies and improvements in service achieved include:

- ▶ Chemical costs are significant input cost. LMW seeks competitive prices by comparing the government strategic purchasing tender price with its own tender prices
- ▶ The merger of urban and rural water businesses in 2005 and 2008 continue to yield operational and management efficiencies and improved service levels through the integration of systems and processes
- ▶ Treatment plant SCADA systems implementation will result in automated data collection, collation and reporting that will reduce labour inputs and improve operational control of treatment plants, achieving more stringent water quality management at similar cost
- ▶ Group Insurance tendering

LMW passes the ESC's 1% productivity hurdle in all years of the third regulatory period and in total. Thus after allowing for the expected growth in customer numbers, LMW's operating costs decline by more than 1% each year.

5.3 Capital Expenditure

5.3.1 Overview of Capital Expenditure

LMW is planning to invest \$55.32 million in capital over the regulatory period. Details are provided in the information templates in Appendix E (note that corporate capital expenditure is for the whole LMW business – urban and rural).

Table 23 shows capital expenditure actual and forecast for the last two years of the current regulatory period and for the forthcoming regulatory period. Note that capital expenditure reported in the table for the 2012-13 year has been matched to what will be reported in the ESC templates for that year, which reflects the capital expenditures forecast at the previous price review. Figure 15 compares the actual and planned capital expenditure between the current and next regulatory periods.

Table 23 BAU Capital Expenditure (\$M 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Water	3.95	7.22	4.36	10.94	6.12	3.41	4.70
Water corporate	1.53	0.50	0.84	0.59	0.58	0.49	0.54
Sewerage	5.61	2.77	8.36	2.38	2.90	2.07	4.48
Sewerage corporate	1.30	0.43	0.71	0.50	0.49	0.42	0.46
Recycled water	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total BAU capital expenditure	12.39	10.92	14.27	14.41	10.09	6.39	10.18

Figure 15 Actual and Planned Capital Expenditure 2008-09 to 2017-18 (\$M 1/1/13)

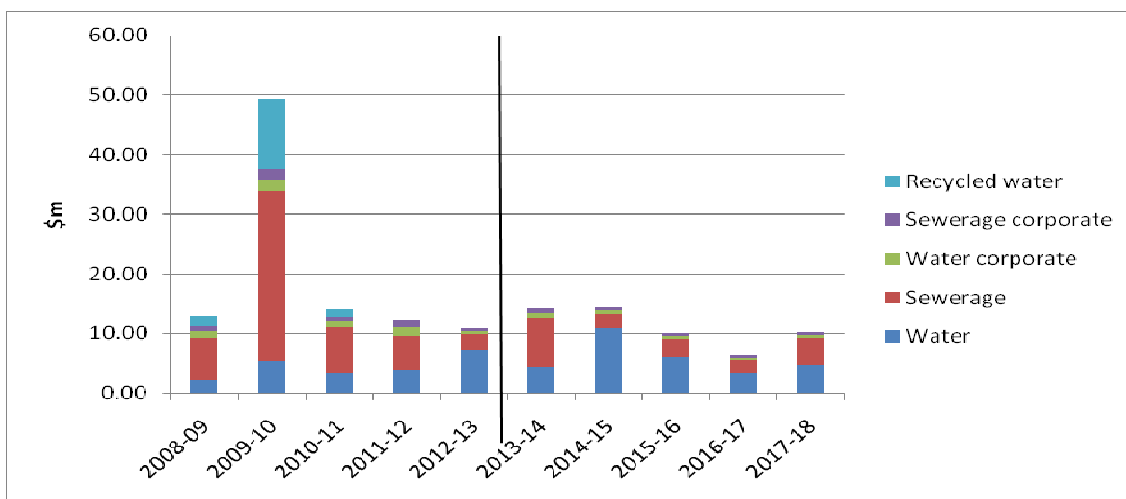


Table 24 Major Capital Projects (\$M 1/1/13)

Major Project	Service	Estimated Cost	ESC Cost Driver
Mildura Water Supply Strategy	Water supply	9.4	Growth
Red Cliffs WTP upgrade	Water supply	2.4	Renewals/growth
WTP water quality improvements	Water supply	6.6	Improved service
WTP PLC replacement	Water supply	2.7	Renewals
Water mains renewals	Water supply	4.5	Renewals
Emergency sewer overflow storages	Sewerage	0.75	Improved service
Merbein diversion to Koorlong	Sewerage	0.8	Growth
Sewer renewals	Sewerage	4.5	Renewals

The remaining projects consist of various renewals and minor works as well as developer gifted assets. The following section discusses the key drivers and major investments.

5.3.2 Key Drivers of Capital Expenditure

Table 25 summarises capital expenditure by cost driver. Renewals and growth account for the majority of investment. There is no planned capital expenditure relating to new obligations during the regulatory period.

Table 25 ESC Cost Driver Summary \$m, 1/1/13

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Gross capex - renewals	10.67	5.21	10.67	5.72	4.79	3.72	5.93
Gross capex - growth	1.71	5.68	3.58	8.67	5.28	2.65	4.04
Gross capex - improved service	0.00	0.03	0.02	0.02	0.02	0.02	0.20
Gross capex - compliance	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total prescribed capex	12.39	10.92	14.27	14.41	10.09	6.39	10.18

The following subsections discuss significant investments for each service.

5.3.3 Major Water Supply Capital Expenditure

Mildura Water Supply Strategy – This program is based on the updated Mildura Water Supply Strategy completed at the end of 2011. A number of component projects were included in the current regulatory period but were deferred due to lower growth and reduced demands. The proposed works include a number of water supply pipelines at various key locations in Mildura to avoid capacity issues currently occurring or to meet future growth as defined by modelling. The timing of the investment in each case will be determined by demand growth assessed on a year-by-year basis to ensure that the investment is neither too early nor too late. Major pipelines included in this strategy are:

- ▶ 600mm pipeline between Benetook Avenue and Sandilong Avenue
- ▶ 600mm pipeline between San Mateo and Benetook Avenue
- ▶ 450mm pipeline between Sandilong Avenue and Koorlong Avenue

Red Cliffs WTP Upgrade Works – Costs have been included for Red Cliffs WTP to be retained and automated. A business case was developed to consider all options, one of which is to integrate Red Cliffs into the larger Mildura urban water supply system and decommission the Red Cliffs WTP but economic evaluation resulted in the above being the best option at this point in time.

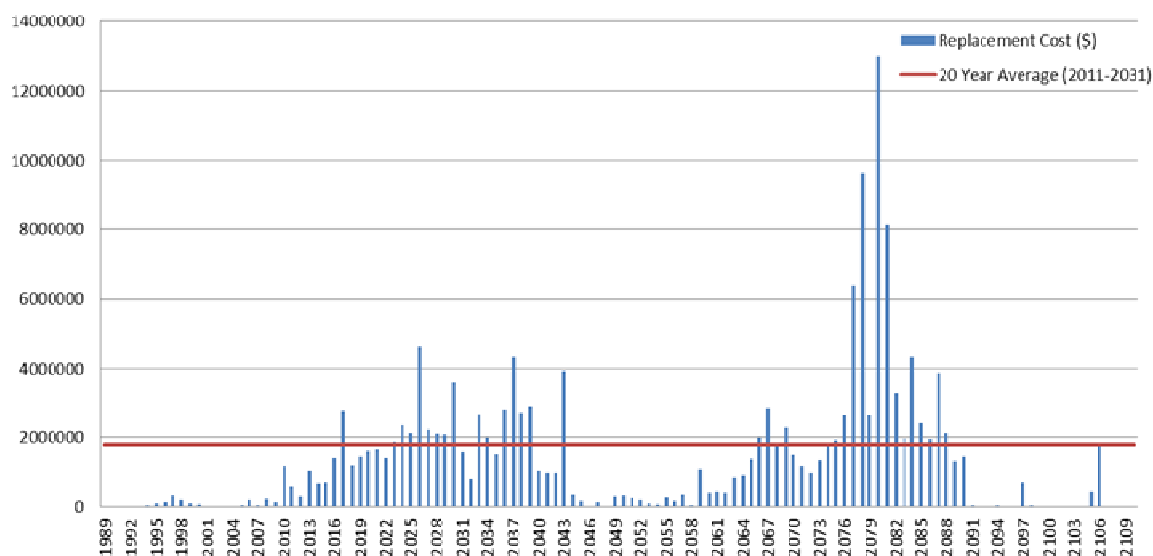
WTP Water Quality Improvement Works – These works were identified by Hunter Water Australia (HWA) following poor water quality in the Murray River from September 2010. Works identified by HWA include HAZOP actions, SCADA and PLC upgrades, filter refurbishment and chemical dosing upgrades. Site Management Plans (SMPs) have also been developed by LMW to support and complement the HWA high level assessments to itemise and identify specific works associated with improving water quality during high turbidity, elevated organic and soluble manganese events.

WTP PLC Replacement – PLC upgrades are proposed to allow central control and better automation of the overall system for management of the various plants including Mildura, Swan Hill, Piangil and Kerang WTP's. Preliminary design work may commence in 2012/13.

Water Main Replacement – The overall funding allocation for water main replacement was developed from a renewal forecast based predominantly on asset age, modified by LMW's understanding of asset condition, network performance and failure rates. Inspection of Figure 16 below indicates a 20-year average age-based renewal requirement is around \$1.8m. However, LMW's current and past replacement program investment of some \$0.8m per annum has replaced many of the older non-

performing asbestos cement pipes leaving a minimal backlog. Network performance is meeting requirements and hence a similar funding allocation to the past of \$0.9m per annum is appropriate for the forthcoming period. The expectation is that this investment requirement will increase in future periods, and network performance will be monitored to ensure it remains within performance standards. Specific condition assessment on large water mains will be applied using a risk-based approach to plan for specific replacement needs. Annually, the water main replacement program is prioritised using asset condition and service level data including breakage history, customer interruptions and asset criticality.

Figure 16 Water Mains Renewal – Long Term Forecast



5.3.4 Major Sewerage Capital Expenditure

Mildura Emergency Sewer Detention Storages – Modelling and risk-based assessment of emergency or failure scenarios has identified shortfalls in pump station detention in the Mildura sewer network. Construction of detention storage basins at key pump station sites in Mildura is proposed to contain flows in emergency scenarios to avoid spills to the environment.

Merbein Diversion to Koorlong – This project involves transferring sewage flows that currently are treated at Merbein WWTP to Koorlong WWTP and decommissioning Merbein WWTP in the future.

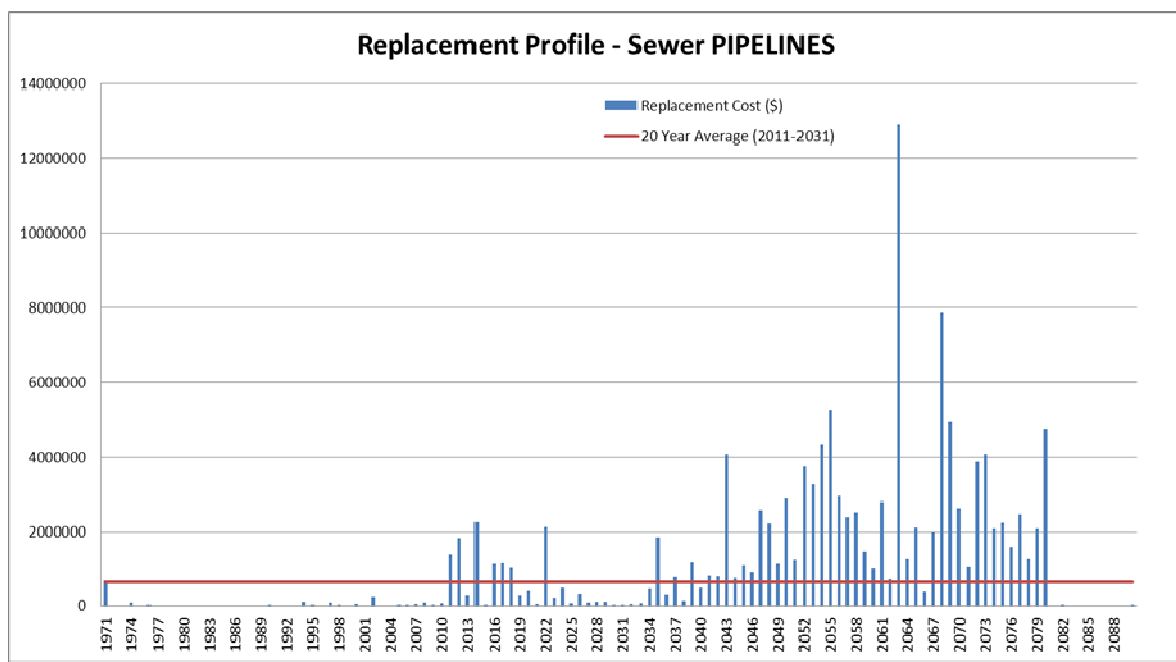
Koorlong Wastewater Treatment Plant Line Sludge Lagoons – With the recent augmentation of this plant two old sludge lagoons need to be lined with HD polyethand to overcome poor initial construction in the early 1990s to allow full sealing and ease of operation.

Mildura Wastewater Treatment Plant Electrical and Control Upgrade – Main switchboard and control system has reached the end of its life and requires replacement including variable speed drives for aerators.

Sewer Network Replacement – The overall funding allocation for sewer network replacement was developed from a renewal forecast based predominantly on asset age, modified by LMW’s understanding of asset condition, network performance and failure rates. Inspection of Figure 17 below indicates a 20-year average age-based renewal requirement is around \$1.7m. However, LMW’s current

and past sewer renewal program investment of some \$0.7m per annum has renewed many of the older non-performing sewers leaving a minimal backlog. Sewer network performance is meeting requirements and hence a similar funding allocation to the past of \$0.8m per annum is appropriate for the forthcoming period. In addition, a similar approach to manhole renewals has identified the need for a further investment of \$0.1m per annum. The expectation is that this investment requirement will increase in future periods, and network performance will be monitored to ensure it remains within performance standards. An ongoing CCTV program for the sewer network specific condition assessment on sewer mains will be applied using a risk-based approach to plan for specific replacement needs. Annually, LMW has developed an on-going sewer rehabilitation program using a priority matrix that calculates the alternate maintenance and rehabilitation costs, to optimise lifecycle costs and evaluates social and environment impact (eg recurring blockages, number of properties impacted, impact on waterway) to evaluate priorities for rehabilitation.

Figure 17 Sewer Pipeline Renewal - Long Term Forecast



5.4 Prudent and Efficient Capital Expenditure Levels

LMW ensures that proposed investments are prudent by using good asset information and planning tools to evaluate investment needs and opportunities. The capital expenditure plan has been developed from a combination of ongoing processes and specific investigations, including:

- Master Plans** developed for each major urban area to plan for growth and improved service levels, taking into account long term infrastructure needs and any risk issues that arise. Master Plans consider and evaluate feasible options to meet service requirements, including staging of works. All Master Plans and major growth projects are supported by modelling using recent demand or flow information, and timing of all major investments is reviewed annually.

- ▶ **Compliance and Service Level Reviews** of each water and wastewater treatment plant to identify service improvements, augmentation requirements and major refurbishments. For water treatment plants, these reviews were intended to maintain capacity, compliance with Department of Health and the Safe Drinking Water Act requirements and good risk management practice, as well as to deal with the 2011 blackwater events. For wastewater treatment plants, these were intended to maintain capacity and compliance with EPA requirements.
- ▶ **Site Management Plans** (SMPs) for each urban 'site-based' or facility asset, including treatment plants, pump stations, storages, major meter installations and other facilities. The SMPs were developed by LMW as stand-alone assessments for smaller facilities, or to support and complement other higher-level assessments, to itemise and identify specific works associated with maintaining or improving service levels, ensuring replacements/refurbishments are timely, and identifying periodic maintenance requirements. The SMPs cover both maintenance and capital cost items, and propose an optimum timing of works to reduce contingency requirements and the possibility of duplication. Each facility was inspected by experienced staff for condition and performance, and identified activities to meet service requirements which were then categorised as operating or capital cost and allocated a risk rating. The completed SMPs were integrated into District-based expenditure programs, and aggregated up to a functional level (water supply or wastewater) for the Water Plan.
- ▶ **Renewal Forecasts** for network assets (water mains, sewers and manholes), where an assessment of future expenditure requirements was made based on asset age predominantly. These forecasts were modified by LMW's understanding of asset condition, network performance and failure rates, to derive renewal and replacement allocations for the regulatory period. These replacement/renewal programs are being implemented along with appropriate (current and ongoing) condition assessment programs (including CCTV sewer inspections and manhole visual inspection) so that only those assets whose condition or performance necessitates intervention are replaced, regardless of age.
- ▶ **Business Cases** for major programs and projects incorporating options, life-cycle cost and triple bottom line analysis. Investments are recommended to the Board for approval. LMW also reviews prioritisation and timing of projects each year, which is reviewed and approved by the Board as part of each annual Corporate Plan.

5.4.1 Capital Efficiency

The majority of opportunities to capital efficiency gains are captured through the planning process by focussing on strategies to achieve cost-effective solutions for capital and operating expenditure, as explored above.

LMW seeks to achieve capital efficiencies during each stage of the capital process:

- ▶ The **planning stage** identifies needs, potential solutions, scope, relative priority and timing of projects. Innovative solutions and prioritisation have the most significant impact on costs.
- ▶ The **design stage** includes the detailed definition and design for projects. Project design for major projects is contracted out to up to four engineering consultants. Efficiencies applied by LMW include bundling like projects for engineering consultancy work, to reduce project management costs and ensure consistency of equipment/materials standards and efficient design.
- ▶ The **delivery stage** includes materials purchase and construction of assets. Effective project management, contract management and strategic purchasing arrangements improve capital efficiency at the delivery stage. For example:

- LMW analyses forward pipe requirements over a 12 month period and issue a tender to the market place, which can result in savings of up to 20%
- LMW regularly evaluates bundling opportunities for similar project characteristics. For example, LMW has a three-year contract for sewer relining and manhole refurbishment.

5.4.2 Capability to Deliver Capital Program

Figure 15 above compares the actual and planned capital expenditure between the current and next regulatory periods, and shows that proposed capital expenditure is similar to that actually delivered in the past, with the exception of a major project (Koorlong Wastewater Treatment Plant upgrade) in 2009-10.

5.5 Financing Capital Investments

Within the ESC's revenue requirement, the financing of capital expenditure is provided for by the inclusion of a return on the Regulatory Asset Base (RAB) and depreciation of the RAB. The RAB is built up from an initial value which was set by the Minister of Water as at 1 July 2004. The RAB is rolled forward from that date by adding the new capital expenditure and deducting the government and customer contributions and disposal of assets expected for each price review period, and depreciation.

At the start of a new review period, the RAB is updated for actual outcomes with respect to capital expenditure, contributions, disposals and depreciation.

5.5.1 Updating the Regulatory Asset Base for Past Actuals

Table 26 shows the update of the RAB across the second regulatory period and at 1 July 2013, based on actual outcomes except for the last year of the second regulatory period which is necessarily based on forecasts.

Table 26 Updating the Regulatory Asset Base (\$M 1/1/13)

Rolled forward asset base	Second Regulatory Period					
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Opening asset base	69.81	72.17	77.22	120.83	126.93	133.14
plus Gross capital expenditures	10.32	11.24	49.33	14.10	12.38	10.92
less Customer contributions	1.80	1.11	1.55	1.62	1.42	1.62
less Government contributions	2.49	1.38	-	1.90	-	-
less Regulatory depreciation	3.30	3.22	3.76	3.86	4.18	4.44
less Proceeds from disposals	0.37	0.48	0.41	0.62	0.57	0.57
Closing Asset Base	72.17	77.22	120.83	126.93	133.14	137.43

5.5.2 Rolling Forward the RAB

The roll forward into the RAB of new capital expenditure for the third regulatory period is shown in Table 27. Thus the table shows the accumulation of new capital expenditure net of regulatory depreciation, customer contributions and disposals, based on the expenditure projections contained in the Water Plan.

Table 27 Rolling Forward the Regulatory Asset Base (\$M 1/1/13)

Rolled forward asset base	Third Regulatory Period				
	2013-14	2014-15	2015-16	2016-17	2017-18
Opening asset base	137.43	145.49	152.55	154.87	153.25
plus Gross capital expenditures	14.27	14.41	10.09	6.39	10.18
less Customer contributions	0.41	1.01	1.01	1.01	1.01
less Government contributions	-	-	-	-	-
less Regulatory depreciation	5.23	5.77	6.18	6.43	6.76
less Proceeds from disposals	0.57	0.57	0.57	0.57	0.57
Closing asset base	145.49	152.55	154.88	153.25	155.09

Regulatory depreciation is calculated on a straight line basis for assets existing as at beginning of the review period and for new assets creating during the review period. Regulatory depreciation on existing assets is based on remaining asset lives which are consistent with the asset lives embedded in the current Corporate Plan. The amount of depreciation calculated for existing assets as at the beginning of the third regulatory period shows a substantial jump, which can be seen most clearly in Figure 11 above. The combination of the asset revaluation and the rolling of past “new” capital expenditure both serve to reduce the average asset life applied to the assets classified as existing at the start of the regulatory period.

Regulatory depreciation of new assets is based on the asset lives of each capital expenditure category as per the previous Water Plan. Short lived assets are depreciated over 5 years, medium lived assets are depreciated over 45 years and long lived assets are depreciated over 80 years.

5.5.3 Weighted Average Cost of Capital

The Weighted Average Cost of Capital (WACC) is the return that LMW seeks to earn on its RAB. LMW has used the indicative WACC of 5.1% advised by the ESC in its Water Plan Guidance.

5.6 Taxation

The ESC requires information on actual tax payments forecast as payable for NTER purposes under the Corporate Plan. Tax depreciation allowances have been calculated using the opening allowances and the amount of capital expenditure for each tax category. Carried forward losses mean that there will be no tax forecast as being payable in the regulatory review period.

6 Demand

6.1 Summary of Approach to Demand Forecasting

The factors impacting on demand for services include:

- ▶ Growth in customer numbers
- ▶ Weather
- ▶ Restrictions
- ▶ Water Supply Demand Strategy
- ▶ Prices

For much of the current regulatory period LMW was under water restrictions. The lifting of staged water restrictions was followed by a period of extremely heavy rainfall. As a result, recently observed water consumption is below the level that might be expected under more normal weather conditions, particularly for residential customers.

To take account of the impact of these factors, LMW has used econometric techniques to identify the key factors that influence residential demand. Predictions of the future course of these factors are then used to derive a forecast level of residential demand per connection.

Forecast demand per connection is then combined with forecasts of the number of residential connections to derive a forecast of total billed residential water consumption. Similarly, total non-residential water consumption is forecast by combining likely non-residential customer numbers with likely non-residential demand per connection.

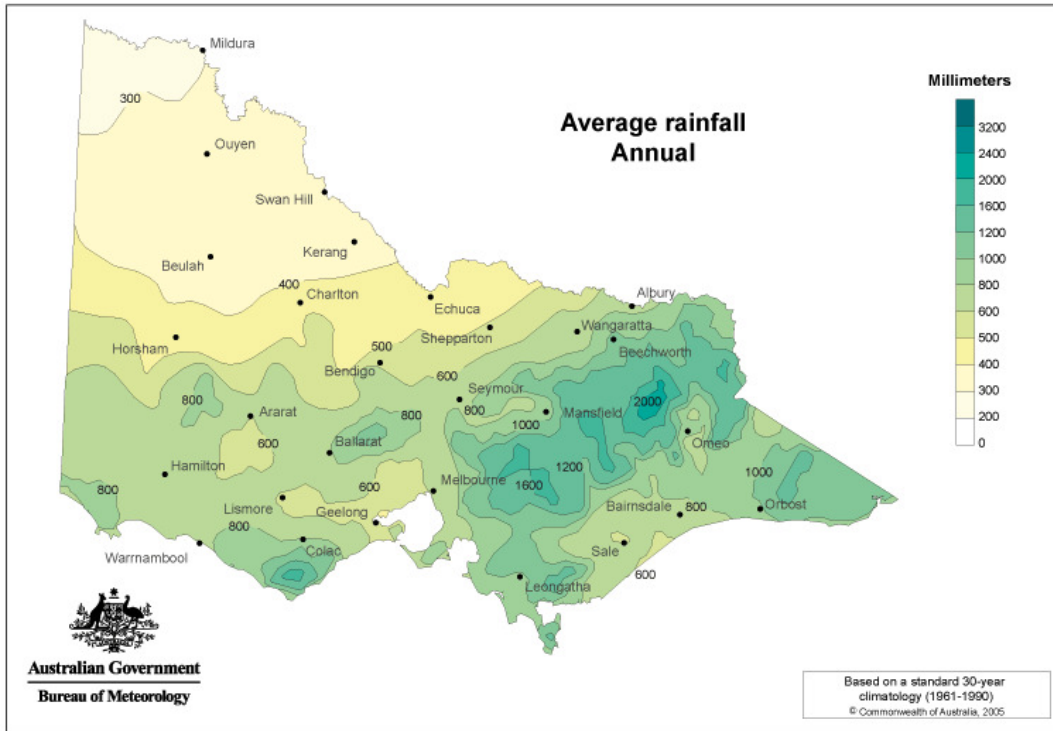
This section presents LMW's methodology, assumptions and analysis which underpin the forecasts of water demand and the charging base more generally.

6.2 LMW Context

The LMW region is one of the driest regions in Victoria, receiving an average annual rainfall of about 300 mm in comparison to the 400-600 mm of rainfall received per year in most other non-alpine regions of Victoria. In addition, the region experiences about 1,800 mm of evaporation per year on average, compared to 1,400 mm or lower experienced in other regions. The longer days and generally dryer climate significantly influences water consumption and the community's dependence on reliable water sources. Over the last 60 years, average temperature has increased and average rainfall has declined – with the notable exception of the extremely heavy rainfall in 2010/11.

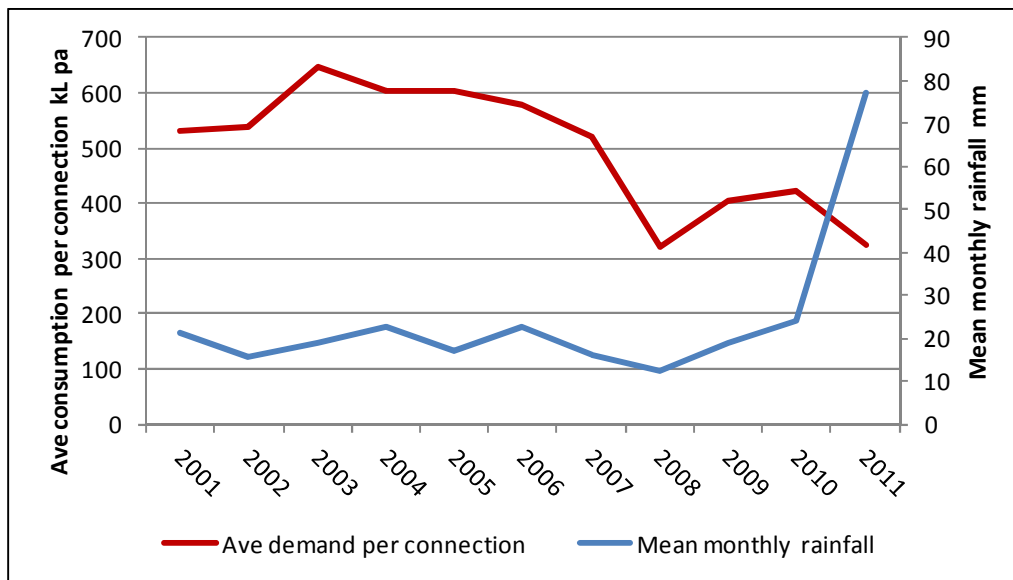
Figure 18 shows the average annual rainfall for the LMW's region compared to other regions of Victoria.

Figure 18 Average Annual Rainfall



In recent years LMW has experienced a trend of decreasing consumption per connection, which accelerated in 2008 with the drought and the subsequent heavy rainfall in 2010 and 2011 as shown in Figure 19.

Figure 19 Residential Consumption and Rainfall Trends



6.3 LMW Demand Assumptions

This section outlines the key assumptions and data sources that have been used in the demand forecasts.

6.3.1 Growth Rates and Connections

LMW uses a graduated service charge, which varies according to the diameter of the connecting water supply pipe. To allow for this graduated charge, LMW assesses the number of connections in terms of 20 mm equivalent connections. Equivalent connections count larger connections as a multiple of the standard 20 mm connection, with the multiple reflecting the pricing structure.

Information on past numbers of equivalent connections for residential and non-residential customers is sourced from LMW’s billing system.

LMW has sourced the growth in numbers of households from Victoria in Future 2008, which is prepared by the Department of Planning and Community Development. This report includes changes in population, households, household sizes. For the period 2011-12 and beyond, growth in equivalent connections is assumed to reflect the household growth forecast.

Growth in the number of non-residential customers is assumed to mirror the growth of residential customers and to maintain the existing relationship between actual and equivalent connections.

6.3.2 Influence of Weather and Water Restrictions on Demand

The regression analysis (which is described further below) sought to relate demand per connection to weather conditions and the level of water restrictions. The data available for the analysis is constrained by the need for a consistent definition of connections. A consistent series for equivalent connections was available for the period 1999-2000 to 2010-11 inclusive. In order to increase the sample size, quarterly consumption data was used, for the period from 2000-01. This provided a total of 44 quarterly observations.

The analysis involved regressing average consumption per connection against average maximum temperature and average monthly rainfall per quarter. The fit of the regression was quite good, with an adjusted R squared of 78.7% as shown in Table 29.

Table 28 Demand Forecast Regression r-square Statistics

Parameter	Statistic
Multiple R	0.903561
R Square	0.816422
Adjusted R Square	0.786653
Standard Error	25.28575
Observations	44

The regression coefficients are given in Table 29. As expected, higher temperatures result in increased demand for water, and higher rainfall results in a reduction in demand. Each degree increase in average maximum temperature results in an increase of 7.5 kL/per quarter in demand per connection. Each additional mm in monthly rainfall results in a decrease of 0.6 kL/per quarter.

The co-efficient on temperature is similar to the previous results. However the impact of rainfall is more muted with the more recent data. Rainfall has been unusually heavy over the two most recent years, which will have created greater instability in the data. Thus total monthly rainfall averaged 50.5 mm over the last two years and 29.8 mm over the last six years. By contrast, for the six years ended June 2006 average total monthly rainfall was just 18.9 mm.

Table 29 Demand Forecast Regression Coefficients

Variable	Coefficients	Standard Error	Statistic
Intercept	-27.6738	17.79656	-1.55501
Average Maximum Temperature	7.461339	0.687831	10.84763
Average monthly rainfall	-0.5943	0.220635	-2.69361
d1 Stage 1 restriction	-31.7439	12.52111	-2.53523
d3 Stage 3 restriction	-47.7983	10.74115	-4.45002
d4 Stage 4 restriction	-82.1122	18.56135	-4.42383
d5 PWSR	-14.3627	22.03056	-0.65195

The regression analysis included dummy variables to represent the presence of staged and permanent water restrictions. Table 30 shows the timing of different levels of restrictions and their variation.

Table 30 Restriction Levels

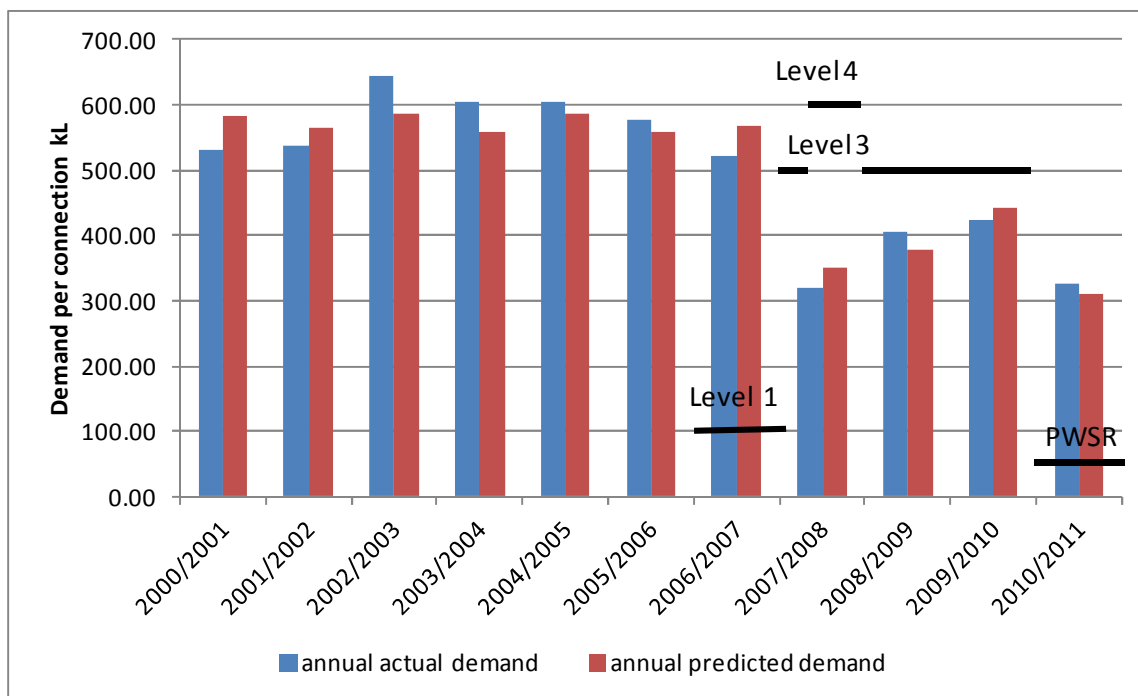
Restriction level and variation	Date of introduction
Stage 1	4 th December 2006
Stage 2	30 th April 2007
Stage 3	4 th June 2007
Stage 4	1 st July 2007
Hand held watering	10 th September 2007
Tree watering	15 th December 2007
Stage 3	17 th January 2008
New watering times , 7-9am & 7-9pm	October 2008
Rural Customers included under By Law for Water Restrictions	10 th November 2008
Rural Customers were excluded from By Law for Water Restrictions	1 st January 2009
Lawn watering	1 st January 2009
End of Daylight savings time, New watering times	5 th April 2009
Stage 3	
Daylight Savings introduced, 7am – 9am and 7pm -9pm	4 th October 2009
Stage 1 End of Daylight savings time, New watering times	4 th April 2010
PWSR	3rd October 2010
Introduction of in watering times for daylight savings time	3 rd October 2010
Introduction of new watering times for the end of daylight savings time	April 2011
Public consultation for new times (6pm – 10am) on any day	October 2011

The results of the regression analysis show that Stage 2 restrictions had a statistically insignificant effect on demand per connection. This is probably due to the time of year and very short time frame they were in place, which provided only a single observation for the analysis. The coefficients for the other water restrictions show that there was a steady decrease in demand as the restrictions became tighter. There are no stage restrictions in place at the moment. Instead, there are “Permanent Water Saving Rules” (PWSR) which reflect a level of water restrictions which are less restrictive than Stage 1.

The coefficient on PWSR was small and was statistically insignificant. The size of the estimated coefficient suggests that demand has “bounced back” to around 88% of its pre-restriction level, however no great reliance can be placed on the accuracy of this estimate. Less than full bounce-back is to be expected given that some households have bought water efficient appliances and made changes to the water sensitivity of their gardens. For this reason, LMW has included the PWSR dummy in the final formulation of the regression equation, despite its statistical insignificance, because its inclusion is preferable to assuming 100% bounce-back.

Figure 20 shows a close correlation between the actual average demand and the predicted demand using this analysis. The figure shows clearly the significant impact of water restrictions (which were concentrated in the years 2007-08 to 2009-10) – shown diagrammatically with notional bars representing their relative severity) followed by the high rainfall years of later in 2009-10 and particularly 2010-11.

Figure 20 Predicted Versus Average Demand



6.3.3 Price Elasticity

LMW’s customer data was used to try to estimate the price sensitivity of demand using two approaches. The first approach sought to explain average water consumption per equivalent connection using explanatory factors which included a measure of average price. The second approach separated the consumption of customers consuming within each of the three tiers, and included the relevant tier price as an explanatory factor.

Neither approach was successful, despite testing for a range of specifications including linear and semi-log forms, with and without the PWSR dummy and including a one year lag on the price variable. The coefficients on price were of the wrong sign and/or insignificant in all model formulations. The failure to establish a statistical relationship between demand and price could be due to the way demand is aggregated across tiers, the way that the tier thresholds vary by quarter, the fact that the thresholds were reduced in 2008-09 and/or some mis-specification of the model. Moreover the sample size is not large, which increases the difficulty in obtaining robust results.

Nonetheless, economic theory indicates that there should be some sensitivity to price. Therefore LMW proposes to make a separate adjustment for price responsiveness, based on the results of published empirical studies of the demand for water. This is the approach LMW adopted for the previous price review, and in effect assumes that the forecast consumption derived from the regression analysis provides an estimate of “base demand” prior to taking account of any price changes.

There are a number of academic studies which have sought to measure the price responsiveness of residential demand for water. Australian estimates of price elasticities for residential water demand vary considerably, as shown in Table 31.

Table 31 Demand Forecast Regression Coefficients

Authors	Year	Region	Price Elasticity
Warner	1996	Sydney	-0.12 to -0.13
Graham and Scott	1997	ACT	-0.15 to -0.39
Grafton and Kompas	2007	Sydney	-0.352 nominal short run -0.418 real short run
Hoffman, Worthington and Higgs	2006	Brisbane	-0.51 to -0.59 in short run -1.12 to -1.44 in long run
Xayavong et al	2008	Perth	Indoor -0.70 to -0.94 Outdoor -1.30 to -1.45
Grafton and Ward	2008	Sydney	-0.17
Abrams et al	2011	Sydney	-0.06 in long run, at \$0.70/kL -0.11 in long run, at \$1.20/kL

The studies suggest that demand is more responsive over the longer run, when there is greater opportunity for customers to adjust water using appliances. Long run price elasticities can be nearly double short run estimated elasticities, as found by Abrams et al (2011). Abrams et al (2011) also found that it took under one year for customers to adjust to their long term position, with 97% of the adjustment taking place within 12 months, which suggests that the “long term” is in fact a relatively short period.

The demand for water for indoor uses has been found to be inelastic, with some price elasticity estimates not significantly different from zero. Outdoor usage is generally more discretionary in nature and exhibits greater price responsiveness. For example, Xayavong (2008) found outdoor usage to be 50 to 90 percent more price elastic than indoor usage.

Abrams et al (2011) found that owner occupied houses were more price sensitive than housing units. Tenanted houses were closer to owner occupied houses in terms of price response. When estimated at prices of \$1.20 per kL and \$0.70 per kL, the long run elasticities are shown in Table 32. The lower price elasticity for units is consistent with the fact that housing units are largely unable to pass on volumetric water charges. It may also reflect the greater proportion of indoor usage by units.

Table 32 Price Elasticities Estimated by Abrams et al (2011)

Residential Type	Elasticity at \$0.70 per kL	Elasticity at \$1.20 per kL
Owner occupied houses	-0.08	-0.14
Tenanted houses	-0.06	-0.10
Units	-0.02	-0.03

In their Sydney based study, Grafton and Ward (2008) found that price elasticities were not significantly different for periods with and without price restrictions.

Abrams et al (2011) found that the long term price elasticity is significantly lower for households participating in a water efficiency program. This reflects the fact that the purchase of water efficient appliances is in fact part of the response that households are likely to make to higher prices over the longer term. Once such purchases have been made, however, the scope for further reductions in water use become more limited.

Table 33 sets out LMW's price elasticity assumptions for each consumption tier. These price sensitivities have been combined with the price increases proposed in Section 7, to determine the final projections for residential water demand.

Table 33 Price Elasticity for LMW

	Consumption Tiers		
	0-300 kL	300-600 kL	>600 kL
Price Elasticity	-0.05	-0.1	-0.15

In drawing conclusions for an appropriate price elasticity for LMW's urban residential demand forecasts, the following was taken into consideration:

- ▶ Elasticities will be greater for the upper tiers, as the upper tiers involve a greater proportion of outdoor usage than the first tier
- ▶ The (real) price elasticities calculated by Abrams et al (2011) as applying at \$0.70 per kL and \$1.20 per kL are useful comparators, -0.06 and -0.11 respectively, given that LMW's current second tier tariff is \$0.7496 per kL and the third tier price is \$0.9633 per kL
- ▶ Victoria has a higher a proportion of outdoor usage than NSW, and this is likely to be particularly true for the Mildura region when compared to Sydney. Thus price elasticities estimated for the Sydney region are likely to underestimate the price elasticities applicable for LMW
- ▶ Estimated price elasticities for water are likely to be lower for businesses that do not apply volumetric charges for sewerage services (such as the Melbourne retailers), because a reduction in demand has less impact on the total bill. Sydney Water does not apply variable charges for residential sewerage services, so in this respect the estimated elasticities are likely to be comparable.
- ▶ The Abrams et al (2011) result of lower price elasticities (by around half) for households that have implemented water savings measures suggests that the price elasticities will be lower than previously, given the past and continuing program of permanent water saving measures.

6.3.4 Demand Management Activities

Considerable effort has gone into encouraging efficiency in water use by households and non-residential customers. There has been a range of programs, some sponsored by the Victorian Government while others were part of LMW's own water saving program. The programs have included a number of rebate schemes for efficient water using appliances such as dual flush toilets, rainwater tanks and WELS rated showerheads, a rebate program for small business, and exchanges and give aways of water saving devices.

The programs have contributed to the significant reductions in water demand, as can be seen in the reduction in demand per household since its peak in the early 1990's. It is however difficult to include water savings programs in the regression analysis, given the wide variety of programs under offer and the fact that many of them were of limited duration. Further, intensive education and water saving programs coincided with the imposition of restrictions and higher water prices, making it impossible to distinguish these effects econometrically.

Lower Murray Water will continue to maintain a focus on water conservation and awareness by supporting a range of efficiency measures across its supply systems. These measures include maintaining its water conservation education and awareness campaign, implementation of an efficient garden program, and programs for commercial, industrial customers and local councils.

While it has not been possible to estimate the likely magnitude of the resultant water savings, it is reasonable to assume that their effect is incorporated into the savings attributed to the PWSRs.

6.3.5 Determination of Forecast Residential Demand per Connection

The results of the regression analysis allows LMW to identify predicted levels of demand per connection for a given weather year and for given levels of restrictions.

At the time of the previous price review, Mildura was under drought conditions, with recent rainfall (taken as the average over the previous 6 years) being noticeably lower than the long term average and average maximum temperature being slightly higher. Over the last two years, the weather conditions have reversed, with extremely heavy rainfall being experienced. As a result, rainfall over the more recent past (averaged over the last 6 years) is now greater than long term average rainfall.

This variability in weather can be seen in Table 34, which shows average weather conditions over the previous six year period, over the six years previous to the last price review and over a longer term of 65 years.

Table 34 Average Temperature and Rainfall in Mildura

	Average for last 65 years	Average for 6 years, ending 2010/11	Average for 6 years, ending 2005/6
Mean daily maximum temperature of Mildura from 1946 - 2011, Degrees Celsius	23.7	24.5	24.6
Mean monthly rainfall of Mildura from 1946 – 2011, mm	24.3	28.6	18.9

Data source: Bureau of Meteorology

In forecasting demand for the forthcoming regulatory period, the variability of rainfall remains a particular issue. There are no reputable medium term forecasts of climate available, so as before it is necessary to take a pragmatic approach.

For the previous regulatory period, LMW took a weighted average of the demand forecasts assuming a long term average of weather (over 60 years) and a short term average assessed over the previous 6 years. These two forecasts were weighted in the proportions 30:70. Such an approach was appropriate given the fact that the drought had lasted well over ten years and there was uncertainty when and indeed if it would break.

For this current forecast, the same approach could be applied on the grounds of consistency. However, given that the drought has now broken it is reasonable to place less reliance on the more recent past. In the absence of any robust approach to medium term forecasting, LMW has placed equal (i.e. 50%) weights on the longer term and the last 6 years. This approach assumes that temperature and rainfall will not move too far from long term averages, while recognising that there are cycles which make more recent experience relevant for medium term forecasting purposes. Thus the assumptions used to create the forward forecasts of demand per connection were as follows:

- ▶ Average maximum temperature: 23.7° (last 65 years) or 24.5° (last 6 years)
- ▶ Average total monthly rainfall: 24.3 mm (last 65 years) or 28.6 mm (last 6 years)
- ▶ Permanent water saving rules apply throughout the forecasting period

The resultant demand forecasts are shown in Table 35. Using an equal weighting of recent and long term weather patterns, average demand per equivalent connection is 488 kL per annum.

Table 35 Forecasts of Demand per Connection

	Ave annual demand per connection
Forecast annual demand - average weather for last 6 years	495.08
Forecast annual demand - average weather for last 65 years	481.42
Predicted demand - 30:70 weighting (long term: recent)	490.98
Predicted demand - 50:50 weighting (long term: recent)	488.25

The expected demand per connection of 488 kL per annum is appropriate as an average over the existing residential base (as it was estimated using information for LMW's charging base as a whole). However, new lots tend to be smaller, with less water intensive gardens and homes with more water efficient appliances. It is therefore appropriate to allow for a lower demand per connection for new properties than for existing properties. New lots are on average 66% of the size of existing plots, but this over-estimates the savings achieved by new houses (based on information in the Abrams study). LMW has assumed that new properties use 80% of the water consumed by existing properties.

6.4 Demand Forecast Methodology

6.4.1 Derivation of Residential and Non-Residential Water Connections

The methodology for deriving forecast connections involves:

- ▶ Establishing the 2010-11 base for the demand forecast, using "equivalent connections" by converting all meter connection sizes to an equivalent standard residential 20mm connection. This has been undertaken for both residential and non-residential connections.
- ▶ Reviewing historic growth in connections.
- ▶ Estimating the growth in water connections over the regulatory period, by taking account of the expected rate of population growth and change in average household size.

6.4.2 Derivation of Total Residential and Non-Residential Water Volumetric Demand

The water demand forecast methodology involves:

- ▶ Calculating the 2010-11 base demands per connection for residential and non-residential customers
- ▶ Estimating the water demands per residential connection for 2011-12 onwards, using the results of the regression analysis which relates residential consumption to restrictions, temperature and rainfall. The forecasts are based on expected climatic conditions, assume a continuation of PWSRs and take account of price responsiveness to planned price rises
- ▶ Forecasting the estimated average water demand per non-residential connection
- ▶ For revenue purposes, total demand is forecast by multiplying the forecast number of connections by the estimated demand per connection (for both residential and non-residential customers)
- ▶ For operational and capital works planning, appropriate daily and peak daily demands in system are developed from the total demands and specific understanding of each system demand behaviour
- ▶ Changing land lot size and building patterns.

It is assumed that volumes per non-residential equivalent connection remain constant over the review period (and beyond), based on the most recent data. Previously LMW based its forecasts of non residential demand per connection on a five year rolling average of past outcomes. However the drought and floods mean that the immediate past is not a good predictor of likely future demand. LMW considers that 2011-12 outcomes provide a more reliable predictor of future non residential consumption, and has been used as the basis of the forecasts for the third regulatory period.

LMW has not assumed any impact on non-residential demand due to price elasticity. Published studies on the price sensitivity of non-residential demand are difficult to use, since they are specific to the nature of the industrial and commercial activity being undertaken, the price of water in alternative locations and the ability of the relevant industries to reduce their water usage. Moreover experience with large consumption non-residential customers has not indicated any significant changes in urban demand – eg through decisions to relocate.

LMW knows of where there has been an expensive exercise in improving water efficiency onsite but there was a change in processing equipment which led to an increase in usage. Crops that are grown can also lead to different usage patterns.

LMW, over the current regulatory period, assisted major water users to develop WaterMap water savings plans. Implementation of these plans, assisted by government grant funding, has resulted in significant and permanent water use reductions for many large water customers. Savings made by the WaterMap program across the various industry participants has reduced their water consumption by 29%.

6.4.3 Wastewater Flow Methodology

The methodology for wastewater flow forecasting is relatively straightforward, given that:

- ▶ There is no flow-based pricing for wastewater
- ▶ Growth in wastewater flows is relatively low; and
- ▶ Wastewater operating costs cannot be predicted with any reliability from growth forecasts as they are more influenced by rainfall.

The flow forecast has been prepared taking into account:

- ▶ Population growth in all districts, provided by the Department of Planning and Community Development for historic and future growth
- ▶ Historic and expected growth in number of wastewater connections
- ▶ Historic wastewater flow patterns and influences. Water demand management measures mainly impact on garden watering and consequently have little effect on wastewater flows.

6.5 Water & Sewerage Connection Forecasts

6.5.1 Residential Water and Sewerage Residential Connections

Table 36 shows total equivalent residential water and sewerage connections since 2008-09. Connection numbers represent the average equivalent number of connections for the year (which when multiplied by the tariff provide the amount of income derived).

The table also sets out the growth in connections adopted for 2011-12 onwards.

Whilst historically the aggregate number of sewerage connections has been lower than water, the forecasts assume that the growth in water and sewerage connections will be the same in terms of absolute numbers of equivalent connections.

Table 36 Equivalent Residential Connections (Number)

Residential Connections	Total 2008-09	Total 2009-10	Total 2010-11	Total 2011-12	Actual Growth 2011-12	Growth to 2012-13 (p.a)	Growth 2013-14 to 2017-18 (p.a)
Water	25375	25886	26403	26689	286	283	Around 1%
Sewerage	23184	23618	24183	24330	147	283	279

6.5.2 Water and Sewerage Non-residential Connections

Table 37 shows the actual and equivalent numbers of non-residential connections.

Table 37 Equivalent Non-Residential Connections (Number)

Number of Connections	Total 2008-09	Total 2009-10	Total 2010-11	Total 2011-12	Actual Growth 2011-12	Growth to 2012-13 (p.a)	Growth 2013-14 to 2017-18 (p.a)
Non-residential connections – water	3556	3806	3869	3890	21	30	30
Non-residential equivalent connections - water	7021	7076	7131	7132	1	56	56
Non-residential connections - sewerage	2812	3062	3125	3146	21	44	44
Non residential equivalent connections - sewerage	4398	4423	4477	4478	1	75	65

6.6 Water Volumetric Demand

6.6.1 Historic Residential Volumetric Demand

Table 38 shows past actual and forecast water demand per connection for residential customers, with the demand per connection broken down into the three pricing tiers.

LMW's three-tier tariff structure has been in operation since 2005-06. In 2008/9, the level of thresholds for tier 2 and tier 3 water volumes were reduced from 400 and 800 kL per annum to 300 and 600 kl per annum. The thresholds for the tiers vary by quarter: currently they are 50 kL each for the June and September quarters and 100 kL each for the December and March quarters, on a non-cumulative basis.

Analysis of LMW's billing data for the years up to and including 2010-11 provides the tier breakdown of demand per connection based on the 300kL steps (shown in the first three columns of Table 38)

Table 38 Average Water Demand per Connection – Residential (kL)

	Historic		Forecast			Projected for Third Review Period				
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2013-14	2014-15	2015-16	2016-17
Total	404.5	423.3	324.2	410.8	484.2	482.5	480.8	479.2	477.5	475.9
First tier volumes	236.8	237.4	216.8	240.1	321.2	320.8	320.5	320.2	319.9	319.6
Second tier volumes	97.1	105.5	67.8	97.1	96.3	95.8	95.4	94.9	94.4	93.9
Third tier volumes	70.6	80.5	39.6	73.0	66.7	65.8	64.9	64.1	63.2	62.4

As discussed in Section 7, LMW plans to continue the three tier tariff for residential customers, with the thresholds remaining at 300 and 600 kL. The forecast and projected columns show the demand per connection that has been forecast for the remaining year of the second review period and for the third review period. As described in the previous section, these forecasts take as their base the average demand per connection forecast using the estimated regression equation, on the assumption of a 50:50 weighting of long term and recent rainfall and temperature and a continuation of PWSRs. Demand for new properties are assumed to be 80% of the water delivered to existing households. The impact of LMW's future and proposed price increases are taken into account using the price elasticities set out in Table 33.

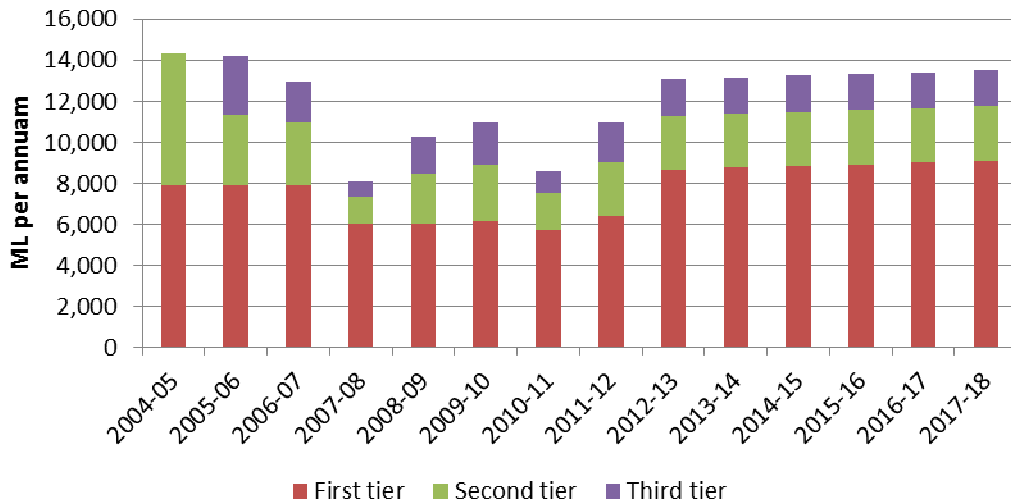
Table 39 summarises the water demand expected from residential customers for the forecast period, based on the number of connections and demand per connection set out above.

Figure 21 below shows the trend in total residential water demand by tier, starting from 2004/05.

Table 39 Total Residential Demand Forecast for LMW (ML pa)

	Second Review Period		Forecast Third Review Period				
	Actual	Forecast					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Total	10,964	13,061	13,149	13,236	13,324	13,413	13,502
First tier	6,408	8,663	8,743	8,823	8,904	8,985	9,067
Second tier	2,607	2,598	2,612	2,625	2,638	2,652	2,665
Third tier	1,948	1,800	1,794	1,788	1,782	1,776	1,770

Figure 21 Total Residential Demand for Water – Historic and Forecast



6.6.2 Historic - Non Residential Volumetric Water Demand Forecast

LMW has a single volumetric charge for non-residential customers, which is set at the rate used for the residential second tier.

Table 40 summarises the historic and forecast demand per equivalent connection for non-residential customers. The flooding caused a reduction in non-residential demand for water in 2010-11. To avoid incorporating that one-off impact in the forecast of future non-residential demand, LMW has assumed that future demand is equal to demand in the most recent past year, 2011-12. This differs from the approach previously taken by LMW, which was to average the outturn from several previous years.

Table 40 Non-residential Water Demand per Equivalent Connection – kL pa

	Historic / Current			Second Regulatory Period Forecast	Projected for Third Regulatory Period					
	2008-09	2009-10	2010-11		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Demand per equivalent connection	479.7	516.7	406.8	507.9	468.6	468.6	468.6	468.6	468.6	468.6

Table 41 shows the historic and forecast total non-residential demand for water, where the forecasts are based on the forecast growth of non-residential connections combined with forecast demand per connection.

Table 41 Non-residential Water Demand Forecast - ML pa

	Historic / Current				Second Regulatory Period Forecast	Projected for Third Regulatory Period				
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Demand	3,368	3,656	2,901	3,635	3,368	3,394	3,420	3,446	3,472	3,498

Figure 22 presents the trend in actual and forecast non-residential demand for the period since 2005-06.

Figure 22 Total Non-residential Demand for Water – Historic and Forecast

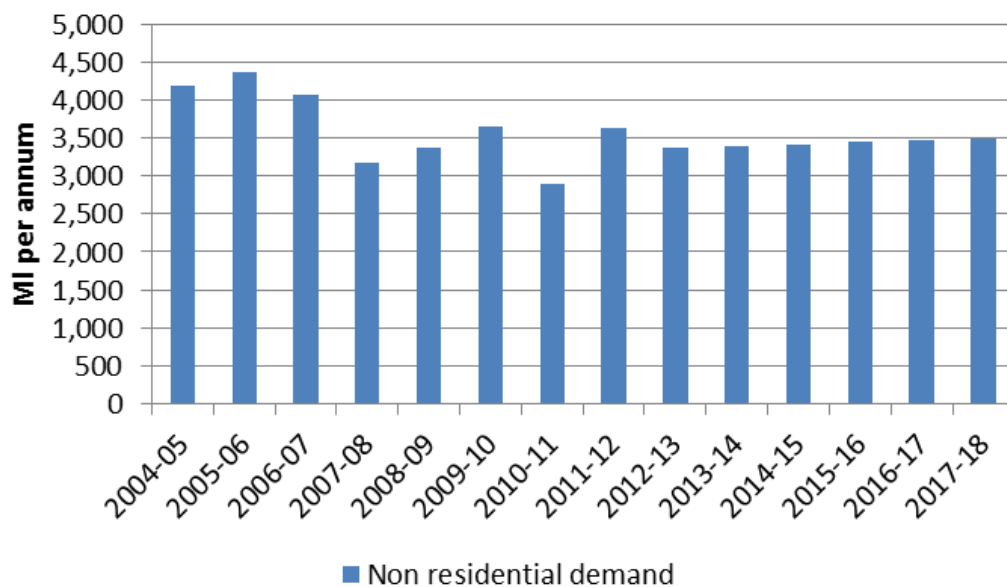
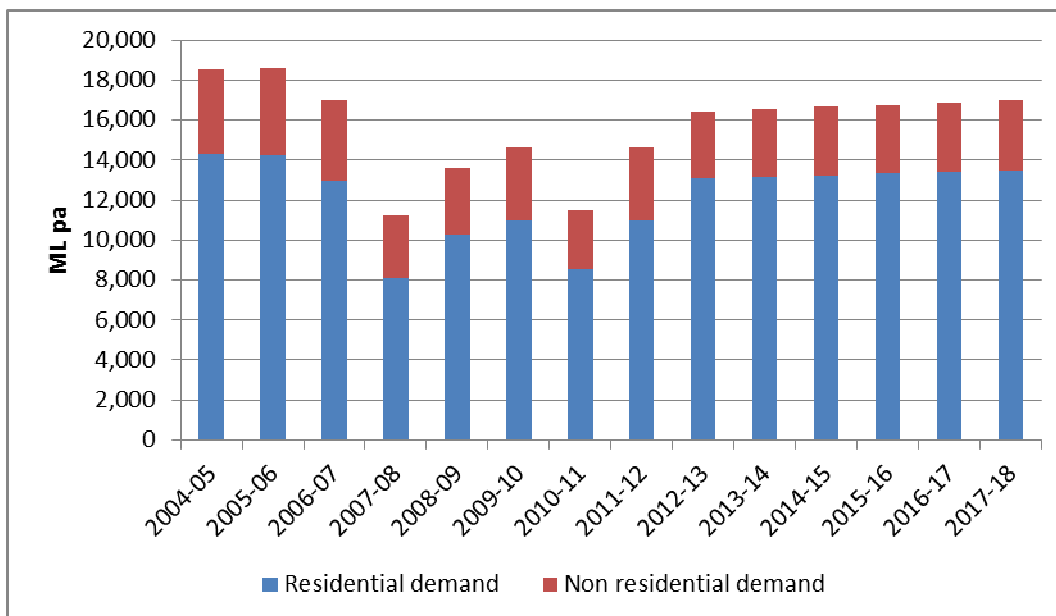


Table 42 and Figure 23 sets out the resultant total forecast for urban water demand.

Table 42 Total Water Demand Forecast - ML pa

	Historic / Current		Forecast for Second Regulatory Period			Projected for Third Regulatory Period				
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Residential demand	10,264	10,959	8,560	10,964	13,061	13,149	13,236	13,324	13,413	13,502
Non-residential demand	3,368	3,656	2,901	3,635	3,368	3,394	3,420	3,446	3,472	3,498
Total water demand	13,632	14,615	11,461	14,599	16,429	16,543	16,656	16,770	16,885	17,000

Figure 23 Total Demand for Water



6.7 Recycled Water

Koorlong is the main WWTP where recycled water is supplied externally under commercial contracts. Some 2,400 ML is able to be supplied from this source, with use subject to contractual needs.

For the WWTPs at Mildura, Robinvale, and Koondrook, onsite reuse on tree lots and/or pasture is practiced. Evaporation is the major method of disposal of wastewater at Merbein, Swan Hill, Nyah/Nyah West, Lake Boga and Kerang.

6.8 Developer Lots

The historic and forecast developer lots for the Water Plan 3 Demand are shown in Table 43.

Table 43 Number of Developer Lots

	Historic / Current					Forecast for Second Regulatory Period					Projected for Third Regulatory Period				
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2013-14	2014-15	2015-16	2016-17	2017-18
Water – residential	210	512	517	286	283	279	278	278	280	284	279	278	278	280	284
Sewerage – residential	309	434	566	147	283	279	278	278	280	284	279	278	278	280	284
Water – non residential	37	250	63	21	30	30	30	30	30	30	30	30	30	30	30
Sewerage – non-residential	37	250	63	21	44	44	44	44	44	44	44	44	44	44	44

Following the completion of the Nichols Point and Murrabit sewerage schemes in 2010-11, the number of new developments has dropped substantially.

7 Prices

7.1 Introduction

The Water Industry Regulatory Order (WIRO) specifies that prices must:

- ▶ Provide incentives for the sustainable use of Victoria’s water resources by providing appropriate signals to water users about the costs of providing services (including costs associated with future supplies and periods of peak demand and/or restricted supply) and choices regarding alternative supplies for different purposes
- ▶ Take into account the interest of customers of the regulated entity, including low income and vulnerable customers
- ▶ Provide the regulated entity with incentives to pursue efficiency improvements and to promote the sustainable use of Victoria’s water resources, and
- ▶ Enable customers to readily understand the prices charged.

The following sections describe the tariffs proposed by LMW and how they conform to the WIRO.

7.2 Tariff Structures

7.2.1 Water and Sewerage Tariffs

Current tariffs

Table 44 details LMW’s charges for the current five year regulatory period. The charges are expressed in real terms and apply to all districts within the LMW urban area.

Table 44 Water and Sewerage Tariffs – (\$ 1/1/13)

	2008-09	2009-10	2010-11	2011-12	2012-13
<u>Water Service Charges (20 mm connection)</u>					
Residential	172.37	178.55	178.53	178.50	178.48
Non residential	172.37	178.55	178.53	178.50	178.48
<u>Sewerage Service Charges (base charge)</u>					
Residential	405.44	421.21	421.18	421.17	421.12
Non residential	405.44	421.21	421.18	421.17	421.12
<u>Water usage charges – per kL</u>					
1 st tier residential	0.3320	0.3531	0.3717	0.3913	0.4120
2 nd tier residential	0.6087	0.6422	0.6761	0.7119	0.7496
3 rd tier residential	0.7857	0.8251	0.8688	0.9149	0.9633
Non residential	0.6087	0.6422	0.6761	0.7119	0.7496

Minor trade waste charge

Charge	58.21	60.48	58.78	58.76	58.72
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Water and Sewerage Service Charges

The service charges listed in Table 44 are for a 20mm connection. The size of the water service charge increases for non-residential properties in proportion with the size of the connection. Table 45 shows the variation in service charge by meter size. The structure of the service charges reflects the fact that maximum flow rates (and hence potential peak volumes supplied) increase quadratically with the size of the pipe.

Table 45 Water Service Charge by Meter Size - 2012-13 charges – (\$ 1/7/12)

Meter Size (mm)	Per Quarter (\$)	Per Annum (\$)	Equivalence Factor
20	44.62	178.48	1.00
25	69.72	278.88	1.56
32	114.23	456.92	2.56
40	178.49	713.96	4.00
50	278.89	1,115.56	6.25
65	471.34	1,885.36	10.56
80	713.98	2,855.92	16.00
100	1,115.60	4,462.40	25.00
150	2,510.10	10,040.40	56.25

Likewise the sewerage service charges listed in Table 44 refers to the “base charge”. This base charge is subject to specific formulae to derive the service charge applicable to particular property classifications (related to the potential discharge load of each property type). The quantities in the template have been converted into an “equivalent” basis, so that equivalent demand times price equals actual revenue.

The balance between fixed and volume charges for water in the average bill is influenced by affordability concerns. LMW aims for a ratio of 40% fixed charges to 60% volume charges, which is intended to provide households with a degree of control over their water bills. A high percentage of fixed charges would provide low-income households with little ability to influence the size of the bill by economising on water use. On the other hand, some element of fixed charge is appropriate given that over the medium to long term, many of the costs of water supply (and particularly sewerage) are invariant to the amount of water supplied. Currently fixed charges recover just under 40% of water revenues.

Part of the water and sewerage service charge goes towards the environmental contribution paid by LMW to DSE. LMW’s annual contribution is set by the Department, and has been included as an expenditure item in the Water Plan. The contribution reflects the environmental impacts of providing water and the “scarcity” value of water, and enables water businesses (and their customers) to contribute to funding initiatives that promote the sustainable use of water.

Water Volumetric Charges

Currently LMW has three tier volumetric tariff structure for residential customers, with the second tier applying to volumes above 300 kL and the third tier applying to volumes above 600kL. The thresholds were reduced from 400 kL and 800 kL in 2008-09.

Customers are billed on a quarterly basis, with a seasonal split applied to the 300kL and 600 kL thresholds. In the warmer quarters (October to December and January to March) the quarterly thresholds are 100kL and 200 kL respectively. In the cooler quarters (April to June and July to September) the quarterly thresholds are 50kL and 100 kL. Thus the quarterly threshold, which is non-cumulative, accommodates a modest level of garden water, while ensuring that large discretionary water users pay for additional volumes at the higher tier rates.

Structure of Residential Water Tariffs

LMW proposes to retain its three tier tariff on the basis that it provides an appropriate balance between efficiency and equity considerations.

LMW recognises that the ESC's Water Plan Guidance Paper indicated a preference for a two part tariff (with a single volumetric tariff) on the grounds that there is only a single efficient marginal cost, while an inclining block tariff (IBT) has multiple volumetric charges. The Commission acknowledges that it may be appropriate to have a volumetric rate above long run marginal cost on water conservation grounds, but argues that an IBT is not appropriate once shortages are no longer in prospect, i.e. as augmentations come into operation and water inflows improve. In addition, the Commission is concerned that an IBT penalises large households, even though their consumption per capita may be lower than smaller households.

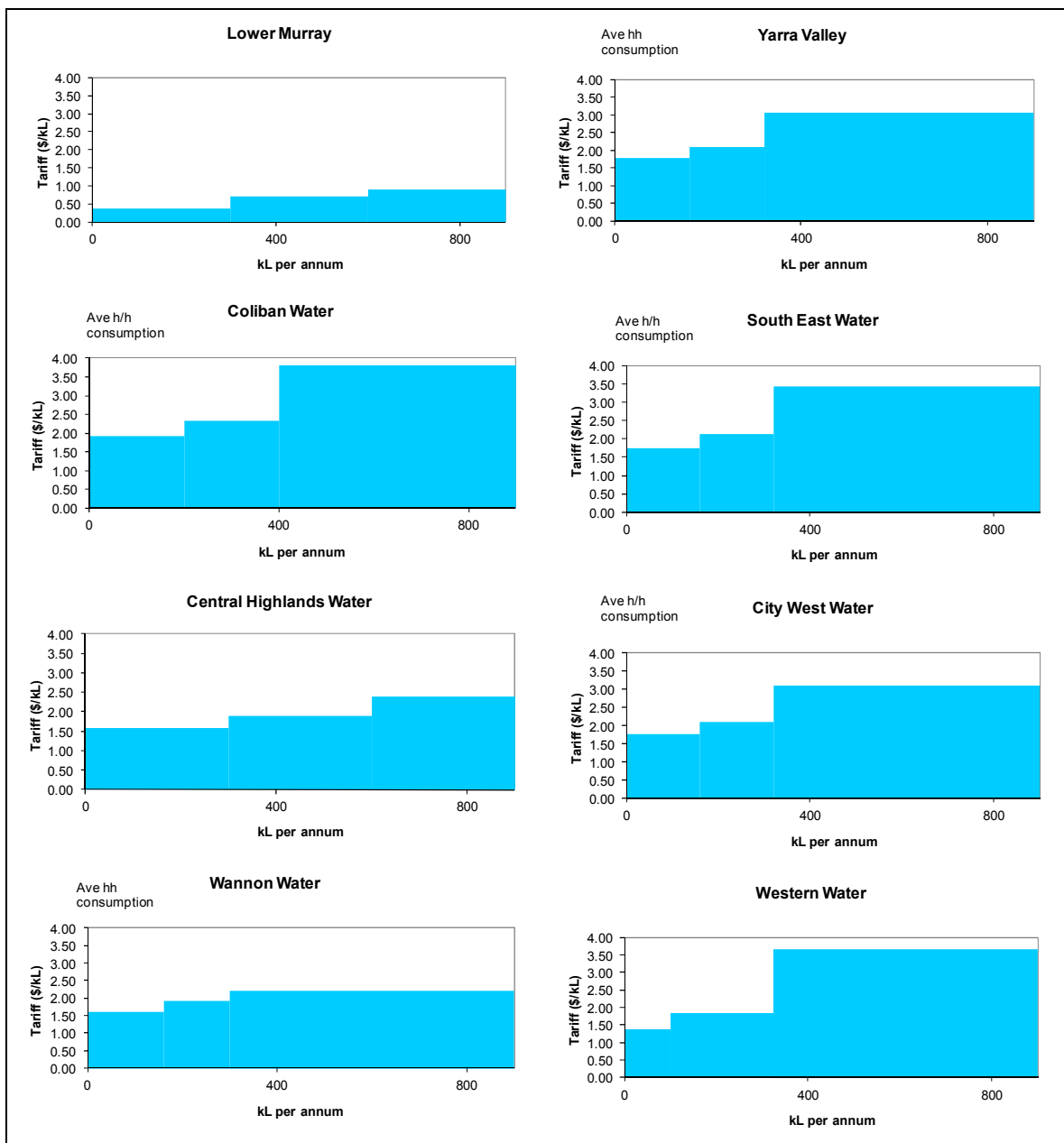
However, LMW considers that its circumstances are rather different from many of the other water businesses, for whom the Commission's concerns may be more directly relevant. In particular:

- ▶ LMW's tariff structure is much wider and flatter than other Victorian businesses, with the result that the distortion to efficiency involved in a tiered tariff is lessened. Figure 24 below compares LMW's existing tiered tariff with those of other Victorian water businesses. The figure illustrates clearly that LMW's tariff structure is subject to much smaller steps in tariffs, and the overall level of tariff is much lower for all volumes of water taken.
- ▶ LMW's customer base is characterised by a high degree of "polarisation" in terms of household income, with clearly wealthy residents living alongside one of the more socially disadvantaged populations within Victoria¹.
- ▶ Unlike the metropolitan water businesses, LMW's supply arrangements were not augmented during the drought. This means that LMW faces the same risks of supply variability as previously. Indeed, the risks have if anything worsened as a result of the recently released Murray-Darling Basin Draft Plan². As discussed in Section 6 above, LMW remains active in balancing supply and demand and will use the water market as required.

¹ Judith Stubbs and Associates, July 2010, Report 4: Exploring the relationship between community resilience & irrigated agriculture in the Murray Darling Basin: Social and economic impacts of reduced irrigation water, Appendix 6: Mildura Rural City Case Study

² Murray-Darling Basin Authority, Nov 2011, Proposed Basin Plan

Figure 24 Inclining Block Structures for Victorian Water Businesses



One of the most important reasons for retaining the three tiered tariff is its ability to afford some protection to low income and vulnerable customers. Investigation by LMW indicates that the 300 kL threshold covers most families requiring income support, with the average consumption of DHS families being 278 kL per annum.

At the same time, the essential usage of even large families is likely to lie within the first and at most the second tier, based on the per capita information reported by IPART at the ESC's Tariffs Seminar³.

³ ESC, April 2011, Urban Tariffs Seminar: Summary Paper, p12

IPART found that the average consumption of a six person household is 408 kL per annum, well within the threshold for LMW's third pricing tier of 600 kL per annum. Similarly, the criticism that an IBT is unable to match the lower and upper price tiers to essential and discretionary usage respectively is much less applicable to LMW. The width of the pricing thresholds (300 kL for the second tier price and 600 kL for the third tier price) means that the upper tier price is likely to apply entirely to discretionary usage in the form of garden watering, and in particular the watering of large properties.

LMW's accepts that a tiered tariff involves some compromises with regard to the efficiency of the price signals given to customers. However the inefficiencies involved in having an upper tier which differs from LRMC is minimised for LMW given the relatively flat profile of the three tier tariff.

In addition the use of an upper tier tariff provides a tariff profile which more easily accommodates a resource value if introduced for water in prices. LMW would be concerned that removing the upper tier could result in prices which were reduced temporarily; only to be increased again should resource pricing be introduced. Moreover, the low level of LMW's volumetric charges coupled with the pressure on resources within the Murray-Darling Basin suggest that a charge for resource value could add significantly to the size of the volumetric charge in future. Retaining an upper tier charge provides a transition towards such a resource charge and avoids abrupt and temporary movements of tariffs in the meantime.

In addition, LMW did not undertake any drought related capacity augmentations in the current regulatory period. As a result, LMW remains exposed to the same level of risk regarding climate variability and demand supply management as it faced in the 2009 to 2013 review period. Moreover, LMW is keen to avoid any further use of demand restrictions, which means that pricing for conservation will become even more important in the event of any future water shortages. The Draft Murray-Darling Basin Plan heralds the potential for considerable tightening of sustainable diversion limits (SDLs) within LMW's catchment area, and LMW is already planning for future expansion of supply and management of existing demand. For all of these reasons, LMW is reluctant to abandon a potentially useful pricing tool, given that customers support the continued use of an inclining block tariff.

LMW notes that dynamically changing scarcity prices would provide more efficient pricing signals than either a tiered tariff or single volumetric tariff. However this is at the cost of considerably greater complexity and increased demands on customers' understanding of water tariffs. LMW believes that further work is required before scarcity tariffs become practicable to implement, and in the meantime regards its current tariff structure as providing an appropriate balance between efficiency and equity considerations.

Importantly, LMW's existing tiered tariff structure is supported by customers and social support agencies.

Support for the three tier tariff structure has been expressed by individual customers, community bodies including Mallee Family Care and Mildura Tourism and the Community Representative on LMW's Board. Their reasons for supporting the current tariff addressed two main issues:

- ▶ The importance of garden watering for preserving the amenity value of gardens for the community and for the tourism industry. The current tariff structure is seen as accommodating garden watering within an overall message of water conservation
- ▶ Given the extent of disadvantage suffered by many families in Lower Murray's region, the three tiered tariff is important in minimising the living costs of disadvantaged families.

Non Residential Water Tariffs

LMW will continue its uniform volumetric rate for non-residential customers, with the rate consistent with the second tier of the residential rate structure.

Sewerage Service Tariffs

It is proposed to continue with a fixed sewerage charge. No volumetric charges are proposed, reflecting the high fixed costs of providing sewerage services. Although the cost of pumping and treatment will vary with volume, sewage volumes are related to infiltration rather than customer usage.

7.3 Proposed Tariffs

7.3.1 Retail Water and Sewerage Tariffs

LMW's proposal is for retail water and sewerage tariffs over the regulatory period to increase by 2.18% pa in real terms. This applies to both residential and non-residential charges. Current and proposed tariffs are set out in Table 46.

Table 46 Proposed Tariffs – (\$ 1/1/13)

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
<u>Water Service Charges (20 mm connection)</u>							
Residential	178.50	178.48	182.37	186.34	190.40	194.55	198.79
Non residential	178.50	178.48	182.37	186.34	190.40	194.55	198.79
<u>Sewerage Service Charges (base charge)</u>							
Residential	421.17	421.12	430.30	439.67	449.25	459.04	469.05
Non residential	421.17	421.12	430.30	439.67	449.25	459.04	469.05
<u>Water usage charges – per kL</u>							
1 st tier residential	0.3913	0.4120	0.4210	0.4302	0.4395	0.4491	0.4589
2 nd tier residential	0.7119	0.7496	0.7659	0.7826	0.7997	0.8171	0.8349
3 rd tier residential	0.9149	0.9633	0.9843	1.0057	1.0277	1.0500	1.0729
Non-residential	0.7119	0.7496	0.7659	0.7826	0.7997	0.8171	0.8349
<u>Minor trade waste</u>							
Charge	58.76	58.72	60.00	61.31	62.64	64.01	65.40

7.3.2 Customer Impact Issues

Table 47 indicates the impact on residential customers' total water and sewerage bills of the proposed tariffs, according to customers' level of water usage. Increases in the level of the bill are greater for larger users of water.

Table 47 Water and Sewerage Bill Increases for Residential Customers – (\$ 1/1/13)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
	Total Bill	Increase from previous year				
400 kL	798.16	17.39	17.77	18.16	18.55	18.96
488 kL (average)	864.12	18.83	19.24	19.66	20.09	20.53
1,200 kL	1526.06	33.25	33.98	34.72	35.48	36.25

For an average residential customer taking 488 kL, the proposed price increases translate into an average increase in their annual water and sewerage bill of \$19.67 per annum in real terms.

LMW's hardship policy and assessment of capacity to pay will assist customers suffering financial stress. Assessments of the capacity of customers to pay are made through evaluation of a range of inputs from customer consultation, reference to pricing of comparable services provided elsewhere in Australia and pricing of complementary services provided by other agencies in the Sunraysia region.

Table 48 provides similar information for a range of non-residential customer bills, again according to their level of consumption. For a non-residential customer taking 3,000 kL, the price rises imply an average increase in bills of \$74.42 per annum in real terms.

Table 48 Water and Sewerage Bill Increases for Non-Residential Customers – (\$ 1/1/13)

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
	Total bill	Increase from previous year				
400 kL	899.44	28.78	29.40	30.04	30.70	31.37
3,000 kL	2,848.40	71.25	72.80	74.38	76.01	77.66
30,000 kL	23,087.60	512.27	523.44	534.84	546.50	558.41
220,000 kL	165,511.60	3,615.82	3,694.61	3,775.12	3,857.38	3,941.43

7.4 Customer Contributions

7.4.1 New Customer Contributions (NCC)

LMW applies the ESC's scheduled charges for new customer contributions, which are currently \$565 for each of water and sewerage. The scheduled charges are based on lot size, and developers are expected to provide reticulation assets and to provide temporary assets in some circumstances. Under

the current arrangements, there is also an ability to charge developers if their development results in the bringing forward of shared distribution assets.

The ESC and the Water Industry has reviewed its approach to new customer contributions, and plans to finalise details of the framework by December 2012. LMW expects to implement any changes that arise from the revised framework into the Water Plan.

7.5 Negotiated Trade Waste

LMW has reviewed its trade waste charging in accordance with the ESC's Trade Waste Customer Service Code, applying from 1 January 2012, and has recently had its LMW's Trade Waste Customer Charter approved. The ESC has indicated that trade waste charges should be cost reflective, in order to conform to the WIRO requirements. LMW believes that its charges are cost reflective, being based on an explicit cost model, as follows:

Trade Waste Pricing Principles

Trade waste charges are designed to recover the costs of transport, treatment and disposal. These costs include operating and maintenance costs, depreciation (based on estimated replacement cost of the infrastructure) and a return on the replacement value of the infrastructure.

Costs are classified as direct, operational or maintenance, and a small allocation of overheads. For example, costs related to system improvements are excluded, such as pilot programs or trials.

Maintenance costs can fluctuate significantly between years in line with maintenance cycles. In order to smooth out annual fluctuations in the cost of delivering services, cost inputs are averaged over the previous three years before being input into the trade waste pricing model. Similarly loadings from trade waste customers can vary year to year due to seasonal variations in fruit/vegetable availability. The loadings are therefore averaged over the previous three years for input into the trade waste model.

Replacement costs are estimated by applying the relevant CPI index to the original purchase cost of the assets. LMW considers that the simplicity and clarity of an indexed historic cost approach is to be preferred to the more complex modern equivalent asset approach, which is much more expensive to implement and can be controversial.

Components of the Charge

An Activity Based Costing approach (ABC) is used to determine trade waste charges, by allocating trade waste costs between particular trade waste customers according to the key drivers. These drivers are the flow component, the organic load and the amount of suspended solids. Charges are intended to be consistent and equitable among all trade waste customers, and from period to period. Variations in charges for the most part arise from changes in trade waste flows and composition.

Annual Direct Charge

The annual direct charge recognises that there is a base level of cost that is incurred on behalf of each customer, which is independent of the level of waste produced by the customer. These costs include:

- ▶ Direct technical costs such as meter reading and testing trade waste outputs. Labour on-costs and motor vehicle allocations are also included.
- ▶ Administrative costs such as trade waste billing and general program administration.

- ▶ A small allocation of LMW overheads, including an allowance for senior management time, finance, payroll and personnel.

The annual direct cost is levied as a fixed service fee.

Flow Component

The volume of trade waste flows, particularly in regard to transportation, treatment and disposal, drives a substantial element of trade waste cost. The trade waste model identifies those costs, which are driven by volumes as:

- ▶ Operating and maintenance costs of the reticulation system;
- ▶ Depreciation and a rate of return relating to the reticulation system;
- ▶ The component of waste water treatment plant operating costs that are driven by volume; and
- ▶ Depreciation and a rate of return relating to that portion of the waste treatment plants that deal with the treatment of bulk flow.

Organic Load

In addition, specific costs can be identified which relate to the treatment of organic loads. The models identify the costs of treatment, plus depreciation and a capital charge relating to infrastructure and equipment used principally for the treatment of organic load – such as an aerator and clarifier.

Suspended Solids

Similarly, the specific costs related to the treatment of suspended solids are identified. Thus the suspended solids component of the charge seeks to recover:

- ▶ Operating costs associated with treating suspended solids;
- ▶ Depreciation; and
- ▶ A rate of return on the infrastructure and equipment used principally for treating suspended solids, namely sludge digesters and sludge lagoons.

7.6 Miscellaneous Revenues

LMW has a number of miscellaneous charges to cover a range of services. There are also a range of other revenues which serve to offset the amount of revenue required to be recovered from customers.

Appendix D lists all of the miscellaneous charges levied by LMW and sets out the increases in charges proposed for the five years of the regulatory period.

Table 49 sets out the actual and proposed revenue for the last three years and the forecast for miscellaneous revenue for the review period. These include forecast contract revenues for recycled water from the Koorlong treatment plant.

Table 49 Miscellaneous Revenue – (\$M 1/1/13)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Trade waste	0.34	0.26	0.45	0.46	0.48	0.49	0.50	0.52
Recycled water contract revenues	0.08	0.53	0.30	0.35	0.39	0.42	0.46	0.50
Misc revenue	0.28	0.20	0.16	0.17	0.18	0.18	0.19	0.19

7.7 Form of Price Control

LMW proposes to use a tariff basket control to set prices. This price control approach provides an appropriate balance between the ability of LMW to respond to changing circumstances while providing certainty to customers regarding the level of their bills.

Under a tariff basket price control, LMW takes the risk that the demand for water will be less than predicted. This provides an incentive for LMW to manage its business efficiently, and ensure that (to the extent possible) costs move in line with the volume of water delivered to customers. By contrast, a revenue cap enables a water supply business to recover from customers any under-recovery of revenue from previous years. This adds considerably to the uncertainty faced by customers as to the level of their bills.

Moreover, compared to individual price caps, the tariff basket provides LMW with a degree of flexibility of pricing, within the limits set by additional side constraints. Given the uncertainty which surrounds the extent of customers' responses to the ending of the drought, LMW wishes to retain the flexibility of being able to re-balance tariffs within the review period.

As a side constraint, LMW proposes to impose an upper constraint of CPI + 10% per annum on any individual regulated tariff. This provides a further measure of protection to individual customers.

7.8 No Adjustment to Prices for Revenue Losses

The drought and subsequent floods have meant that outturn demand is much lower than predicted for much of the second regulatory price review. While it would be open to LMW to request a compensatory adjustment to prices, LMW does not wish to add to the burden facing customers more than is necessary to allow the business to finance its functions. The price rises proposed by LMW allow the business to achieve its revenue requirement throughout the third regulatory period. The revenue losses suffered in the second regulatory period have been met from LMW's funds, and provided demand follows the expected path, LMW should be able to maintain a sustainable financial position going forward.

8 Non-Prescribed Services

8.1 Classification of Services as Non-Prescribed

Non-prescribed activities comprise:

- ▶ Leasing of surplus bulk water entitlements
- ▶ Property services
- ▶ Farm (sheep and plantation) activities
- ▶ Mildura WWTP reuse
- ▶ Plumbing services
- ▶ Construction Services
- ▶ Administration

The water leasing is undertaken at a profit, with the revenues used to offset the prices needed for LMW to cover its revenue requirement.

The property services and farm activities make a loss.

In the previous price review, recycled water was treated as a non-prescribed activity. LMW is proposing to treat this as a prescribed activity for this price review, to ensure consistent treatment of revenues and costs as prescribed. Contract revenue from recycled water was treated as prescribed for the second regulatory period and LMW proposes to continue this treatment.

8.2 Expenditure and Revenue Associated with Non-Prescribed Services

Non-prescribed revenue also comprises investment income. An 11 am call account is utilised so that when surplus funds are available they are held in the 11 am call account until needed. Internal separate accounts are maintained to record if there is any inter business lending. Table 50 summarises the non-prescribed revenues and costs involved.

Table 50 Non- Prescribed Revenues

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Property Services	0.09	0.09	0.08	0.08	0.08	0.08	0.09
Water Lease	0.41	0.30	0.31	0.32	0.33	0.33	0.34
Investment Income	-0.39	-0.60	-1.06	-1.34	-1.07	-0.84	-1.18
Farm activities	0.06	0.05	0.05	0.05	0.05	0.06	0.06
Administration	0.29	0.26	0.30	0.31	0.32	0.33	0.34

Table 51 sets out the operating and capital expenditures associated with these non-prescribed activities.

Table 51 Non Prescribed Expenditure

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Property Services - operating costs	0.30	0.36	0.29	0.30	0.31	0.31	0.31
Water Lease	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Investment Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Farm activities	0.09	0.09	0.08	0.08	0.08	0.08	0.08
Administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix A
Service Standards and other Outcomes

Progress in Second Regulatory Period

Statement of Obligations

Outcome	Progress	Comment
Corporate Governance	Meeting obligation	<p>LMW has a Governance Committee that assists the Board to discharge its duty with respect to good corporate governance, namely in the areas of policies, performance reviews, remuneration and training for Directors.</p> <p>Our Audit Committee assists the Board to fulfil its governance responsibilities in relation to financial management, risk management, systems and compliance with relevant legislation and regulations.</p>
Customer / Community Engagement	Meeting obligation	LMW has well-established communication and consultation programs with its community, customers and other relevant stakeholders.
Risk	Meeting obligation	An annual risk calendar ensures that our risk registers are reviewed by relevant staff, Management, Audit Committee and Board. Risk awareness training is provided to all staff annually.
Incident and Emergency Response	Meeting obligation	LMW's systems were well-tested during the floods of February 2011. LMW has implemented systems to manage blackwater events and is implementing asset improvements to manage future events. Incident and emergency responses are tested annually.
Managing Assets	Meeting obligation	<p>LMW has developed replacement profiles and allocated funds for asset renewal and replacement that are sufficient to maintain required levels of service. Whole of life cost is minimised by selecting intervention strategies for assets that are lowest cost and timed to meet service needs.</p> <p>LMW is implementing a major upgrade to its asset management information systems to enhance decision making and build an improved understanding of the condition and performance of the asset base.</p>
Water Conservation	Meeting obligation	<p>Released Permanent Water Savings Plan in July 2006. Since release, LMW has gone up to stage 4 restrictions and then reverted back to Permanent Water Savings.</p> <p>LMW has also managed demands through its pricing mechanism, as well as reducing leakage.</p>
Reuse and Recycling	Meeting obligation	Completion of the Koorlong WWTP Augmentation has resulted in full 3 rd party recycling of reuse water.
Water Supply-Demand Strategy	Meeting obligation	LMW developed its WSDS in 2007 and updated it in 2012 as part of its preparation for this Water Plan. Water conservation targets were developed as part of

Outcome	Progress	Comment
		the WSDS.
Metering	Meeting obligation	All urban water services are metered.
Responding to Drought	Meeting obligation	LMW's Drought Response Plan is being reviewed after the recent update to the WSDS. LMW has continued its policy of purchasing adequate permanent bulk water entitlements for urban purposes on the market to meet immediate needs plus a contingency during WP2.
Sewerage Services	Meeting obligation	LMW implemented sewerage schemes to Nichols Point and Murrabit and these townships are now largely connected.
Trade Waste	Meeting obligation	LMW has well-established policies and practices for managing, monitoring and controlling trade waste to protect people, assets and the environment. LMW has implemented a Trade Waste Customer Charter.
Regional and Local Government Planning	Meeting obligation	LMW continues to comply with planning and coordination requirements and joint programs with the regional catchment management and local government agencies.
Environmental Management System	Meeting obligation	LMW's Environmental Management System is aligned with ISO 14000 applies sustainable management principles in all its operations.
Affordability, Financial Hardship and Vulnerable Customers	Meeting obligation	A voluntary trial process for Hardship was introduced during 2011/12 in anticipation of the ESC introducing a Hardship Guaranteed Service Level. This was introduced 1 July 2012. LMW continues to work with community agencies such as Mallee Family Care in providing assistance to necessitous cases identified by LMW or the agency.
Compliance and Audits	Meeting obligation	LMW monitors compliance with its obligations and undertakes various audits as required.

Service Standards

Service Standards - Urban	Second Regulatory Period				
	2008-09 Actual	2009-10 Actual	2010-11 Actual	2011-12 Actual	2012-13 Approved
Water					
Unplanned water supply interruptions (per 100km)	57.19	47.84	36.90	38.58	39.15
Average time taken to attend bursts and leaks (priority 1)	16.40	17.70	17.40	17.00	15.00
Average time taken to attend bursts and leaks (priority 2)	14.20	15.00	16.10	15.20	20.00
Average time taken to attend bursts and leaks (priority 3)	13.80	10.30	13.30	12.60	25.00
Unplanned water supply interruptions restored within 5 hours (per cent)	99.60	99.30	100.00	99.40	99.40
Planned water supply interruptions restored within 5 hours (per cent)	100.00	100.00	100.00	96.00	95.00
Average unplanned customer minutes off water supply	14.15	13.29	7.44	7.80	7.59
Average planned customer minutes off water supply	2.70	3.38	3.14	169.50	204.68
Average unplanned frequency of water supply interruptions	0.218	0.200	0.135	0.144	0.16
Average planned frequency of water supply interruptions	0.043	0.053	0.062	0.934	0.76
Average duration of unplanned water supply interruptions (minutes)	64.89	66.47	55.08	54.50	46.46
Average duration of planned water supply interruptions (minutes)	62.73	63.84	50.70	181.40	269.79
Number of customers experiencing more than 5 unplanned water supply interruptions in the year	19.00	28.00	1.00	27.00	4358#
Unaccounted for water	10.50	12.40	14.50	12.60	9.00
Sewerage					
Sewerage blockages (per 100km)	23.57	20.73	16.54	11.83	21.29
Average time to attend sewer spills and blockages (minutes)	16.87	17.35	17.70	23.10	20.00
Average time to rectify a sewer blockage (hours)	2.14	1.10	1.94	1.20	1.75
Spills contained within 5 hours (per cent)	90.90	100.00	94.10	100.00	100.00
Customers receiving more than 3 sewer blockages in the year	0.00	1.00	0.00	0.00	125.00
Customer Service					
Complaints to EWOV	0	0	3.00	2.00	3.00
Telephone calls answered within 30 seconds	71.00	87.00	91.00	86.00	99.00
Additional Service Standards					
CO2/ Green energy target (tonnes)	28670	21021	22820	34923	9200

Note:

Service standard targets in error

Environment Obligations

Environmental obligation topic area	Key activities	LMW progress
1.0 Water Conservation and Resource Efficiency		
1.1 Water Conservation	Water conservation program focuses on community education and demand management. There are two existing By-Laws, Water Conservation Strategy and Water Supply Demand Strategy. The WSDS sets conservation targets.	Progressing
	Water main leak detection program. Scaled back due to low NRW of 8.6%	Small investigation program initially
	In cooperation with other Water Corporations and DSE implement and use modelling to set "in-house" water conservation targets	Action Complete
1.2 Resource Efficiency	Purchased Green Power for urban operations to limit GHG emissions.	2012/13 - \$370k
	Implement proposals from initial Greenhouse and Energy Review, which was undertaken under the Victorian Water Industry Greenhouse Emissions Reduction Framework.	Ongoing
	Undertake Greenhouse and Energy Review for all Corporation assets	Ongoing
2.0 Wastewater Management		
2.1 Waste Hierarchy (Trade Waste Management)	There is an existing by-law and pricing model, which are to be reviewed especially with regard to penalties for discharge of high EC and pH wastes. Sodium charge has been introduced.	Action Complete
	There is an existing By-Law and pricing model which meet the ESC pricing principals. Penalties are in place for high EC, pH and sodium wastes	Action Complete
	Work with EPA and industry under sustainability covenant to minimise waste production, protect the environment and contribute to a more sustainable Victoria.	Ongoing
2.2 Wastewater Treatment and Disposal	Review/Implement finding of report on Ecological Risk Assessment for discharge to Fosters Swamp from Kerang WWTP.	Action Complete
2.3 Biosolids Management	Participation in the National Biosolids Research Program will continue with application on test site in Mildura area.	Participating
	Biosolids handling upgrade at the Koorlong WWTP.	Complete
2.4 Sewerage Planning	Complete construction of sewerage infrastructure for Murrabit and Kings Billabong/Nichols Point under the Country Towns Water Supply and Sewerage Program.	Complete
2.5 Management of Sewerage System	Undertake sewer root foaming to limit tree root growth, which lead to sewer blockages.	Ongoing
	Undertake sewer rehabilitation to avoid sewer collapse and overflows.	Ongoing

Environmental obligation topic area	Key activities	LMW progress
	Undertake CCTV inspection to monitor sewerage system conditions	Ongoing
	Implementation of sewerage system management plans and conduct an EPA statutory audit of the implementation	Audit is pending
2.6 Trade Waste Management	Refer to 2.1 above	
2.7 Odour, Greenhouse and Noise	Ongoing management as required for odour and noise. Refer to 1.2 above for Greenhouse management.	Action Complete
2.8 Licence Compliance	Work with EPA toward single licence to cover all treatment plants	
4.0 Assessment, Monitoring, Auditing and Reporting		
4.1 Monitoring, auditing and Risk Assessment	Nil	
4.2 Water Industry Reporting	Work with EPA to ensure annual reporting meets appropriate standards.	Complete
5.0 Approximate Customer Price Implications of New Expenditure to meet Environmental Obligations	\$5.00 annual increases for residential customer on an average household basis. Variable for major industrial customers	Complete

Water Quality

Obligation Topic and Drivers	Key Activities and Status	LMW Progress
1.0 Risk Management Plan Audits <u>Regulatory:</u> SDWA Cl. 10, 11.	LMW will have its RMP audited when required.	Comply with DHS as required.
Publish Water Quality Information <u>Regulatory:</u> SDWA Cl. 23.	LMW will compile water quality information on each of its systems and publish these quarterly. The information will be available from LMW's website and on request from LMW's offices.	Published on LMW website. Ongoing.
Annual Report to DHS <u>Regulatory:</u> SDWA Cl. 25.	LMW will supply, by 31 October each year, a report on water quality and any related issues, for the previous financial year. The report will include other requirements of regulations, which are yet to be developed.	Complies as required.
Administration Levy <u>Regulatory</u> <u>SDWA Cl.51.</u>	LMW must pay levy to assist in defraying the cost of administering the Act.	Levy is paid annually.
Regulations <u>Regulatory</u> SDWA Cl.56.	LMW will comply with the additional frequency and locations of collecting and analysing water samples.	This has occurred with additional frequency in this regulatory period.

Appendix B
Customer Consultation Register

Third Regulatory Period

Consultation Register

Date	Who	Where	Type
11-Oct-11	LMW Board	LMW Offices	Water Plan Components Briefing
24-Oct-11	LMW Website	Website	New web page on WP3 Listed
24-Oct-11	Southern CCC	Swan Hill Office	Water Plan Briefing
25-Oct-11	General Community	Sunraysia, Swan Hill, Kerang	Media release issued
25-Oct-11	LMW Staff	Staff Newsletter	Information provided to staff about WP3
6-Dec-11	Board Meeting	LMW Offices	Presentation to Board on Water Plan 3
19-Dec-11	Community Stakeholders	Letter seeking their feedback	Letter to Stakeholders seeking feedback
12-Jan-12	Northern CCC	LMW Offices	Water Plan Briefing
7-Mar-12	Urban Newsletter Customers	Email	Advice on the water plan process
2-Apr-12	Joint CCC Meeting	LMW Offices	Service Standards, Water Demand & O&M
16-Apr-12	VFF	VFF Offices Melbourne	Water Plan Consultation on standards and Pricing
17-Apr-12	DSE, DoH, DTF	Melbourne	Water Plan Draft
31-May-12	General Community & ESC	LMW Website	Draft Water Plan Loaded onto LMW Website
31-May-12	Media	Email	Media release issued on Draft Water Plan
26-Jul-12	CCC Urban	LMW Offices	Discussion on Draft Water Plan including Serv and Price
1-Aug-12	WP3 Public Meeting Urban	Setts Mildura	Public Meeting Feedback Forums
3-Aug-12	WP3 Public Meeting Kerang	Kerang Hall	Public Meeting Feedback Forums
3-Aug-12	WP3 Public Meeting Swan Hill	Swan Hill Council Offices	Public Meeting Feedback Forums

Appendix C
Urban Service Standards and Targets

Third Regulatory Period

Performance Standard	Target Performance - Third Regulatory Period				
	2013-14	2014-15	2015-16	2016-17	2017-18
WATER					
Unplanned water supply interruptions (per 100km)	51.34	51.34	51.34	51.34	51.34
Average time taken to attend bursts and leaks (priority 1)	20.00	20.00	20.00	20.00	20.00
Average time taken to attend bursts and leaks (priority 2)	20.00	20.00	20.00	20.00	20.00
Average time taken to attend bursts and leaks (priority 3)	20.00	20.00	20.00	20.00	20.00
Unplanned water supply interruptions restored within 5 hours (%)	99.48	99.48	99.48	99.48	99.48
Planned water supply interruptions restored within 5 hours (%)	100	100	98.19	100	100
Average unplanned customer minutes off water supply	13.36	13.36	13.36	13.36	13.36
Average planned customer minutes off water supply	3.11	3.11	191.99	3.11	3.11
Average unplanned frequency of water supply infrastructure	0.21	0.21	0.21	0.21	0.21
Average planned frequency of water supply interruptions	0.06	0.06	1.05	0.06	0.06
Average duration of unplanned water supply interruptions (minutes)	63.73	63.73	63.73	63.73	63.73
Average duration of planned water supply interruptions (minutes)	56.88	56.88	182.85	56.88	56.88
No of customers experiencing more than 5 unplanned water supply interruptions in the year	15.00	15.00	15.00	15.00	15.00
Unaccounted for water	15.00	15.00	15.00	15.00	15.00
SEWERAGE					
Sewerage blockages (per 100km)	22.60	22.60	22.60	22.60	22.60
Average time to attend sewer spills and blockages (minutes)	18.01	18.01	18.01	18.01	18.01
Average time to rectify a sewer blockage/Spill (Hours)	1.66	1.66	1.66	1.66	1.66
Spills contained within 5 hours (%) Priority 1&2	97.00	97.00	97.00	97.00	97.00
Customers receiving more than 3 blockages in the year	0.00	0.00	0.00	0.00	0.00
CUSTOMER SERVICE					
Complaints to EWOV	3.00	3.00	3.00	3.00	3.00
Telephone calls answered within 30 seconds %	85.00	85.00	85.00	85.00	85.00
ADDITIONAL SERVICE STANDARDS					
CO2/ Green energy target (tonnes)	9400	9600	9800	10000	10000

Appendix D
Miscellaneous Charges

**MISCELLANEOUS CHARGES
(Indicative Only)**

		THIRD REGULATORY PERIOD				
<i>Tariff and Price Component 1/1/13</i>	<i>Unit</i>	2013/14	2014/15	2015/16	2016/17	2017/18
Trade Waste						
Miscellaneous Minor Trade Waste Flow Charge	kL	0.7688	0.7688	0.7688	0.7688	0.7688
Septic Tank Effluent Disposal	Load	6.97	6.97	6.97	6.97	6.97
Wimmera Mallee Pipeline (Back wash water discharging)	kL	0.7586	0.7677	0.7768	0.7861	0.7956
Trade Waste Establishment Fees	ML	3,803.15	3,803.15	3,803.15	3,803.15	3,803.15
Provision of Services - Urban						
Subdivision Processing Fee - Water/Sewerage	Lot	16.40	16.40	16.40	16.40	16.40
Subdivision Processing Fee – Overall	Lot	34.50	34.50	34.50	34.50	34.50
Day Labour Construction - Water						
Design & Supervision Lodgement Fee* or 10% of preliminary estimate if LMW considers that a closer approximation can be achieved	ha	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Design & Supervision Fee	Cust	10% of Cost 10% of Estimated Cost	10% of Cost 10% of Estimated Cost	10% of Cost 10% of Estimated Cost	10% of Cost 10% of Estimated Cost	10% of Cost 10% of Estimated Cost
Security Amount (Refundable if criteria meet)	Cust					
Day Labour Construction - Wastewater						
Design & Supervision Lodgement Fee (adjusted to 10% of final cost of works - non refundable if works do not proceed) Lower Limit	ha	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Design & Supervision Lodgement Fee (adjusted to 10% of final cost of works - non refundable if works do not proceed) Upper Limit	ha	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Design & Supervision Fee	Cust	10% of actual cost	10% of actual cost	10% of actual cost	10% of actual cost	10% of actual cost

Security Amount (Refundable if criteria meet)	Cust	10% of Estimated actual cost	10% of Estimated actual cost	10% of Estimated actual cost	10% of Estimated actual cost	10% of Estimated actual cost
Works by Contract Construction - Water						
Design & Supervision Lodgement Fee - Lower Limit	ha	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Design & Supervision Lodgement Fee - Upper Limit	ha	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Design & Supervision Fee	Cust	10% of actual cost	10% of actual cost	10% of actual cost	10% of actual cost	10% of actual cost
Contract Administration Lodgement Fee	ha	500.00	500.00	500.00	500.00	500.00
Contract Administration Fee	Cust	3.5% of actual cost	3.5% of actual cost	3.5% of actual cost	3.5% of actual cost	3.5% of actual cost
Detailed Supervision Lodgement Fee	ha	400.00	400.00	400.00	400.00	400.00
Detailed Supervision Fee	Cust	2.5% of actual cost	2.5% of actual cost	2.5% of actual cost	2.5% of actual cost	2.5% of actual cost
Works by Contract Construction - Wastewater						
Design & Supervision Lodgement Fee - Lower Limit	ha	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
Design & Supervision Lodgement Fee - Upper Limit	ha	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
Design & Supervision Fee	Cust	10% of actual cost	10% of actual cost	10% of actual cost	10% of actual cost	10% of actual cost
Contract Administration Lodgement Fee	ha	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Contract Administration Fee	Cust	3.5% of actual cost	3.5% of actual cost	3.5% of actual cost	3.5% of actual cost	3.5% of actual cost
Detailed Supervision Lodgement Fee	ha	750.00	750.00	750.00	750.00	750.00
Detailed Supervision Fee	Cust	2.5% of actual cost	2.5% of actual cost	2.5% of actual cost	2.5% of actual cost	2.5% of actual cost
Developer Design & Construct - Water						
Initial Fee	Cust	2% of Estimated actual cost	2% of Estimated actual cost	2% of Estimated actual cost	2% of Estimated actual cost	2% of Estimated actual cost
Administrative/Review Charge	Cust	4% of Estimated actual cost	4% of Estimated actual cost	4% of Estimated actual cost	4% of Estimated actual cost	4% of Estimated actual cost

Developer Processing and Investigation Fee	Cust	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost
Maintenance Security (Refundable if criteria meet)	Cust	Estimated actual cost	Estimated actual cost	Estimated actual cost	Estimated actual cost	Estimated actual cost

Developer Design & Construct - Wastewater

Initial Fee	Cust	2% of Estimated actual cost	2% of Estimated actual cost	2% of Estimated actual cost	2% of Estimated actual cost	2% of Estimated actual cost
Administrative/Review Charge	Cust	4% of Estimated actual cost	4% of Estimated actual cost	4% of Estimated actual cost	4% of Estimated actual cost	4% of Estimated actual cost
Developer Processing and Investigation Fee	Cust	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost	350.00 5% of Estimated actual cost
Maintenance Security (Refundable if criteria meet)	Cust	Estimated actual cost	Estimated actual cost	Estimated actual cost	Estimated actual cost	Estimated actual cost

Property Services

By Law Base Charge		11.60	11.60	11.60	11.60	11.60
Sanitary Drainage Plans and/or Block Plans						
Supplied to Plumber		No Charge	No Charge	No Charge	No Charge	No Charge
Supplied to someone other than a Plumber	Plan	34.80	34.80	34.80	34.80	34.80
Shut Off Fee	Cust	92.80	92.80	92.80	92.80	92.80
Plug Off	Cust	174.00	174.00	174.00	174.00	174.00
Tappings 20 mm Meter	Tapping	348.00	348.00	348.00	348.00	348.00
Tappings 25 mm Meter	Tapping	522.00	522.00	522.00	522.00	522.00
Tappings 32 mm Meter	Tapping	928.00	928.00	928.00	928.00	928.00
Tappings 40 mm Meter	Tapping	1,044.00	1,044.00	1,044.00	1,044.00	1,044.00
Tappings 50 mm Meter	Tapping	1,334.00	1,334.00	1,334.00	1,334.00	1,334.00
Inspection Fee (additional to tapping fee)	Inspection	58.00	58.00	58.00	58.00	58.00
Tappings over 50 mm	Tapping	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Relocation Fee 20 mm Service	Relocation	348.00	348.00	348.00	348.00	348.00

Restrictors	Restrictor	17.70	17.70	17.70	17.70	17.70
Meter Price 20 mm	Meter	67.00	67.00	67.00	67.00	67.00
Meter Price 25 mm	Meter	143.00	143.00	143.00	143.00	143.00
Meter Price 32 mm	Meter	302.00	302.00	302.00	302.00	302.00
Meter Price 40 mm	Meter	402.00	402.00	402.00	402.00	402.00
Meter Price 50 mm	Meter	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Meter Price 80 mm	Meter	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Meter Price 100 mm	Meter	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Meter Price 20 mm Remote Meter - Radio Component Only	Meter	135.00	135.00	135.00	135.00	135.00
Cost of 20 mm Meter for tenement	Meter	67.00	67.00	67.00	67.00	67.00
Test Fee	Test	81.00	81.00	81.00	81.00	81.00
Special Meter Read	Read	40.60	40.60	40.60	40.60	40.60
New Connection Standard Residential	Connection	127.60	127.60	127.60	127.60	127.60
New Connection Non Standard Residential	Connection	174.00	174.00	174.00	174.00	174.00
New Connection Small Industrial/Commercial	Connection	174.00	174.00	174.00	174.00	174.00
New Connection Large Industrial/Commercial	Connection	348.00	348.00	348.00	348.00	348.00
As Constructed lodged by Plumber	Cust	34.80	34.80	34.80	34.80	34.80
Alteration to as constructed plan	Cust	34.80	34.80	34.80	34.80	34.80
Septic Tank Inside Sewerage District	Cust	80.00	80.00	80.00	80.00	80.00
Alteration or Extension to Domestic/Com/Ind	Cust	116.00	116.00	116.00	116.00	116.00
Backflow Prevention Annual Fee for Agreement Renewal	pa	46.40	46.40	46.40	46.40	46.40
Backflow Prevention Device - Application Assessment Fee	App	139.20	139.20	139.20	139.20	139.20
Building Over Agreement	Cust	162.40	162.40	162.40	162.40	162.40
Fire Services						
Fire Service Tapping 25 mm 100 Dia AC Pipe	Cust	277.00	277.00	277.00	277.00	277.00
Fire Service Tapping 32 mm 100 Dia AC Pipe	Cust	362.00	362.00	362.00	362.00	362.00
Fire Service Tapping 40 mm 100 Dia AC Pipe	Cust	416.00	416.00	416.00	416.00	416.00

Fire Service Tapping 50 mm 100 Dia AC Pipe	Cust	668.00	668.00	668.00	668.00	668.00
Fire Service Tapping 80 mm 100 Dia AC Pipe	Cust	1,241.00	1,241.00	1,241.00	1,241.00	1,241.00
Fire Service Tapping 100 mm 100 Dia AC Pipe	Cust	1,284.00	1,284.00	1,284.00	1,284.00	1,284.00
Fire Service Tapping 25 mm 150 Dia AC Pipe	Cust	282.00	282.00	282.00	282.00	282.00
Fire Service Tapping 32 mm 150 Dia AC Pipe	Cust	372.00	372.00	372.00	372.00	372.00
Fire Service Tapping 40 mm 150 Dia AC Pipe	Cust	420.00	420.00	420.00	420.00	420.00
Fire Service Tapping 50 mm 150 Dia AC Pipe	Cust	680.00	680.00	680.00	680.00	680.00
Fire Service Tapping 80 mm 150 Dia AC Pipe	Cust	1,381.00	1,381.00	1,381.00	1,381.00	1,381.00
Fire Service Tapping 100 mm 150 Dia AC Pipe	Cust	1,419.00	1,419.00	1,419.00	1,419.00	1,419.00
Fire Service Tapping 25 mm 100 Dia UPVC Pipe	Cust	277.00	277.00	277.00	277.00	277.00
Fire Service Tapping 32 mm 100 Dia UPVC Pipe	Cust	362.00	362.00	362.00	362.00	362.00
Fire Service Tapping 40 mm 100 Dia UPVC Pipe	Cust	416.00	416.00	416.00	416.00	416.00
Fire Service Tapping 50 mm 100 Dia UPVC Pipe	Cust	668.00	668.00	668.00	668.00	668.00
Fire Service Tapping 80 mm 100 Dia UPVC Pipe	Cust	1,343.00	1,343.00	1,343.00	1,343.00	1,343.00
Fire Service Tapping 100 mm 100 Dia UPVC Pipe	Cust	1,392.00	1,392.00	1,392.00	1,392.00	1,392.00
Fire Service Tapping 25 mm 150 Dia UPVC Pipe	Cust	282.00	282.00	282.00	282.00	282.00
Fire Service Tapping 32 mm 150 Dia UPVC Pipe	Cust	372.00	372.00	372.00	372.00	372.00
Fire Service Tapping 40 mm 150 Dia UPVC Pipe	Cust	420.00	420.00	420.00	420.00	420.00
Fire Service Tapping 50 mm 150 Dia UPVC Pipe	Cust	680.00	680.00	680.00	680.00	680.00

Fire Service Tapping 80 mm 150 Dia UPVC Pipe	Cust	1,381.00	1,381.00	1,381.00	1,381.00	1,381.00
Fire Service Tapping 100 mm 150 Dia UPVC Pipe	Cust	1,413.00	1,413.00	1,413.00	1,413.00	1,413.00
Fire Service Tapping Inspection Fee	Cust	58.00	58.00	58.00	58.00	58.00
Fire Service Information Fee	Cust	243.00	243.00	243.00	243.00	243.00
Fire Service Illegal Use Re-Sealing Fee 1st Reseal	Cust	100.00	100.00	100.00	100.00	100.00
Fire Service Illegal Use Re-Sealing Fee 2nd Reseal	Cust	150.00	150.00	150.00	150.00	150.00
Fire Service Illegal Use Re-Sealing Fee 3rd Reseal	Cust	200.00	200.00	200.00	200.00	200.00
Fire Service Illegal Use Re-Sealing Fee 4th Reseal	Cust	300.00	300.00	300.00	300.00	300.00
Fire Service Illegal Use Re-Sealing Fee 5th & Sub Reseal	Cust	500.00	500.00	500.00	500.00	500.00

Portable Metered Hydrants

Casual Use 25 mm Hydrant Administration Charge	Cust	50.00	50.00	50.00	50.00	50.00
Casual Use 25 mm Hydrant Deposit	Cust	50.00	50.00	50.00	50.00	50.00
Casual Use 25 mm Hydrant Daily Charge	Per day	5.00	5.00	5.00	5.00	5.00
Casual Use 25 mm Hydrant Volume Charge	kl	0.7586	0.7677	0.7768	0.7861	0.7956

Casual Use 50 mm Hydrant Administration Charge	Cust	50.00	50.00	50.00	50.00	50.00
Casual Use 50 mm Hydrant Deposit	Cust	100.00	100.00	100.00	100.00	100.00
Casual Use 50 mm Hydrant Daily Charge	Per day	6.00	6.00	6.00	6.00	6.00
Casual Use 50 mm Hydrant Volume Charge	kl	0.7586	0.7677	0.7768	0.7861	0.7956

Permanent Use 25 mm Hydrant Establishment Charge	Cust	454.00	454.00	454.00	454.00	454.00
Permanent Use 25 mm Hydrant Yearly Charge	Per year	171.88	171.88	171.88	171.88	171.88
Permanent Use 25 mm Hydrant Volume Charge	kl	0.7586	0.7677	0.7768	0.7861	0.7956

Permanent Use 50 mm Hydrant Establishment Charge	Cust	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00
Permanent Use 50 mm Hydrant Yearly Charge	Per year	687.52	687.52	687.52	687.52	687.52
Permanent Use 50 mm Hydrant Volume Charge	kl	0.7586	0.7677	0.7768	0.7861	0.7956
Standpipe Charges						
Truck Tanker Load	Load	10.00	10.00	10.00	10.00	10.00
Spray Vat or Equivalent	Load	5.00	5.00	5.00	5.00	5.00
Service Availability Charges						
Unmetered Property Charge	Property	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
Fire Service Availability Charge	Cust	160.00	160.00	160.00	160.00	160.00
Information Statement Fee						
Information Statement Fee (Includes one (1) meter reading)	Statement	81.00	81.00	81.00	81.00	81.00
New Customer Contributions						
Water - All Districts - Lot < 450 sqm	Lot	608.61	608.61	608.61	608.61	608.61
Water - All Districts - Lot 450 sqm - 1350 sqm	Lot	1,217.25	1,217.25	1,217.25	1,217.25	1,217.25
Water - All Districts - Lot > 1350 sqm	Lot	2,434.52	2,434.52	2,434.52	2,434.52	2,434.52
Sewer - All Districts - Lot < 450 sqm	Lot	608.61	608.61	608.61	608.61	608.61
Sewer - All Districts- Lot 450 sqm - 1350 sqm	Lot	1,217.25	1,217.25	1,217.25	1,217.25	1,217.25
Sewer - All Districts - Lot > 1350 sqm	Lot	2,434.52	2,434.52	2,434.52	2,434.52	2,434.52
Other Charges						
Final Notice Fee	Notice	5.00	5.00	5.00	5.00	5.00
Merchant Fee (for payments over \$1,000)	Cust	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Hireworks	Cust	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Tender Document Charge	Tender	118.84	118.84	118.84	118.84	118.84

Debt collection fees passed on to customers	Cust	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Dishonoured Cheque Fees	Cust	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Fire Plug Maintenance	Cust	Actual Cost	Actual Cost	Actual Cost	Actual Cost	Actual Cost
Water taken through a check meter	kl	1.40	1.40	1.40	1.40	1.40
Wakool Meter Reading (GST excl)	pa	1,227.65	1,276.75	1,327.82	1,380.93	1,436.17

NON PRESCRIBED CHARGES

Property Services (Non Prescribed)

Measure & Draw (GST excl)	Cust	81.00	81.00	81.00	81.00	81.00
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Mulch (Non Prescribed)

Mulch	per m3	34.80	34.80	34.80	34.80	34.80
Mulch Delivery Fee within boundary	Per Load	17.60	17.60	17.60	17.60	17.60
Mulch Delivery Fee outside boundary	Per Load	23.40	23.40	23.40	23.40	23.40

Antenna Site Charges (Non Prescribed)

Access for Intermittent Use (GST excl)	per antenna	288.00	288.00	288.00	288.00	288.00
Volunteer & Community Organisations (GST excl)	per antenna	606.00	606.00	606.00	606.00	606.00
Organisations receiving at least some State Gvt Fund (GST excl)	per antenna	635.00	635.00	635.00	635.00	635.00
Commercial Organisation (GST excl)	per antenna	1,817.00	1,817.00	1,817.00	1,817.00	1,817.00

Appendix E
Capital Expenditure



Lower Murray Water

Capital Expenditure Plan ('000)

SEWER CAPITAL EXPENDITURE		10/12013	10/12013	10/12013	10/12013	10/12013	
Town	Project	Total Capex	2014	2015	2016	2017	2018
Various	Rehabilitation of Sewers	4,500	900	900	900	900	900
Various	Minor Capital Works - Replacement	1,055	140	105	310	250	250
Various	Minor Capital Works - New	500	100	100	100	100	100
Various	Land Development	1,000	200	200	200	200	200
Various	Gifted Assets	3,000	600	600	600	600	600
Various	Install / upgrade reporting system to integrate more effectively with	150	150	-	-	-	-
Various	Upgrade to digital telemetry. Current system is analogue.	250	-	-	250	-	-
Various	Hansen CBM (Condition Based Management) System with SCADA	150	-	-	150	-	-
Various	Implementation of Energy Management System	200	-	-	-	-	200
Mildura	KLG - Merbein diversion to Koorlong	800	-	-	-	-	800
Mildura	KLG - Line old sludge lagoons	400	400	-	-	-	-
Mildura	MDA - Diversions Main and PS Cardross Lakes (Mildura)	400	400	-	-	-	-
Mildura	MDA - Overflow Storages - Koorlong RM - 16th/ Cureton Av	750	750	-	-	-	-
Mildura	MDA - PLC Automation of Trade Waste Pump Station	40	40	-	-	-	-
Mildura	MDA - PLC Automation of Karadoc Av Pump Station	40	40	-	-	-	-
Mildura	MDA - Salt Infiltration Investigation	200	-	-	-	-	200
Mildura	MDA - WWTP -Investigate Relocation	50	-	-	-	-	50
Mildura	MDA - WWTP Electrical and Control Upgrade	650	650	-	-	-	-
Mildura	MDA - WWTP Lining of grit chamber	120	-	80	-	-	40
Mildura	MDA - SPS15 PLC Automation	40	40	-	-	-	-
Mildura	MDA - SPS15 Replace Switchboard	200	200	-	-	-	-
Mildura	MDA - SPS16 PLC Automation of 16th St Pump Station	40	40	-	-	-	-
Irymple	IRY - Upgrade Rising Main Koorlong to Cowra	350	-	350	-	-	-
Irymple	IRY - Karadoc Ave SPS upgrade & RM	200	-	-	200	-	-
Red Cliffs	RC - SPS2 SCADA	40	-	-	-	-	40
Robinvale	ROB - WWTP - Augmentation	50	-	-	-	-	50
Robinvale	ROB - WWTP - Lagoon Refurbishment	100	100	-	-	-	-
Robinvale	ROB - WWTP - Concrete inlet structures ie pits, channels, pipes	160	-	-	160	-	-
Nyah	NNW - SPS 1 Replace Pump	25	-	25	-	-	-
Nyah	NNW - SPS 2 Replace Pump	15	-	15	-	-	-
Swan Hill	S/H - WWTP Augmentation	50	-	-	-	-	50
Swan Hill	S/H - South West SPS Stage 1 14 L/s @ 39 m, Pressure Main: 2	500	-	-	-	-	500
Swan Hill	S/H - WWTP Replace distribution pipes from surge vessel to lagoon	6	-	6	-	-	-
Swan Hill	S/H - SPS 1 Upgrade	276	138	-	-	-	138
Swan Hill	S/H - SPS 1 Replace Pumps	40	20	-	-	20	-
Swan Hill	S/H - SPS 21 Upgrade	138	-	-	-	-	138
Swan Hill	S/H - SPS 24 Diversion Pressure Main: 370 m length 100 mm A/E	138	138	-	-	-	-
Lake Boga	LBG - SPS 1 Replace Pump	25	25	-	-	-	-
Koondrook	KOO - SPS 1 Replace Exist Pumps with Downsized Pumps	50	50	-	-	-	-
Kerang	KER - SPS1 Replace rising main	200	200	-	-	-	-
Kerang	KER - SPS12 Join Stations A and B	20	-	-	-	-	20
Subtotal		16,918	5,321	2,381	2,870	2,070	4,276



Lower Murray Water

Capital Expenditure Plan ('000)

Town	Project	2014	2015	2016	2017	2018	
CORPORATE CAPITAL EXPENDITURE							
Town	Project	Capex for WP3	2014	2015	2016	2017	2018
Various	Motor Vehicles	2,395	530	490	455	470	450
Various	Computer Hardware	2,625	657	546	464	442	517
Various	Computer Software	1,215	480	233	323	83	97
Various	General Equipment	450	90	90	90	90	90
Various	Communications	265	145	30	30	30	30
Various	Workshop Tools	885	225	100	100	210	250
Various	Safety Equipment	50	10	10	10	10	10
Various	Lab Equipment	63	13	13	13	13	13
Subtotal		7,947	2,149	1,511	1,484	1,347	1,457

Lower Murray Water

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date