



**Final Report**

**Seqwater Irrigation Price Review**  
**2013-17**

**Volume 2**

**Logan River Water Supply Scheme**

**April 2013**

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**TABLE OF CONTENTS**

	PAGE
<b>GLOSSARY</b>	<b>III</b>
<b>EXECUTIVE SUMMARY</b>	<b>IV</b>
<b>1. LOGAN RIVER WATER SUPPLY SCHEME</b>	<b>1</b>
1.1 Scheme Description	1
1.2 Bulk Water Infrastructure	1
1.3 Network Service Plans	4
1.4 Consultation	4
<b>2. REGULATORY FRAMEWORK</b>	<b>5</b>
2.1 Introduction	5
2.2 Regulatory Framework and Risk Allocation	5
<b>3. PRICING FRAMEWORK</b>	<b>8</b>
3.1 Tariff Groups	8
3.2 Tariff Structure	8
3.3 Water Use Forecasts	10
<b>4. RENEWALS ANNUITY</b>	<b>12</b>
4.1 Introduction	12
4.2 Seqwater's Opening ARR Balance (1 July 2013)	13
4.3 Forecast Renewals Expenditure	18
4.4 Seqwater's Consultation with Customers and Reporting	32
4.5 Allocation of Headworks Renewals Costs	35
4.6 Calculating the Renewals Annuity	37
<b>5. OPERATING COSTS</b>	<b>39</b>
5.1 Background	39
5.2 Historical Operating Costs	39
5.3 Forecast Total Operating Costs	41
5.4 Prudence and Efficiency of Direct Operating Expenditure	48
5.5 Prudence and Efficiency of Non-Direct Costs	60
5.6 Allocation of Non-Direct Operating Costs	66
5.7 Cost Escalation	69
5.8 Summary of Operating Costs	71
<b>6. TOTAL COSTS AND FINAL PRICES</b>	<b>74</b>
6.1 Background	74
6.2 Approach to Calculating Prices	75
6.3 Total Costs	75
6.4 Fixed and Variable Costs	77
6.5 Allocation of Costs According to WAE Priority	78
6.6 Volumetric Charges	79

6.7	Cost Reflective Fixed and Volumetric Tariffs	80
6.8	Queensland Government Pricing Policies and Final Prices	81
6.9	Impact of Recommended Prices	83
	<b>REFERENCES</b>	<b>85</b>
	<b>APPENDIX A: FUTURE RENEWALS LIST</b>	<b>101</b>

## **GLOSSARY**

Refer to Volume 1 for a comprehensive list of acronyms, terms and definitions.

## EXECUTIVE SUMMARY

### Ministerial Direction

In January 2012, the Authority was directed to recommend irrigation prices to apply to particular Seqwater water supply schemes (WSSs) from 1 July 2013 to 30 June 2017 (regulatory period). A copy of the Ministerial Direction forms Appendix A to Volume 1.

### Summary of Price Recommendations

The Authority's recommended irrigation prices to apply in Logan River WSS for 2013-17 are outlined in Table 1 together with actual prices since 1 July 2006.

**Table 1: Prices for Logan River WSS (Nominal \$/ML)**

	<i>Past Prices</i>							<i>Recommended Prices</i>			
	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Fixed (Part A)	14.56	14.96	15.68	16.19	16.67	17.27	17.50	23.11	25.74	28.48	29.28
Volumetric (Part B)	23.22	23.90	25.05	25.84	26.61	27.57	27.93	9.98	10.23	10.49	10.75

Source: Seqwater (2012) and QCA (2012) and (2013).

In the Logan River WSS, cost-reflective volumetric charges are lower when compared to 2012-13. To maintain revenues, the balance not recouped by volumetric charges is recovered by fixed charges which are higher than current levels. As current revenues are below cost-reflective revenues, the Authority recommends price paths where fixed charges increase annually by \$2 per ML (plus consumer price index (CPI)) until cost-reflective levels are reached. Volumetric charges are increased at CPI over the balance of the regulatory period.

### Final Report

Volume 1 of this Final Report addresses key issues, guiding principles and recommendations relevant to the regulatory and pricing frameworks, renewals and operating expenditure and cost allocation, which apply to all schemes.

Volume 2, which comprises scheme specific reports, should be read in conjunction with Volume 1.

### Consultation

The Authority has consulted with stakeholders throughout this review. Consultation has included inviting submissions from, and meeting with, interested parties. The Authority also commissioned a consultant to undertake a review of Seqwater's proposed costs.

All submissions received on the Draft Report have been taken into account by the Authority in preparing its Final Report.

## 1. LOGAN RIVER WATER SUPPLY SCHEME

### 1.1 Scheme Description

The Logan River WSS is located in the Logan River Basin. The scheme was established following construction of Maroon Dam in 1974.

An overview of the key characteristics of this WSS is provided in Table 1.1.

**Table 1.1: Overview of Logan River WSS**

<i>Logan River WSS</i>	
Business Centre	Beaudesert
Irrigation Uses	fodder crops, grain, horticulture
Urban Water Supplies	South East Queensland Water Grid Manager
Other	12 other users including Seqwater holding HP WAE

Source: Seqwater (2012an).

The Logan River WSS has 149 bulk customers. There are 136 irrigation customers holding 13,552ML of medium priority (MP) water access entitlements (WAE). The scheme also includes 9,856ML of high priority (HP) WAE. MP and HP WAE are outlined in Table 1.2.

**Table 1.2: Water Access Entitlements**

<i>Customer Group</i>	<i>Irrigation WAE (ML)</i>	<i>Total WAE (ML)</i>
MP	13,552	13,554.5
HP	0	9,856
<b>Total</b>	<b>13,552</b>	<b>23,410.5</b>

Source: Seqwater (2012an).

### 1.2 Bulk Water Infrastructure

Bulk water services involve the management of storages and WAEs in accordance with regulatory requirements, and the delivery of water to customers in accordance with their WAE.

Since the construction of Maroon Dam, new storages have been developed, namely Cedar Grove Weir, Bromelton Weir, South Maclean Weir and Bromelton Off-Stream Storage.

More recently, Wyaralong Dam has been developed and a consultation process was commenced in 2011 to amend the Resource Operations Plan (ROP) to include the dam. The dam was transferred to Seqwater in July 2011.

The full supply storage capacity and age of the key infrastructure are detailed in Table 1.3.

**Table 1.3: Bulk Water Infrastructure in the Logan River WSS**

<i>Storage Infrastructure</i>	<i>Capacity (ML)</i>	<i>Age (years)</i>
Maroon Dam	86,398 <sup>1</sup>	38
Wyaralong Dam	102,883	1
Weirs (Cedar Groove Weir, Bromelton Weir, South Maclean Weir)	1,688	various
Off-stream storages (Bromelton Off-Stream Storage)	8,678	4
Other bulk water assets (gauging stations)	n.a.	various

*Source: Seqwater (2012an). 1. Note: Capacity includes flood mitigation volumes in addition to the full supply volume of 44,319ML in the case of Maroon Dam.*

For irrigation pricing purposes, Seqwater (2012an) has excluded:

- (a) Wyaralong Dam on the basis that:
  - (i) the dam was developed with the stated intention that it would provide water for future urban and industrial demands in the SEQ;
  - (ii) at this stage, it is not included in the water sharing rules for irrigation; and
- (b) Bromelton Off-Stream Storage and Cedar Grove Weir, as these are drought mitigation assets constructed for the water grid and not for irrigation purposes.

The scheme supplies bulk raw water in the nine zones that comprise the scheme and stretches along a 101.4 km length of the Logan River and along 27 km of Burnett Creek. It was designed to supplement natural flows for the fertile alluvial areas along Burnett Creek and Logan River.

The characteristics of the bulk water assets are that:

- (a) Maroon dam is an earth and rock fill dam;
- (b) Bromelton Weir is a sheet pile with concrete rock fill and rock mattresses weir; and
- (c) South Maclean Weir is an earth and rock fill weir.

The location of the Logan River WSS and key infrastructure is shown in Figure 1.1.





### 1.3 Network Service Plans

Seqwater submitted the Logan River WSS network service plan (NSP), which presents:

- (a) existing service standards (where relevant);
- (b) forecast operating and renewals costs, including the proposed renewals annuity;
- (c) risks relevant to the NSP; and
- (d) proposed lower bound irrigation reference tariffs (cost-reflective prices).

Seqwater has also prepared additional papers on key aspects of the NSPs and this price review, which are available on the Authority's website.

### 1.4 Consultation

The Authority has consulted with stakeholders throughout this review on the basis of the NSPs and supporting information. To facilitate the review the Authority has:

- (a) invited submissions from interested parties;
- (b) met with stakeholders to identify and discuss relevant issues;
- (c) published notes on issues arising from each round of consultation;
- (d) commissioned independent consultants to review aspects of Seqwater's submissions;
- (e) published all reports and submissions on its website; and
- (f) considered all submissions and reports in preparing this report for comment.

The Ministerial Direction forms Appendix A to Volume 1.

## 2. REGULATORY FRAMEWORK

### 2.1 Introduction

Under the Ministerial Direction, the Authority must recommend the appropriate regulatory arrangements, including price review triggers and other mechanisms, to manage the risks associated with identified allowable costs.

In the 2006-11 irrigation price review, the Logan River WSS Tier 2 group opted to retain the price cap arrangement in preference to a revenue cap. In the 2011-13 interim price period, the price cap arrangement was continued.

### 2.2 Regulatory Framework and Risk Allocation

#### Draft Report

##### Stakeholder Submissions

##### *Seqwater*

Seqwater identified a range of generic risks considered relevant to allowable costs across all schemes (see Volume 1).

Seqwater considered that volume risk should be borne by customers through a tariff structure where the fixed charge recovers fixed costs and where the volumetric charge recovers costs that vary with demand. In the context of cost risk, Seqwater considered that it should not bear the risk associated with costs it is not able to control, such as unforeseen events and costs that are difficult to forecast. Accordingly, Seqwater considers that an end-of-period adjustment for such costs is appropriate (Seqwater 2012an).

##### *Other Stakeholders*

The Queensland Farmers' Federation (QFF 2012) submitted that during low flow periods, MP supply will rely on natural flows from Christmas and Running Creeks. Stored water will be required to meet HP urban needs. The fixed/variable split should reflect that Seqwater faces a varied demand risk for irrigation during low flow periods.

G. Drynan (2012) submitted that Seqwater, in supplying to irrigation customers, has sales that rise and fall in response to weather patterns, and that there is uncertainty regarding income and costs.

G. Drynan (2012) submitted that while there may be increased levels of trading or seasonal assignments due to the proposed tariff structure, in practice this is not likely as some zones have a very small and restricted market, and past history indicates there has been little demand for seasonal assignments.

During Round 1 consultations in June 2012 (QCA 2012c), irrigators were concerned that a high Part A fixed charge could cause an increase in permanent trading which may for a time decrease the value of water allocations and affect valuations by financial institutions.

## Authority's Analysis

### Summary of Risks and Cost Allocation

The Authority, in Volume 1, analysed the general nature of the risks confronting Seqwater and recommended that an adjusted price cap apply for all WSSs. The proposed allocation of risks and the means for addressing them are outlined in Table 2.1.

**Table 2.1: Summary of Risks, Allocation and Authority's Recommended Response**

<i>Risk</i>	<i>Nature of the Risk</i>	<i>Allocation of Risk</i>	<i>Authority's Recommended Response</i>
Short Term Volume Risk	Risk of uncertain usage resulting from fluctuating customer demand and/or water supply.	Seqwater does not have the ability to manage these risks and under current legislative arrangements, these are the responsibility of customers. Allocate risk to customers.	Cost-reflective tariffs.
Long Term Volume Risk (Planning and Infrastructure)	Risk of matching storage capacity (or new entitlements from improving distribution loss efficiency) to future demand.	Seqwater has no substantive capacity to augment bulk infrastructure (for which responsibility rests with Government). Seqwater has some capacity to manage distribution system infrastructure and losses provided it can deliver its WAEs.	Seqwater should bear the risks, and benefit from the revenues, associated with reducing distribution (and bulk) system losses (where/when the loss can be permanently traded).
Market Cost Risks	Risk of changing input costs.	Seqwater should bear the risk of its controllable costs. Customers should bear the risks of uncontrollable costs.	End of regulatory period adjustment for over- or under-recovery. Price trigger or cost pass-through on application from Seqwater (or customers), in limited circumstances.
Risk of Government Imposts	Risk of governments modifying the water planning framework imposing costs on service provider.	Customers should bear the risk of changes in water legislation though there may be some compensation associated with National Water Initiative (NWI) related government decisions.	Cost variations may be immediately transferred to customers using a cost pass-through mechanism, (depending on materiality).

Source: QCA (2012).

As noted in Volume 1, the Authority recommended that short term volume risk should be assigned to customers through a tariff structure that recovers fixed costs through fixed charges and any and all variable costs through volumetric charges.

In response to the QFF (2012), the Authority noted that natural tributary flows downstream of storages are typically part of the assessed system supply and are taken into account in defining WAE for water planning purposes.

The Authority also considered that the risk implications of low flow periods will be reflected in the allocation of fixed costs such as renewals costs and fixed operating costs between MP and HP users. This issue is further reviewed in Chapter 4.

In response to G. Drynan's comment on risk, the Authority accepted that there is volume-related risk borne by irrigators and that revenues can be cyclic. As noted above, the

Authority considered that irrigators are best placed to manage this risk, particularly given that trading of water allocations is an option.

In response to G. Drynan's comment on trading, the Authority accepted that the scope for trading may be limited due to the small market size and restrictions on trading in the Logan River WSS. However, tariffs with a higher proportion of revenue collected from fixed charges may lead to increased volumes of trade.

As noted during Round 1 consultation in June 2012 (QCA 2012c), a temporary increase in trading could reduce the value of WAE in the short term. However, this should not result in any long term effect on lending valuations.

### Trading

The volumes of permanent and temporary water traded in recent years for the Logan River WSS are identified in Table 2.2.

**Table 2.2: Volume of Water Traded in Logan River WSS (ML)**

	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>
Permanent	0	0	999	230
Temporary	201	127	302	317

*Source: Seqwater (2012an and, DNRM (2009, 2010, 2011, 2012).*

### Final Report

The Authority received no scheme specific submissions in regard to the regulatory framework in the Logan River WSS.

### 3. PRICING FRAMEWORK

Under the Ministerial Direction, the Authority is required to recommend Seqwater's irrigation prices (and tariff structures) to apply over 2013-17.

#### 3.1 Tariff Groups

The Ministerial Direction specifically directs the Authority to adopt the tariff groups as proposed in Seqwater's NSPs. Currently, there is only one tariff group for the river segment of the Logan River WSS. Seqwater proposed in its NSP that the current bulk tariff group continues.

Accordingly, the Authority adopted the proposed tariff group for this WSS.

#### 3.2 Tariff Structure

##### Previous Review 2006-11

In the 2006-11 price path, a case was identified for a 53:47 ratio of fixed to variable costs in the Logan River WSS.

While lower bound costs reference tariffs were based on a 70:30 ratio and a 55% water use, additional costs were incorporated into the Part B charge, resulting in the adjusted ratio of 53:47.

##### Draft Report

##### Stakeholder Submissions

###### *Seqwater*

Seqwater (2012an) submitted that during the 2006-11 price path, the volumetric and fixed charges were set to recover a set percentage of lower bound costs, regardless of whether those costs were fixed or variable. This meant that the volumetric charge did not signal the marginal costs of taking water.

Seqwater agreed with the Authority's findings associated with the recent SunWater pricing review that a cost-reflective two-part tariff structure is appropriate. Specifically, the volumetric charge should be set to reflect those costs which are expected to vary with water use over the regulatory period with the fixed charge recovering the balance of costs.

Seqwater (2012an) considered that all costs associated with the provision of irrigation services in the Logan River WSS are fixed. Accordingly, Seqwater proposed to apply a single fixed tariff to Logan River irrigation customers.

###### *Other Stakeholders*

Stakeholders (QFF 2012, QCA 2012c, G. Drynan 2012) submitted that the proposed 100% fixed charge tariff structure will impact on irrigators, provide Seqwater with no incentive to seek out cost efficiencies or provide a higher quality service and would see a large increase in the relative cost per ML when allocations or use are low (that is, the proposed price of \$34.54/ML only occurs when 100% of WAE is used by an irrigator). It may also see a decrease in: the capital value of WAE on a long term basis that may force irrigators to sell or reduce their WAE; and, the use of water harvesting and the availability of credit water as there would be no incentive for Seqwater to provide more zero priced water.

G. Drynan (2012) submitted that the possibility of tariff parts A, B & C should be investigated [the basis for these different parts was not provided].

QFF (2012) submitted that the Authority should consider how price paths could be transitioned to mitigate price impacts and that Seqwater should be able to manage an 80:20 fixed to variable tariff split to help customers to manage overall seasonal conditions and cope with the transition from lower fixed charges.

### Authority's Analysis

The Authority, in Volume 1, analysed the tariff structure and the efficiency implications of the tariff structure, to apply to Seqwater's schemes.

In general, aligning the tariff structure with fixed and variable costs will manage volume risk over the regulatory period and send efficient price signals. To signal the efficient level of water use, the Authority recommended that variable costs be recovered through a volumetric charge, with fixed charges covering the balance of costs.

While noting stakeholders concerns regarding a high fixed charge, particularly in periods of low water availability, under current legislative and contractual arrangements customers must bear all the costs of water supply incurred by Seqwater, irrespective of whether it is made available (provided the costs of supply are efficient and prudent), and irrespective of whether there is a drought.

Further, where a volumetric charge is relatively low (or zero) and, as a result, fixed charges are high, then there are incentives for customers to utilise all of an announced allocation. However, the appropriate degree of utilisation of capacity allocated for consumption can only be determined by irrigators (and other customers) in the light of market conditions for their products, in the knowledge of the cost of water delivered (including on-farm costs) and the understanding of the impact of changed water consumption on their farms.

The Authority also recognised that tariff structures are only part of a mix of institutional arrangements in Queensland designed to direct water to its highest and best use from the overall community perspective. In addition to these institutional arrangements, normal commercial profit motives and water trading are relevant to ensuring water is directed to its highest and best use.

In response to the QFF's (2012) submission regarding the use of transitional price paths, under the Ministerial Direction the Authority must consider the need to implement a price path to moderate price impacts on irrigators, whilst taking into account Seqwater's legitimate commercial interests. Further information on recommended prices for the Logan River WSS is presented in Chapter 6.

The Authority's analysis of cost allocations is addressed in subsequent chapters.

### Submissions Received from Stakeholders on the Draft Report

During consultation in January (2013), stakeholders submitted that it is beneficial in times of low announced allocations, to hold a greater amount of WAE than is normally needed. An increase in the fixed (Part A) charge will make this strategy more expensive.

### Authority's Response to Submissions Received on the Draft Report

Under the Authority's pricing framework, the fixed (Part A) charge is intended to recover the fixed costs of providing water services whether or not water is available. A higher fixed

charge will mean that purchasing WAE to ensure water availability could be more costly, but these costs are offset to some extent by lower volumetric charges (and the on-farm benefits of any increased reliability of water supply).

### 3.3 Water Use Forecasts

#### Previous Review 2006-11

During the 2006-11 price paths, water use forecasts played an essential role in the determination of the tariff structures and prices.

In the previous review, up to 25 years of historical data was collated for nominal WAEs, announced allocations and volumes delivered. The final water use forecasts were based on the long term average actual use level. Where there was a clear trend away from the long term average, SunWater adjusted the forecast in the direction of that trend.

Water use forecasts also took into account SunWater's assessment of future changes in industry conditions, impact of trading and scheme specific issues (SunWater, 2006a).

For the Logan River WSS, SunWater (2006b), assumed a water use forecast of 55% of the nominal amount of MP WAE in the river system, equivalent to 7454ML per year. This was slightly higher than the 25-year average. It was noted that when water was available, relatively high water use rates were achieved at around 80%, but declined to 20% during drought periods with low announced allocations.

#### Draft Report

##### Stakeholder Submissions

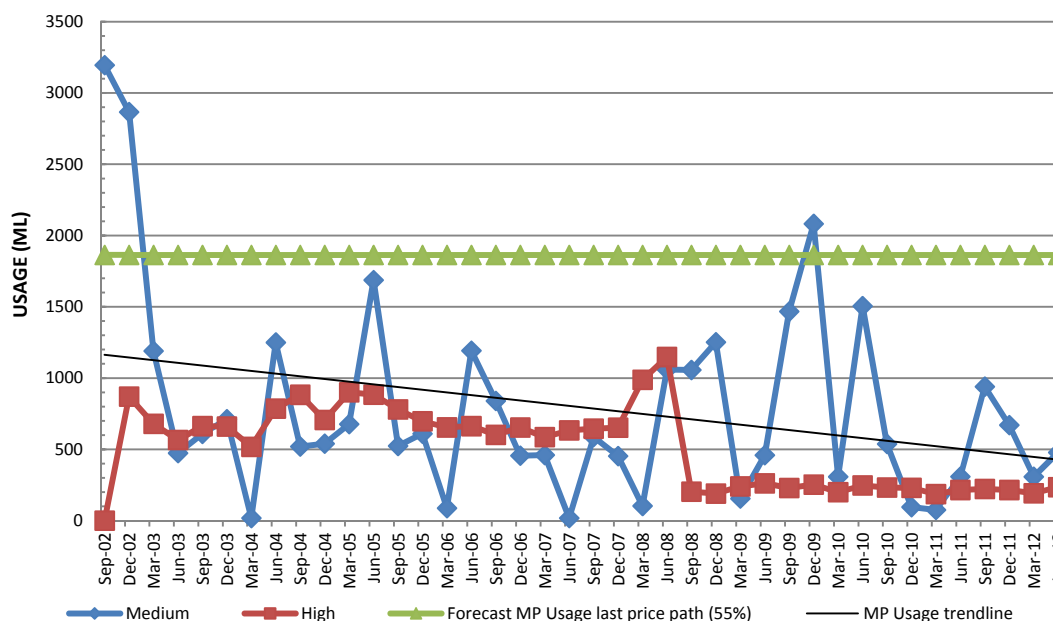
##### *Seqwater*

Seqwater (2012a) confirmed that the previous price path adopted a use forecast at 55% of the nominal amount of WAE, equivalent to 7,454ML/annum or 1,864ML/quarter. Seqwater noted that the continuing drought conditions impacted the availability of water during 2004, 2006 and 2008, and that the average water use over the 2006-11 period was actually only 2,707ML per year. Announced allocations were zero in 2005-06 and 2006-07. Over the nine years to December 2011, average actual water use was 3,267ML per year.

Figure 3.1 shows the historic use information on a quarterly basis since September 2002 for the Logan River WSS submitted by Seqwater (Seqwater, 2012a).



**Figure 3.1: Water Use for the Logan River WSS**



Source: Seqwater (2012an).

The reduction in HP use from July 2008 resulted from the transfer of Beaudesert Shire Council WAE to the SEQ WGM under the SEQ water reforms.

### Other Stakeholders

During consultations in June 2012 (QCA 2012c), irrigators questioned whether credit water was included in water use forecasts. QFF (2012) submitted that water use forecasts should include credit water.

### Authority’s Analysis

The application of two-part tariffs removes the need for water use forecasts, where the fixed tariff reflects fixed costs and the volumetric tariff reflects variable costs.

Water use data is, however, required for the Seqwater irrigation review to address Government’s requirement that current prices (that is, revenues) be maintained and to estimate the cost-reflective volumetric tariffs. Refer Chapter 6 of this report.

The Authority noted that water use historical data included credit water, on the basis that water use is observed in years when there are zero announced allocations (2005-06 and 2006-07).

### Final Report

The Authority received no submissions on water use forecasts.

## 4. RENEWALS ANNUITY

### 4.1 Introduction

#### Ministerial Direction

Under the Ministerial Direction, the Authority is required to recommend a revenue stream that allows Seqwater to recover prudent and efficient expenditure on the renewal and rehabilitation of existing assets through a renewals annuity.

The Ministerial Direction also requires the Authority to have regard to the level of service provided by Seqwater to its customers.

#### Previous Review

During the 2000-06 and 2006-13 price review, a renewals annuity approach was used to fund asset replacement.

As discussed in Volume 1, the renewals annuity for each WSS was developed in accordance with the Standing Committee for Agriculture and Resource Management (SCARM) Guidelines (Ernst and Young, 1997) and was based on two key components:

- (a) a detailed asset management plan, based on asset condition, that defined the timing and magnitude of renewals expenditure; and
- (b) an asset restoration reserve (ARR) to manage the balance of the unspent (or overspent) renewals annuity (including interest).

The determination of the renewals annuity was then based on the present value of the proposed renewals expenditure minus the ARR balance.

The allocation of the renewals annuity between HP and MP users was based on water pricing conversion factors (WPCFs).

#### Issues

In general, a renewals annuity seeks to provide funds to meet renewals expenditure necessary to maintain the service capacity of infrastructure assets through a series of even charges. Seqwater's renewals expenditure and ARR balances include direct, indirect and overhead costs (unless otherwise specified).

The key issues for the 2013-17 regulatory period are:

- (a) the establishment of the opening ARR balance (at 1 July 2013), which requires reviewing whether renewals expenditure in 2006-13 was prudent and efficient;
- (b) the prudence and efficiency of Seqwater's forecast renewals expenditure; and
- (c) the methodology for apportioning renewals between MP and HP WAEs; and
- (d) the methodology to calculate the renewals annuity.

The Authority's approach to addressing these and related issues is outlined in Volume 1.

Seqwater estimated that it has under management about 74 bulk water storage assets relevant to entitlement holders in the SEQ, including irrigators, local government

authorities, industrial users and the SEQ WGM. Seqwater (2012an) submitted that asset management practice within Seqwater does not distinguish between irrigation and non-irrigation assets - that is, assets are managed as a portfolio and not on an industry sector basis.

Seqwater submitted that renewals and refurbishments are determined through a strategic asset management process. This process and its outcomes are documented in the Facility Asset Management Plans (FAMPs), which are being rolled out across all assets.

Seqwater submitted that irrigation assets are currently not as advanced in this process as the high priority water treatment plants.

Some of the assets were renewed during 2006-13. Others are eligible for renewal during 2013-17. Depending on their asset life, some are renewed several times during the Authority's recommended 20-year planning period.

It was therefore not practicable within the timeframe for the review, nor desirable given the potential costs, to assess the prudence and efficiency of every individual asset.

The Authority has relied on its consultants Sinclair Knight Merz (SKM) to comment upon Seqwater's renewals expenditure items. Across all schemes, a total of 12 forecast and two past renewals items were reviewed. The forecast items included meter replacement costs.

The findings of these detailed reviews are applied to other similar renewal items to determine the prudence and efficiency of this expenditure.

## 4.2 Seqwater's Opening ARR Balance (1 July 2013)

A renewals annuity approach requires ongoing accounting of renewals expenditure and revenue.

The opening ARR balance for 2013-17 (as at 1 July 2013) is based on the opening ARR balance for the current price path (1 July 2006), less renewals expenditure, plus renewals revenue and an annual adjustment for interest over the 2006-13 period.

### Previous Review

The 2006-11 price paths were based on the opening ARR balance at 1 July 2006.

Seqwater (2012an) submitted that the opening balance for the Logan River WSS was negative \$358,552.

In Volume 1, the Authority noted that the opening ARR balance in 1 July 2006 is not subject to review for the 2013-17 regulatory period.

### Draft Report

#### Stakeholder Submissions

##### Seqwater

Seqwater engaged Indec Consulting (Indec 2012) to establish the 1 July 2013 opening ARR balances. Indec established opening bundled ARR balances for 1 July 2013 by:

- (a) establishing a closing ARR balance on a whole of scheme (or all sectors) basis at 30 June 2006;

- (b) calculating balances based on actual renewals expenditure and revenue from 1 July 2006 to 30 June 2011;
- (c) applying the available Seqwater actual and forecast renewals expenditure and revenue for 2011-12 and 2012-13 for all sectors; and
- (d) applying Seqwater's proposed interest rate of 0% for 2000-06 and 9.69% for 2006-13.

#### Past Renewals Expenditure 2006-13

Actual direct renewals expenditure was below that initially forecast over the 2006-11 period (Table 4.1).

**Table 4.1: Forecast and Actual Direct Renewal Expenditure 2006-11 (Nominal \$)**

<i>Tariff Group</i>	<i>Forecast 2006-11</i>	<i>Actual 2006-11</i>	<i>Variance</i>
Logan River	288,135	252,002	(36,133)

*Source: Indec (2012). Note: Nominal totals are used in this table. A broad comparison of nominal values over the period is considered reasonable in view of the distribution of costs over the period.*

Annual amounts of actual expenditure are shown in Table 4.2, allocated between direct and non-direct costs.

**Table 4.2: Past (Actual) Renewals Expenditure 2006-11 (Nominal \$)**

	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>
Direct	39,390	59,243	0	59,162	94,207
Non-Direct	16,655	17,700	0	18,019	28,693
Total	56,045	76,943	0	77,181	122,900

*Source: Indec (2012).*

Seqwater's forecast renewals expenditure for 2011-13 are based on a combination of actual renewals expenditure for 2011-12 and forecast expenditure for 2012-13. The relevant amounts are as shown in Table 4.3.

**Table 4.3: Renewal Expenditure 2011-13 (Nominal \$'000)**

<i>Tariff Group</i>	<i>Actual 2011-12</i>	<i>Forecast 2012-13</i>	<i>Total</i>
Logan River	22,933	72,308	95,241

*Source: Indec (2012).*

#### Opening ARR Balances 1 July 2013

Based on the steps noted above, Seqwater's submitted opening balance for 1 July 2013 is as shown in Table 4.4. The 1 July 2006 opening balance is also provided for reference.

**Table 4.4: Opening ARR Balance, 1 July 2013 (Nominal \$)**

<i>Tariff Group</i>	<i>Seqwater ARR Balance 1 July 2006</i>	<i>Seqwater Proposed ARR Balance 1 July 2013</i>
Logan River	(358,552)	(707,153)

Source: Indec (2012).

Seqwater's estimated balance of negative \$707,153 represented a significant adjustment from the initial estimate of negative \$932,884 provided in the April NSP (Seqwater 2012e).

#### *Other Stakeholders*

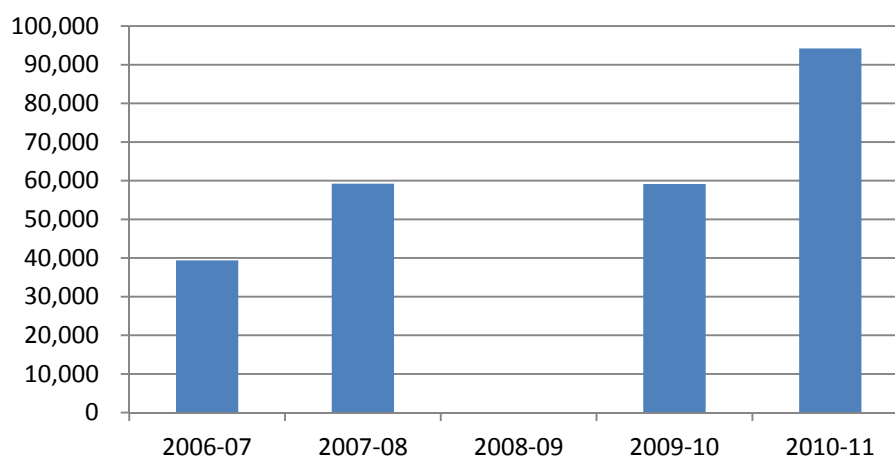
QFF (2012) queried why there was a negative ARR balance of -\$0.933 million for the scheme. Additionally as Wyaralong Dam, Cedar Grove Weir, and the Bromelton Off-Stream Storage have been excluded from irrigation lower bound pricing, QFF questioned whether this meant that this infrastructure has also been excluded from the HUF assessment.

During consultations in June 2012 (QCA 2012c), irrigators queried whether flood damage costs have been included in ARR balances, including insurance revenue.

#### *Authority's Analysis*

##### *Renewals Expenditure 2006-13*

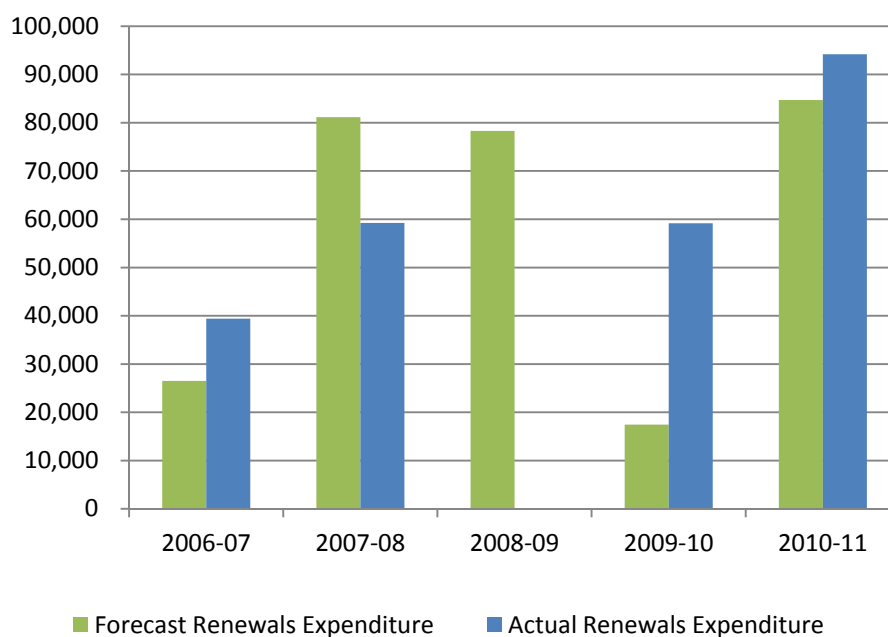
The total renewals expenditure over 2006-11 is detailed in Figure 4.1.

**Figure 4.1: Past (Actual) Direct Renewals Expenditure 2006-11 (Nominal \$)**

Source: Indec (2012).

A comparison of forecast and actual direct renewals expenditure in the Logan River WSS for 2006-11 is shown in Figure 4.2.

**Figure 4.2: Comparison of Forecast and Actual Direct Renewals Expenditure 2006-11 (Nominal \$)**



Source: Indec (2012).

In relation to the prudence and efficiency of past renewals, the Authority noted that for the first two years of the 2006-11 price paths, SunWater managed the renewals expenditure program. Relevant WSSs were transferred to Seqwater on 1 July 2008.

For the SunWater review, the Authority excluded from prices 4% of un-sampled renewals expenditure during 2006-11. This was on the basis that the Authority's review of a sample of past renewals items indicated cost savings of approximately 4%.

If the seven (now Seqwater and former SunWater) WSSs had been part of the SunWater review, the 4% cost reduction would have applied, as the same (SunWater) approach applied to asset planning and expenditure in the (now) Seqwater WSS.

The Authority recommended, therefore, that 4% of past renewals expenditure, for the two years that these WSSs remained under SunWater's management (1 July 2006 to 30 June 2008), be deducted from Seqwater's ARR balances.

The question remained whether any cost reductions should also apply for 2008-13, once the WSSs were transferred to Seqwater.

As previously outlined, the Authority engaged engineering consultants SKM to review Seqwater's renewals items for prudence and efficiency. The Authority did not specifically review any past capital expenditure items in the Logan River WSS.

SKM found that based on the inability of Seqwater to substantiate renewals expenditure incurred in 2008-09 (the first year owning former SunWater schemes), 100% of expenditure incurred in this year (all WSSs) could not be considered prudent and efficient in Logan River WSS.

For 2009-10 and beyond, however, Seqwater recorded renewal expenditure in a more detailed and verifiable way. As part of the SKM review, two past renewals items were

selected in the Mary Valley WSS with the findings considered for application to other renewals items in other schemes. Based on this review, expenditure in 2009-11 was considered to be prudent and efficient.

### Conclusion

As outlined in Volume 1, Chapter 5 - Renewals Annuity:

- (a) a cost saving of 4% is to apply to past renewals, consistent with the Authority's approach to SunWater, for the period 2006-08 when SunWater operated the now Seqwater assets;
- (b) as Seqwater was unable to substantiate past renewals expenditure for its first year of operating the former SunWater WSSs (2008-09), renewals expenditure in that year has been reduced to zero; and
- (c) all renewals expenditure 2009-2013 has been accepted by the Authority.

Based on this approach, the Authority recommended that past renewals expenditure be adjusted as shown in Table 4.5.

**Table 4.5: Review of Past (Direct) Renewals Expenditure 2006-13 (Nominal \$)**

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Seqwater Proposed	39,390	59,243	0	59,162	94,207	22,933	72,308
Authority Recommended	38,283	57,418	0	59,162	94,207	22,933	72,308

Source: Indec (2012) and QCA (2012).

### Opening ARR Balance (at 1 July 2013)

Based on the Authority's assessment of the prudence and efficiency of past renewals expenditure, the recommended opening ARR balance for 1 July 2013 for Logan River WSS is negative \$700,646, compared to Seqwater's proposed negative \$707,153.

In response to QFF on the negative ARR balance, the Authority noted that Seqwater resubmitted its NSP for Logan River WSS, resulting in a new ARR balance as noted above.

The Authority reviewed Seqwater's proposed methodology for calculating an ARR balances for 1 July 2013, and the prudence and efficiency of past renewals expenditure. This resulted in a revised ARR balance for the Logan River WSS of negative \$700,646.

In response to whether previous costs associated with certain infrastructure have been included in HUF calculations, the Authority confirmed that prudent and efficient costs associated with Wyalong Dam, Cedar Grove Weir and Bromelton off-stream storage have been included.

In response to irrigators questioning whether previously incurred flood damage costs have been included in ARR balances, Seqwater confirmed that these costs will be met in their entirety, by insurance. As a consequence, no flood damage costs were included in ARR balances.

## Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) agreed with the Draft Report recommended opening ARR balances.

## Authority's Response to Submissions Received on the Draft Report

The Authority proposes no change to its Draft Report recommendations in regard to ARR balances.

### 4.3 Forecast Renewals Expenditure

To calculate a renewals annuity, it is necessary to determine if forecast renewals expenditure is prudent and efficient.

#### Draft Report

##### Stakeholder Submissions

##### *Seqwater*

Seqwater (2012aj) based its renewals expenditure forecast, for the purpose of irrigation prices for the period 2013-17, on significant and predictable renewals expenditure items only. Seqwater did not include minor renewals projects (under \$10,000) or water treatment plants in recreation areas (regardless of cost) as part of its forecast costs.

Seqwater's approach was adopted to focus the renewals forecasting effort on major predictable items of renewals expenditure. Seqwater used the existing FAMPs; the existing asset maintenance program; reports from site safety and dam safety inspections; and advice from operators.

Seqwater then evaluated potential items against criticality [that is, whether or not the item is critical to maintain, for example, water supply or regulatory compliance] and other criteria. Seqwater also conducted workshops with local staff, as well as site inspections, to validate and adjust the scope and timing of forecast renewals items.

Seqwater submitted a summary of significant (higher than average) proposed renewals expenditure items for the Logan River WSS as presented in Table 4.6.

**Table 4.6: High Value Forecast Direct Renewals Expenditure 2013-17 (Real \$'000)**

<i>Facility</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Bromelton Weir	0	5	0	0
Logan Gauging Station	0	0	0	0
Maroon Dam	130	10	0	0
Water flow-meters	66	66	34	34
<b>Total</b>	<b>196</b>	<b>81</b>	<b>34</b>	<b>34</b>

*Source: Seqwater (2012an). Note: The Table contains items that have a higher than average value (HAV) and which would have an impact of 10% or greater on the annuity.*

The major expenditure items incorporated in the above estimates (in 2012-13 \$) are:



- (a) refurbishment of gantry and hoist at Maroon Dam, costing \$40,000 in 2013-14; and
- (b) replenishment of rip rap on dam wall embankment at Maroon Dam costing \$40,000 in 2013-14.

Additional, major expenditure items in the years after 2016-17 are:

- (a) refurbishment of intake and outlet works at Maroon Dam, costing \$70,000 in 2017-18; and
- (b) replace cables and cableways at Maroon Dam costing \$105,000 in 2032-33.

As part of its renewals program, Seqwater is also seeking to recover the cost associated with water meters. Specifically, Seqwater's business case in this regard outlines costs for: replacing existing meters; moving meter locations to comply with Workplace Health and Safety (WHS) requirements; and modifying existing meter works to comply with the meter manufactures' specifications (to ensure accuracy).

For Logan River WSS, the proposed metering costs are as detailed in Table 4.7.

**Table 4.7: Seqwater's Proposed Metering Costs (Real \$'000)**

<i>Tariff Group</i>	<i>Phase 1: 2012-13 to 2014-15</i>	<i>Phase 2: 2015-16 to 2021-22</i>	<i>Phase 3: 2022-23 to 2035-36</i>	<i>Total</i>
Logan River	132	238	154	524

*Source: SKM (2012). Note: Costs in each column are the sums of costs within the indicated range of years.*

Seqwater's forecast renewal expenditure items greater than \$10,000 in value, for the years 2011-12 to 2035-36 are provided in Appendix A.

#### *Other Stakeholders*

QFF (2012) also questioned whether any of the following projects included flood related costs:

- (a) refurbishment of Bromelton Weir valve; and
- (b) replacement of the piezometer hut, gantry and hoist and rip rap at Maroon Dam.

During Round 1 consultation (2012), stakeholders submitted that they require more information on the proposed renewals expenditure to determine whether they are prudent and/or efficient.

#### *Authority's Analysis*

The Authority commissioned SKM to review Seqwater's procurement, asset performance and condition assessment policies and procedures and to determine whether they represented good industry practice.

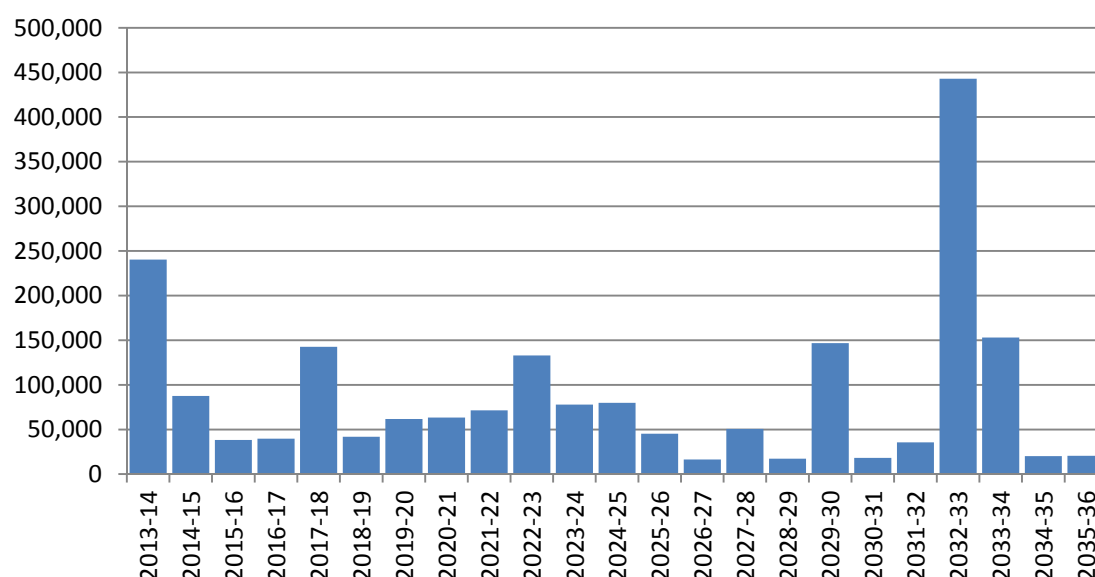
SKM concluded that although Seqwater may not currently have good asset condition information due to the lack of condition information transferred from previous operators, the policies and procedures Seqwater has adopted to assess the condition of its assets will rectify this situation over time. Accordingly, SKM considered Seqwater's approach represents good industry practice.

SKM concluded that Seqwater has made progress in developing robust asset management processes and procedures for comprehensive asset information.

### Total Costs

Seqwater's proposed renewals expenditure for 2013-36 for the Logan River WSS is shown in Figure 4.3.

**Figure 4.3: Forecast Renewals Expenditure (Direct) 2013-36 (Nominal \$)**



Source: Seqwater (2012au).

The Authority noted QFF's question regarding whether insurance should be off-setting some forecast renewals costs. Seqwater confirmed that insurance is only applicable to flood-related damage and that for the purpose of pricing, no flood-related costs were included when forecasting renewals expenditure on the expectation that insurance revenues will account for all flood related damage costs.

In addition, Seqwater considered that the renewals items nominated by QFF (that is, refurbishment of Bromelton Weir valve and the replacement of the piezometer hut, gantry and hoist and rip rap at Maroon Dam) do not reflect works in response to flood damage.

In response to Logan River WSS irrigators, the information made available to the Authority's consultant was considered appropriate for the purpose of determining whether Seqwater's forecast renewals expenditure is prudent and efficient. Where, for whatever reason, the consultant considered that information at hand was insufficient to establish the prudence and efficiency of that expenditure, the Authority applied a reduction.

### Item Reviews

SKM reviewed the prudence and efficiency for a sample of items across all Seqwater WSSs. Those of relevance to Logan River WSS are discussed below.

Items reviewed included:

- (a) specific items sampled in the Logan River WSS (Item 1); and

- (b) items reviewed in other WSSs where the conclusions were considered by SKM to be appropriate for application to Logan River WSS (Items 2 to 6).

#### **Item 1: Bromelton Weir - Telemetry**

##### **Seqwater**

The project provides for the replacement of gauging and telemetry assets, which are considered to be at the end of their design lives at the Bromelton Weir.

This renewals item is scheduled to occur in 2022-23 and again in 2032-33 at a cost of \$35,000 for each installation, for a total of \$70,000.

##### **Other Stakeholders**

No other stakeholders provided comment on this item.

##### **Consultant's Review**

###### *Project Status*

The project is a recurring one, and is brought about by the age of the existing electronic and communications equipment.

In response to a request for information issued by SKM, Seqwater confirmed that the telemetry upgrade originally scheduled for 2013-14 has already been completed. No record was available which documented the costs for this upgrade. However, on the understanding that the estimate for the future upgrades was based upon these actual costs, SKM accepted the cost would have been in the order of \$35,000.

While the original budgeted period was for the 2013-14, 2023-24 and 2033-34 financial years (for a total of \$105,000), the 2013-14 project was brought forward to 2012 opportunistically using external funding made available by the Bureau of Meteorology (BOM). The funding was ad hoc, arising from BOM's own identified needs relating to hydrological modelling (possibly following the recent flood events) and is considered to be unlikely to be repeated on future occasions when the assets are due to be replaced.

The project is currently at the end of the validation and planning stage. Information available to SKM provides justification for the works based upon accepted criteria and provides a suitable time frame for implementation. SKM considered the current position in the Seqwater Asset Delivery Framework as appropriate given the value and timing of this project. The project is ready to proceed to the purchasing and implementation phase.

###### *Provided Documentation*

The documents used for this review are:

- (a) Water Monitoring Data Collection Standards, Version 2.1 Natural Resources and Water, March 2007;
- (b) Logan Basin Resource Operations Plan, Department of Environment and Resource Management, December 2009;
- (c) Irrigation Infrastructure Renewal Projections – 2013/14 to 2046/47 – Report on Methodology, Seqwater, April 2012;

- (d) SM Project Outline: Bromelton Weir Telemetry, Seqwater, undated; and
- (e) Information Request Response – QCA Irrigation Price Review 2013-17: RFI002 Bromelton Weir Telemetry, Seqwater, 8 August 2012.

The documentation received was considered sufficient for the purposes of this prudence and efficiency assessment.

### *Prudence*

The need for this project has been determined as required to fulfil the regulatory obligations as specified in the Interim Resource Operations Licence (IROL).

This need is supported by reference to Tables 13 and 14, Logan Basin ROP, which requires continuous time series data for the water level (headwater) and the stream flow (tail-water). The proposed telemetry equipment will fulfil these requirements.

The level of service required in accordance with the Resource Operating Licence (ROL) is for continuous time series data for water levels (headwater) and stream-flow (tail-water). SKM interpreted this as a requirement for the provision of real-time data – hence the need for a radio link to transmit the data. The proposed telemetry equipment will fulfil these requirements. While it would be possible to accumulate the data at site and store it as an historical file for periodic retrieval, SKM did not believe this is the ROL's intention. For the small incremental cost of a radio transmitter and antenna, estimated at sub \$1,000, real-time data can be made available in the public domain. Compared with the alternative of no telemetry, this cost should be off-set against the cost of an operator required to regularly visit the sites, manually download the data and then upload it to a central location. For this reason SKM considered a telemetry system is the practical solution.

The telemetry function is of limited value to the irrigators as it is not used for controlling water flow to irrigators, although discussions with operators revealed it was occasionally useful during times of high river flows to take opportunity of water harvesting, and could possibly be used for other purposes such as trending analysis. However, as the telemetry function is a ROL condition, it can reasonably be argued that it was the irrigators that triggered the need for a licence for the dam and hence they should pay for the necessary infrastructure to meet the licence condition. This is a position supported by SKM.

In summary, the project supports the need for replacement of the telemetry system at Bromelton Weir and as such is prudent both in terms of need and timing.

### *Timing of asset replacement or refurbishment*

The age of the existing asset is one year. The expected life of the asset is 10 years; hence the next programmed replacement is scheduled for 2022-23.

A visual inspection was carried out on 16 August 2012. As discussed above, the equipment was replaced earlier this year. This was made possible with funds from BOM. As would be expected the equipment was observed to be in good working condition. No records of previous condition assessments were available.

SKM indicated that this type of equipment can normally be expected to reach obsolescence after about 10 years, beyond which it can be expected to suffer a reduction in reliability due to an increased component failure rate and a lack of service support. Sometimes the life may be extended. However, in SKM's experience, 10 years can be considered typical. On this basis, the timing of the asset replacement is considered appropriate.

### *Scope of Works*

There are a number of methods of level gauging available in industry but the method adopted by Seqwater involves use of a bubbler tube through which low pressure air is supplied. The outlet of the tube is near the bottom of the stream channel, and the air pressure required to achieve a minimum air flow can be used to infer the water level. This is a very simple method of fluid level measurement, appropriate for the level of accuracy required. It is also robust, with no electronic field sensors, has minimal moving parts and, provided the electronic components are appropriately housed, as is the case at Bromelton Weir, should offer very reliable service.

Other methods available include use of ultrasonic float-sensors and electrical capacitance devices, all of which involve more complex field-mounted sensors which are susceptible to damage through deterioration, storm or vandalism.

SKM considered this method of stream gauging selected by Seqwater to be appropriate for the application.

Telemetry equipment is required for the transmission of the water levels to Seqwater central locations and for this information to be made continuously available to stakeholders via the internet. Seqwater has chosen a simple radio link (with battery back-up) to achieve this. Alternatives would include connection to a telephone landline (not yet available at Bromelton Weir) but this would be susceptible to washout during floods. Alternatively a microwave link could be used but this would require expensive towers to achieve the “line-of-sight” links needed for repeater stations.

SKM considered this method of telemetry selected by Seqwater to be appropriate for the application.

On the basis of the above commentary, with consideration of the options available and the eventual equipment selection the project was assessed as prudent.

### *Efficiency*

The proposed works will be a relatively straightforward process involving like-for-like direct replacement of existing equipment with a system of similar capability. The works will need to comply with standard electrical installation techniques, in particular the Australian Wiring Rules AS/NZS 3000. The system will use existing allocated radio frequencies for the telemetry link and will not require additional licensing.

Seqwater provided a breakdown of the cost estimate for the replacement works. The major supply components of the cost have been verified independently by SKM by means of market quotations, and other cost components (such as install costs and design costs) have been estimated by SKM from historic, benchmark costs from similar projects. The summary of the cost comparison is shown in Table 4.8.

**Table 4.8: Bromelton Weir Cost Estimates**

<i>Item</i>	<i>Seqwater Estimate</i>	<i>SKM Estimate</i>
Design	\$7,500	\$5,500
Procurement	\$2,500	\$2,500
Supply and Installation		
Campbell Scientific CR1000 Data Logger	\$4,300	\$3,800
2 x HW Air Force Compressor Bubblers	\$8,800	\$15,500
McVan Tipping Bucket Rain Gauge	\$2,100	\$2,100
Ancillaries	\$1,800	\$1,800
Seqwater Internal Costs	\$8,000	\$8,500
<b>Total</b>	<b>\$35,000</b>	<b>\$39,700</b>

Source: SKM (2012).

The differences between SKM and Seqwater estimates are due mainly to SKM market enquiries results and different capital cost multipliers used for installation. Seqwater may be able to negotiate alternative prices. As the total variance between the SKM estimate and the Seqwater estimate is less than 30%, the Seqwater estimate was accepted as reasonable and hence efficient.

### Authority's Analysis

Based on SKM's analysis, the Authority accepted that the expenditure of \$70,000 is shown to be prudent and efficient. Seqwater's original proposal for a cost of \$105,000 is therefore considered not efficient, but it was noted that the additional installation was effectively externally funded by the BOM.

### Item 2: Meter Replacements

#### Seqwater

Seqwater submitted that expenditure of \$132,000 in 2013-14 to 2014-15, \$238,000 for 2015-16 to 2021-22 and \$154,000 in later years is required to replace water meters in the Logan River WSS.

#### Other Stakeholders

No other stakeholders made comment regarding this item.

#### Consultant's Review

SKM reviewed the metering requirements in the Central Lockyer and Mary Valley WSSs. The results of this review were considered for application to all WSSs except Central Brisbane River WSS. The detailed SKM review is provided in Volume 1.

#### Project Description

This project involves renewal of water meters in all Seqwater's irrigation schemes including Logan River WSS. Metering is required for management of water supplies, reporting and

billing purposes. Seqwater advised that it has two types of meters: river meters and groundwater meters. Most meters are river meters with groundwater meters only in the Central Lockyer Valley WSS.

### *Prudency*

SKM's conclusions in regard to the prudency of meter replacement costs across the two reviewed schemes (and inferred for Logan River WSS) were:

- (a) meters are required to comply with monitoring requirements outlined in the ROP (or IROL in relevant schemes). Management of health and safety risks is also a legitimate driver for the project;
- (b) in condition assessments of meters in the reviewed schemes, the vast majority of meters (over 80%) were found to be in need of refurbishment or replacement. SKM considered the standard asset life of 15 to 20 years to be reasonable and in keeping with industry practice;
- (c) Seqwater intends to replace the existing meters with meters that meet workplace health and safety requirements with installation modifications to meet manufacture's guidelines. SKM supports this proposed high level scope of works with installation modifications to meet manufacture's guidelines was considered appropriate to as the best means of achieving the desired outcome of providing flow measurements to meet the requirements of the relevant ROP; and
- (d) the installation of lower cost mechanical meters was supported (rather than NWI compliant magnetic flow meters) on the grounds there are very few high use irrigators and use levels change frequently. SKM also supports Seqwater's decision to replace the existing meters with relatively low cost mechanical meters.

Across all schemes (except Central Brisbane River WSS), SKM noted that Seqwater had identified 700 active meters (of 1400 WAE holders), but proposed that 775 meters be replaced over a seven-year staged programme. SKM speculated this discrepancy may be due to an allowance for the number of meters to increase over time as part of a re-uptake of water licences. However, this was not specifically stated by Seqwater and no justification was provided for this assumption. Accordingly, the additional 75 meters were considered not to be prudent.

In summary, SKM found that:

- (a) for the first three years, 2012-13 to 2014-15, the proposed replacements at 95 meters per year to meet workplace health and safety standards is prudent;
- (b) for the seven years, 2015-16 to 2021-22, meter replacements at 70 per year were considered prudent for the first 6 years, but not the final year; and
- (c) for 2022-23 onwards, ongoing renewal at 70 per year was considered only partially prudent, that is, meter replacement was not required for all years. On the basis that the fleet of at least 700 active water meters will have been replaced during the first 10 years of the program, and the useful asset life of the meters is 15 to 20 years, there should be no planned replacements until after these assets have passed their useful lives. SKM considered the renewal of meters from 2022-23 to 2027-28 not to be prudent.

Overall, SKM considered the meter replacement program to be partially prudent.

### Efficiency

SKM estimated the costs of a single meter installation based on Seqwater's proposed standard installation and compared this with Seqwater's estimate of a single meter.

The comparison is shown in Table 4.9.

**Table 4.9: Comparison of Meter Installation Costs**

<i>Item</i>	<i>Seqwater (\$)</i>	<i>SKM (\$)</i>	<i>Difference</i>
Parts – new flow meter	600	875	46%
Contractors – installation	4,000	5,700	43%
Management costs	2,000	1,600	(20%)
<b>Total</b>	<b>6,600</b>	<b>8,175</b>	<b>24%</b>

Source: SKM (2012).

SKM considered that the lower cost proposed by Seqwater could be explained by the bulk purchasing of meters and the cost savings from appointing a single contractor on the overall project. SKM considered Seqwater's proposed cost to be efficient. A comparison of Seqwater's proposed costs and SKM's revised costs for Logan River WSS are outlined below in Table 4.10.

**Table 4.10: SKM's Estimated Partially Prudent and Efficient Metering Costs Compared (Real \$'000)**

	<i>2013-14 to 2014-15</i>	<i>2015-16 to 2021-22</i>	<i>2022-23 to 2035-36</i>	<i>Total</i>
Seqwater proposed costs	132	238	154	524
SKM revised costs	132	196	101	429

Source: SKM (2012).

### Authority's Analysis

The Authority noted the outcome of the SKM review that expenditure associated with Item 6: Metering is efficient in terms of the costs per meter and expenditure incurred in 2013-14 and 2014-15. However, SKM noted issues associated with the proposed timing of replacement and the number of meters to be replaced in later years. The expenditure is therefore partially prudent in these later years.

The Authority, based on the SKM analysis, concluded that the expenditure associated with metering associated with the Logan River WSS be adopted as outlined, above, in Table 4.6.

### Submissions Received from Stakeholders on the Draft Report

Seqwater (2013e) submitted that it is undertaking meter replacements due to safety considerations and to ensure meters meet manufacturer specifications. In certain circumstances Seqwater will replace meters that are five years old if they are non-compliant for safety, accuracy or other reasons.



Seqwater noted that SKM disagreed with the shorter (10 year) meter lives Seqwater ascribed to meters. The longer (15 year) lives recommended by SKM are consistent with meters operating in reticulated water systems where the quality of the water is higher than the quality of raw water pumped from rivers and streams for irrigation purposes.

Seqwater submitted that irrigation meter life is shorter than urban meters as they are subjected to raw, unfiltered water that has a content high in sand and organic matter dramatically shortens meter lives. After five to six years operating under these conditions, the accuracy of irrigation meters deteriorates.

### Authority's Response to Submissions Received on the Draft Report

The Authority notes Seqwater's responses and that some such meters may be replaced within SKM's recommended 15-year life, which is reasonable where justified by condition assessment or a least-cost approach. Some meters, however, may not need replacing every 15 years, but can be maintained for a longer period where it is cost effective and compliant to do so (that is, meters remain accurate and safe). The Authority continues to support an average 15-year life and notes that Seqwater must continue to demonstrate that costs are prudent and efficient, for such costs to be included in future prices.

Seqwater's metering business case does not aim to replace meters in perfectly good working order. In certain circumstances (referred to Seqwater's submission), Seqwater will repair or replace these meters for reasons including non-compliance with WHS legislation and/or manufactures guidelines and will take a least-cost approach. Half of the irrigation meters will be replaced under the program.

As the Authority has not identified any grounds to alter its Draft Report approach, the recommendation to accept SKM's findings is maintained.

#### **Item 3: Maroon Dam Telemetry**

##### Seqwater

This renewals item is for works associated with telemetry at Maroon Dam, scheduled for 2022 and 2032, at a cost of \$20,000.

##### Other Stakeholders

No other stakeholders provided comment regarding this item.

##### Consultant's Review

SKM reviewed similar proposed expenditure at Bromelton Weir (see Item 1 above) and at Cedar Pocket Dam WSS.

SKM indicated that, as no work description was available for the Maroon Dam project, no assessment of the application of the findings of the similar projects could be made. Because of insufficient information, SKM could not conclude on prudence and efficiency.

##### Authority's Analysis

The Authority accepted SKM's conclusions. The Authority regarded the item as unsampled and applied a 13% generic saving.

#### Item 4: Logan River Gauging Stations

##### Seqwater

This renewals item is the replacement of the Logan River Gauging Station scheduled for 2022-23 and in 2032-33 at a total cost of \$104,000.

##### Other Stakeholders

No other stakeholders provided comment regarding this item.

##### Consultant's Review

SKM reviewed similar proposed capital expenditure on gauging stations in the Central Lockyer Valley WSS. This project involved works in 2022-23 and in 2032-33 at a total cost of \$143,400, a revised cost estimate compared to the initial provision of \$120,000, following Seqwater's experience from the Bromelton Weir telemetry upgrade. Given similar characteristics, the results of this review were considered for application to the Logan River gauging stations.

The nominated works for this project are replacement of both upstream and downstream gauging equipment on a 10-year recurring interval. SKM considered the 10-year life appropriate as electronic and communications equipment becomes obsolete after such a period, with less reliability, increased component failure and a lack of service support.

##### Prudency and Efficiency

SKM considered the gauging stations associated with the storages in the Central Lockyer Valley WSS are prudent on the basis that they are required to enable continuous data recording as required under the IROL. SKM considered that other gauging stations, on Lockyer and Redbank Creeks, are needed to maximise diversions to Clarendon Dam while ensuring there is no breach of diversion restrictions.

SKM was satisfied that the gauging technology used is appropriate. SKM also considered Seqwater's telemetry method of a simple radio link with battery back-up to be appropriate.

In the Central Lockyer Valley, SKM estimated a cost of \$86,000 for each renewal, compared to Seqwater's \$71,700. SKM therefore considered the Seqwater estimate to be efficient.

In applying the findings to Logan River WSS, SKM concluded that given the gauging stations are required under the IROL, the findings on prudency can be applied.

However, SKM concluded that in the absence of more relevant details (such as the type of gauging stations involved) SKM is unable to establish whether the cost estimates are efficient.

##### Authority's Analysis

The Authority accepted SKM's conclusion that it was prudent for the gauging stations to be replaced. Given the similar nature of the assets, and the fact that SKM's estimate for the Central Lockyer stations was higher than Seqwater's, the Authority considered that there is sufficient basis to conclude that the proposed expenditure on gauging stations in the Warrill Valley WSS is also efficient.

## Item 5: Maroon Dam Intake - Trash Screens

### Seqwater

These renewals items are for the refurbishment of trash screens at Maroon Dam at a cost of \$36,000 in 2030.

### Other Stakeholders

No other stakeholders provided comment regarding this item.

### Consultant's Review

SKM reviewed trash screen refurbishment for the Clarendon Diversion in the Central Lockyer WSS, which was considered for comparison with Maroon Dam trash screens.

Trash screens provide protection from damage arising from debris entering pumps. Refurbishment involves removal of the screens from the pump well, preparation of the surface and application of 2-pac epoxy paint. The project involves a cost of \$10,000 in 2014-15, then occurring five-yearly thereafter.

Given project similarities, the results of this review were considered for application to the forecast replacement of trash screens of the Upper Warrill and Kent's Lagoon Diversion.

### *Prudency and Efficiency*

SKM concluded that the proposed periodic refurbishment of corrosion protection on the Clarendon Diversion trash screens is prudent to ensure operation of the system and avoidance of damage to pumps. SKM indicated that Seqwater's standard useful life of trash screens is 70 years, with refurbishment every five years in pump stations and every 10 years in dams. SKM considered the five-yearly refurbishment period appropriate and in keeping with industry practice.

In the case of the Clarendon Diversion, SKM noted that the trash screens are submerged and require removal by a crane. Refurbishment then involves patch-painting, stripping screens to bare metal where rust is evident, applying primer and undercoat to those areas, then a top-coat to the entire screen.

SKM estimated the cost of refurbishment at Clarendon Diversion to be \$11,500 compared to Seqwater's proposed \$10,000. SKM considered Seqwater's cost to be prudent and efficient.

However, SKM noted that the trash screen projects in Seqwater's schemes range significantly in cost. As an example, refurbishment of trash screens at Clarendon Diversion are forecast to be \$10,000 every five years, while for Upper Warrill Diversion the forecast is for a one-off replacement of the inlet trash screen in 2025 at a cost of \$3,000.

In addition, there are a number of variables including design, size, location (that is, pump station, weir, and dam), site-specific conditions (such as flow of creek/river/dam) and whether the renewals expenditure is for replacement or refurbishment. SKM noted that as the Maroon Dam expenditure is for refurbishment, the conclusions could be applied to that project.

## Authority's Analysis

The Authority noted the outcome of the SKM review that the conclusions regarding Clarendon Diversion trash screens could be applied to the Maroon Dam trash screens. The expenditure was therefore considered prudent and efficient.

### Item 6: Bromelton Weir – Road Refurbishment

#### Seqwater

Seqwater submitted a cost of \$60,000 for refurbishment of the Bromelton Weir road in 2018, 2028, 2033 and 2038.

#### Other Stakeholders

No other stakeholders provided comment regarding this item.

#### Consultant's Review

SKM reviewed two road-related projects in other WSS – Warrill Creek Diversion Weir access road and Clarendon Diversion Access Road in the Central Lockyer WSS. The results of these reviews were considered for application to the Bromelton Weir road refurbishment.

SKM considered that the Clarendon Diversion access road is similar in that it involves periodic refurbishment over the planning period.

SKM considered the Clarendon Diversion road refurbishment project to be prudent as it is required to provide access for operating activities. In terms of efficiency, SKM estimated a cost significantly higher than that proposed by Seqwater (\$374,750 compared to \$193,850). SKM therefore considered Seqwater's estimate to be efficient, but recommended costs be reviewed to confirm the scope of works.

SKM considered that the findings of prudence and efficiency for the Clarendon Division Access Road can be applied to the low value periodic refurbishment projects. SKM therefore deemed the Bromelton Weir road expenditure to be prudent and efficient.

## Authority's Analysis

The Authority noted the outcome of the SKM review that the conclusions regarding Clarendon Diversion access road could be applied to the Bromelton Weir access road. The expenditure was therefore considered prudent and efficient.

## Conclusion

### Draft Report

#### Sampled Items

In summary, one item for the Logan River WSS was sampled (Bromelton Weir telemetry) which was found to be prudent and efficient. In addition, proposed expenditure on meter replacements was found to be prudent and efficient in the case of installations made in 2013-14 and 2014-15 but partially prudent in later years. SKM's revised cost estimates were adopted.

Four other reviews undertaken by SKM in other schemes were considered for application to the Logan River WSS.

Of these, there was insufficient information to confidently apply the conclusions in regard to Bromelton Weir telemetry to the Maroon Dam project. This item, therefore, was categorised as a non-sampled item and subject to the appropriate implied cost saving (see below).

However, three other items, gauging stations, Maroon Dam trash screens and Bromelton Weir Road refurbishment, were deemed prudent and efficient.

In total, the Authority recommends the direct renewals expenditure be adjusted as shown in Table 4.7.

#### *Non-sampled Forecast Renewals Expenditure*

As discussed in Volume 1, the Authority did not review all past or forecast renewals expenditure for prudence and efficiency as Seqwater forecast total renewals expenditure of \$56 million (about 500 forecast renewals projects), over the Authority's recommended 20-year planning period. It was therefore not practicable, nor desirable given the potential costs involved, to assess the prudence and efficiency of each planned expenditure item.

The direct (non-metering) forecast renewals cost savings identified by SKM are summarised in Table 4.11.

**Table 4.11: Summary of SKM Findings on Forecast (Non-Metering) Renewals**

<i>Number of Items Sampled</i>	<i>Value Sampled (Real \$'000)</i>	<i>Variance to SKM Estimate (Real \$'000)</i>	<i>Average Saving Identified (%)</i>
11	5,079	(681)	13

*Source: SKM (2012). Notes: Number of items sampled excludes sampled items for which insufficient information was available to reach a conclusion.*

The 11 (non-metering) forecast renewals items reviewed account for an average across the schemes of some 20% of the total forecast irrigation renewals expenditure being directly reviewed with SKM's findings also applying to similar (not reviewed) assets, taking the sample size to in excess of 30% by value of forecast renewals.

The identified errors in Seqwater's renewals expenditure forecasting approach were considered to be systematic. Hence, the Authority considered it likely that the non-sampled renewals expenditure proposed by Seqwater will be similarly overstated.

In summary, the net variance between Seqwater's initially submitted (non-metering) forecast renewals costs and the efficient SKM cost estimate of \$0.68 million is the appropriate basis for the Authority's cost savings to be applied to non-sampled items.

The net variance of \$0.68 million, expressed as a portion of Seqwater's initially submitted sampled forecast irrigation renewal expenditure of \$5.08 million, resulted in about a 13% implied cost saving. A similar proportion was found when a weighted average was calculated to take account of the sampled, small, medium and large projects. The Authority therefore applied a 13% (rounded) generic cost saving to unsampled forecast renewals items. Details are provided in Volume 1: Chapter 5.

#### **Final Report**

In total, the Authority recommends the direct renewals expenditure be adjusted as shown below in Table 4.12.

The findings for sampled items remain unchanged since the Draft Report.

**Table 4.12: Review of Forecast (Direct) Renewals Expenditure 2013-36 (Real \$'000)**

<i>Item</i>	<i>Year</i>	<i>Seqwater</i>	<i>Authority's Findings</i>	<i>Recommended</i>
<b>Sampled Items</b>				
1. Bromelton Weir Telemetry	2022, 2032	105 (70) <sup>1</sup>	Prudent but not efficient	70
2. Metering	2013-14 to 2014-15	132	Prudent and efficient	132
	2015-16 to 2021-22	238	Partially prudent	196
	2022-23 to 2035-36	154	Partially prudent	101
<b>Results Applied from Other Reviews</b>				
3. Maroon Dam Telemetry	2022, 2032	20	Results could not be applied to assess prudence or efficiency – 13% saving applied.	17.4
4. Logan River Gauging Stations	2022, 2032	104	Prudent and efficient.	104
5. Maroon Dam Trash Screens	2030	36	Prudent and efficient	36
6. Bromelton Weir Road Refurbishment	2018, 2028, 2033, 2038	60	Prudent and efficient	60
<b>Non-Sampled Items</b>				13% cost saving applied

Source: Seqwater (2012au) and QCA (2012). Note: 1 Seqwater's initial submission was for a cost of \$105,000.

## 4.4 Seqwater's Consultation with Customers and Reporting

### Draft Report

#### Stakeholder Submissions

Seqwater made no submission in regard to stakeholder consultation.

QFF (2012) noted that although Seqwater has evaluated potential projects against criticality and other criteria, has conducted workshops with local staff and undertaken site inspections, it [Seqwater] has yet to consult with irrigators about forecast renewals expenditures.

QFF (2012) submitted that irrigators are concerned about the lack of consultation that has occurred since schemes were transferred to Seqwater in 2008-09 and consider that structured consultation will achieve scheme efficiencies. Irrigators are keen to consider costs associated with consultation options, such as comparing:

- (a) Seqwater's current consultation agenda;
- (b) the annual reporting of costs to irrigators only when there are significant variations in operating and renewals forecasts; and
- (c) formal advisory committees being established (similar to SunWater's approach) with quarterly meetings.

During consultation in June 2012 (QCA 2012c), stakeholders submitted that there is no consultation with irrigators regarding Seqwater's expenditures on renewals and operating costs. Irrigators were not yet sure whether further consultation is required and would possibly be reluctant to incur further costs for that purpose in this scheme. G. Drynan (2012) submitted that irrigators see the renewals expenditure information provided by Seqwater as complex, and that in the absence of any advisory and formalised committee to discuss with them, makes informed comment difficult.

### Authority's Analysis

In Volume 1, the Authority noted customers' concerns about the lack of involvement in the planning of future renewals expenditure and that this has been raised by irrigators and their representatives. These concerns were generally expressed throughout Seqwater's WSSs.

The Authority recommended that there be a legislative requirement for SunWater to consult with its customers about any changes to its service standards and proposed renewals expenditure program. The Authority considered that this approach should also be adopted by Seqwater.

In addition, Seqwater should also be required to annually submit renewals expenditure programs to irrigators for comment whenever they are amended and that irrigators' submissions and Seqwater's responses published on Seqwater's website.

In response to stakeholders, the Authority did not prescribe a particular form of customer consultation (for example, quarterly meetings) to be adopted in each scheme or for all schemes. Instead, consistent with its recommendations for SunWater, the Authority considered the recommended information requirements are a minimum. This minimum may be exceeded if, on a tariff group basis, irrigators seek increased consultation (and are willing to pay the additional associated costs). However, this would need to be agreed by Seqwater as ultimately the Authority recognises Seqwater's right to make operational business decisions in this context.

### Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) submitted that the *South East Queensland Water (Restructuring) Act 2007* provides in Section 51A, for the responsible Ministers to issue a Statement of Obligations to Seqwater. Section 51C includes provisions for customer consultation. Seqwater advised that a Statement of Obligations including a requirement to consult has been issued to Seqwater.

In subsequent advice Seqwater (2013b) proposed that an annual cost of \$3,430 would be incurred to develop NSPs and an annual cost of \$3,570 would be required to establish and run a Scheme Advisory Committee for the scheme as a whole.

Seqwater (2013c) submitted that as an alternative to the publication of an analysis of renewals expenditure options, a more cost-efficient approach would be to establish scheme advisory committees and for Seqwater to present its renewals estimates to these committees for information and discussion. Renewals estimates would also be published annually in NSPs.

QFF (2013b) submitted that Seqwater's estimated cost of \$7,000 (per annum per scheme) for NSP reviews and scheme advisory committees is likely to be accepted by customers in the scheme.

In consultations (January 2013), some irrigators commented that no additional consultation with Seqwater was required for renewals (or operating) costs.

## Authority's Response to Submissions Received on the Draft Report

### Options Analysis

No material renewals items are forecast for the Logan River WSS. However, should a material item arise in the future, the Authority considers that high-level options analysis and more detailed options analysis should be undertaken where the proposed renewals represent more than 10% of the net present value of total forecast renewals expenditures. The relative benefit and cost of doing so are also relevant.

Irrigation customers – in consultation with Seqwater through advisory committees – are best placed to assist Seqwater to decide whether options analysis of particular items should occur and the nature of the analysis. Less complex analysis (tailored to reflect the benefits and costs of the analysis) may suffice for smaller projects. In some circumstances, none may be required (for example, where a project has been previously reviewed by the Authority).

The nature of the recommended high-level and detailed options analysis must be tailored to take into account the benefits and costs associated with the proposed project. That is a decision best made by Seqwater, but in consultation with irrigation advisory committees.

The Authority would consider an application for an end-of-period adjustment to prices, to allow Seqwater to recover associated costs.

### NSPs and Consultation

The Authority notes that Seqwater's Statement of Obligations explicitly requires Seqwater to consult with irrigation customers. It does not, however, specify that such consultation should occur (at least) annually. The Statement of Obligations also includes a provision that requires it to be made public.

However, to achieve certainty that (at least) annual consultation with irrigators will take place throughout 2013-17 [and beyond], Seqwater's Strategic and Operational Plans should be amended to make this a requirement.

The Authority has considered the submitted costs for Seqwater to enhance the NSPs and establish and support irrigation advisory committees, and considers them to be reasonable.



NSPs should contain annual updates detailing Seqwater's proposed renewals (and operating) expenditure items and accounting for significant variances between previously forecast and actual material renewals expenditures.

The total annual cost of NSP preparation and consultation committees is about \$7,000 for Logan River WSS and is treated as a fixed irrigation only direct bulk (operating) cost. The Authority notes QFF's submission which appears in contrast to certain irrigator comments during consultation. The precise details of consultation for each WSS should be decided by Seqwater in consultation with irrigators. In general, it is considered that the benefits of consultation will justify the relatively small costs.

## 4.5 Allocation of Headworks Renewals Costs

### Previous Review

For 2006-11, the renewals costs for the Logan River bulk water infrastructure were apportioned between priority groups using converted nominal water allocations. The conversion to MP WAE for the Logan River WSS was determined by a WPCF of 2.1:1; that is, one ML of HP WAE was considered equivalent to 2.1 ML of MP WAE.

### Draft Report

#### Stakeholder Submissions

##### *Seqwater*

For the 2013-17 regulatory period Seqwater proposed similar to SunWater's approach, that renewals costs for bulk water infrastructure be apportioned in accordance with the share of utilisable storage headworks volumetric capacity dedicated to that priority group – as measured by the headworks utilisation factor (HUF).

Seqwater submitted that, in general, the HUF allocates a greater proportion of capital costs per ML to HP WAE. Specifically, the HUF methodology takes into account water sharing rules, critical water sharing arrangements (CWSAs) and other operational requirements that typically give HP entitlement holders exclusive access to water stored in the lower levels of storage infrastructure.

Seqwater (2012aj) submitted a detailed outline of the HUFs methodology, outlining its derivation and application for each scheme. For the Logan River WSS, Seqwater's consultants, Parsons Brinckerhoff (PB), considered that the proposed HUF methodology was applicable on the proviso that downstream inflows were excluded from the calculation. This methodology, discussed in detail Volume 1, can be summarised as follows.

**Step 1:** Identify the water entitlement groupings for each scheme, as listed in the Department of Environment and Resource Management's (DERM's) Water Entitlement Register, and establish which groups are to be considered as HP and MP for the purposes of the HUFs calculation<sup>1</sup>.

**Step 2:** Determine the volumes associated with the high and MP groupings identified in Step 1, taking into account any allowable conversion from MP to HP under the scheme's ROP.

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<sup>1</sup> If more than two priority groups exist, water sharing rules and other differentiating characteristics are taken into account to determine whether they are included in the HP or MP grouping, or neither.

**Step 3:** Determine the extent to which water sharing rules, CWSAs and other operational requirements give the different water entitlement priority groups exclusive or shared access to capacity components of the storage infrastructure.

This step divides the storage infrastructure into three levels: the bottom layer, which is exclusively reserved for HP; the middle layer, which is effectively reserved for MP; and the top layer, which is shared between the MP and HP groups.

**Step 4:** Assess the hydrological performance of each headworks' storage using the Integrated Quantity and Quality modelling (IQQM) to determine the probabilities of each component of headworks storage being accessible to relevant water entitlement priority group during periods of low storage (under critical water sharing rules).

**Step 5:** Determine the HUFs derived from the above process using the SunWater method. The calculations have been based on 10, 15 and 20 year drought periods for comparative analysis.

The results of applying this methodology are outlined below in Table 4.13. In this table, the HUFs are compared based on separate analyses including and excluding minimum levels of inflows. PB recommended a HUF based on excluding inflows, and using a 15-year drought period.

**Table 4.13: Summary of HUF Methodology**

<i>Drought Period</i>	<i>Drought Period With Minimum Inflows</i>		<i>Drought Period Without Minimum Inflows</i>	
	<i>MP (%)</i>	<i>HP (%)</i>	<i>MP (%)</i>	<i>HP (%)</i>
10 year	21	79	13	87
15 year	26	74	16	84
20 year	29	71	20	80

*Source: Parsons Brinckerhoff (2012).*

Key finding as outlined above in Table 4.13 include:

- (a) HUF percentages are significantly lower for MP users when minimum inflows are excluded, e.g. 38% lower for the 10-year drought period analysis; and
- (b) HP WAE holders tend not to be significantly impacted by drought conditions as they rely heavily on headworks.

The change in HUF from excluding inflows reflects that MP holders gain much more from stream flows than do HP holders. This is because:

- (a) HP WAE holders have priority access to water in the storage, and their security of supply is dependent on volume in the storage;
- (b) MP WAE holders receive a large proportion of their water from stream-flow provided by Running and Christmas Creeks and the upper Logan River than from storage releases, meaning that storage volume is significantly higher than it would be in the absence of stream flows; and

- (c) when stream flows are removed, storage volumes are a lot lower meaning that the MP cut-off is reached more often and a smaller proportion of the storage is attributed to MP holders.

The HUFs for this scheme (Seqwater 2012an) are 16% for MP and 84% for HP.

#### *Other Stakeholders*

No other stakeholders have provided comment regarding this topic.

#### *Authority's Analysis*

As outlined in Volume 1, the Authority noted that the proposed modification to exclude downstream inflows was consistent with the purpose of the HUF methodology to allocate capital costs according to benefit.

This modification by Seqwater to the SunWater approach accorded with the purpose of the HUF (to allocate headworks capital costs to beneficiaries). MP holders receive a large proportion of water from stream-flows rather than storage volumes. When stream flows are removed from the HUF simulation model, the MP cut-offs for access to storage volumes are reached more often, resulting in a smaller proportion of costs being attributed to MP.

Accordingly, Seqwater's approach reduces costs that would otherwise have been attributed (inappropriately) to MP WAE. The Authority recommended, therefore, that Seqwater's proposed HUF methodology be adopted for Logan River WSS.

The Authority estimated that based on the HUF methodology, the conversion for MP to HP would be 7.2:1. This compares with the WPCF of 2.1:1 used for 2006-12 price paths. Further, under the HUF approach, MP irrigators will now pay 16% of the cost of renewals whereas previously MP irrigators paid 40%.

#### **Submissions Received from Stakeholders on the Draft Report**

Seqwater (2013) and QFF (2013b) both supported the Authority's Draft Report approach.

#### **Authority's Response to Submissions Received on the Draft Report**

The Authority proposes no change to Draft Report recommendations.

### **4.6 Calculating the Renewals Annuity**

In Volume 1, the Authority recommended an indexed rolling annuity, calculated for each year of 2013-17.

For Logan River WSS, the Authority's draft and final recommended renewals annuity for 2013-17 and the renewals annuity for 2006-13 are presented in Table 4.14.

The slight change in renewals annuities is due to a change in the Weighted Average Cost of Capital (WACC) rate (used to determine the annuity) from 5.86% to 6.2% (see Volume 1).

**Table 4.14: Logan River WSS Renewals Annuity (Nominal \$)**

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
<b>Seqwater (April NSP)</b>	<b>225,755</b>	<b>295,548</b>	<b>298,591</b>	<b>333,130</b>	<b>286,011</b>	<b>335,398</b>	<b>355,323</b>	<b>163,281</b>	<b>168,299</b>	<b>170,870</b>	<b>173,541</b>
<b>Seqwater (November NSP)</b>	<b>80,062</b>	<b>88,212</b>	<b>38,876</b>	<b>44,124</b>	<b>41,036</b>	<b>47,138</b>	<b>49,730</b>	<b>148,008</b>	<b>150,376</b>	<b>150,765</b>	<b>151,161</b>
<b>Authority</b>								<b>Draft</b>			
HP	-	-	-	-	-	-	-	74,800	76,258	75,337	74,427
MP	-	-	-	-	-	-	-	38,509	38,944	38,936	38,940
<b>Authority Total</b>	-	-	-	-	-	-	-	<b>113,309</b>	<b>115,203</b>	<b>114,274</b>	<b>113,367</b>
<b>Irrigation only</b>								<b>38,509</b>	<b>38,944</b>	<b>38,936</b>	<b>38,940</b>
								<b>Final</b>			
HP								77,751	79,191	78,333	77,484
MP								39,391	39,835	39,850	39,877
<b>Authority Total</b>								<b>117,143</b>	<b>119,026</b>	<b>118,183</b>	<b>117,361</b>
<b>Irrigation only</b>								<b>39,391</b>	<b>39,835</b>	<b>39,850</b>	<b>39,877</b>

Source: Seqwater (2012e), (Seqwater 2012an) QCA (2012) and QCA (2013). Note: Includes some variations to the Draft Report as a result of further quality assurance.

## 5. OPERATING COSTS

### 5.1 Background

#### Ministerial Direction

The Ministerial Direction requires the Authority to recommend a revenue stream that allows Seqwater to recover efficient operational, maintenance and administrative (that is, indirect and overhead) costs to ensure the continuing delivery of water services.

#### Issues

To determine Seqwater's allowable operating costs for 2013-17, the Authority considered:

- (a) Seqwater's direct operating expenditure forecasting methodology;
- (b) the prudence and efficiency of Seqwater's proposed direct and non-direct operating expenditures;
- (c) appropriate allocation of non-direct operating costs to irrigation tariff groups;
- (d) the appropriate method/s of allocating total (direct and non-direct) operating costs (for a tariff group) between different priority WAEs (where they exist);
- (e) the most suitable cost escalation rates; and
- (f) opportunities to improve Seqwater's budgeting and consultation with irrigators in relation to operating expenditure.

### 5.2 Historical Operating Costs

#### Previous Review 2006-11

The 2006-11 price paths were recommended by SunWater after consultation with irrigators during 2005-06. The Queensland Government subsequently approved those prices.

For the 2006-11 price paths, Indec identified annual cost savings of between \$3.8 million and \$5.5 million across all SunWater schemes (2010-11 dollars), or 7.5% to 9.9% of total annual costs, which were to be achieved during the 2006-11 price paths (SunWater 2006a).

#### Draft Report

##### Stakeholder Submissions

##### *Seqwater*

Seqwater (2012aj) submitted that, as it has not previously assigned components of operating expenditure (in particular non-direct costs) to irrigation schemes, it has not been possible for it to make a comparison between total forecast and historical operating expenditures.

Similarly, Seqwater considered that the lower bound cost benchmarks developed for the 2006 price review by SunWater are not directly comparable to Seqwater's historic costs or forecasts for the current 2013-17 regulated price review. In particular, the published SunWater cost information:

- (a) does not disaggregate operating costs for each tariff group within schemes where relevant;
- (b) provides aggregate operations, maintenance and administration data, with no break down between direct and non-direct costs; and
- (c) applies a productivity adjustment to proposed lower bound costs, but does not identify the adjustment applicable to operating expenditure.

Moreover, these lower bound costs were developed more than six years ago under very different conditions. Seqwater submitted that, while comparisons with the 2006 benchmarks may be of interest where data is disaggregated, there is little value in attempting to explain departures from the 2006 data since Seqwater provided no input to these forecasts and did not have the financial systems to gather and report this data due to the circumstances surrounding its formation.

### Authority's Analysis

The Authority acknowledged Seqwater's view that the lower bound cost benchmarks developed for the 2006 price review by SunWater are not directly comparable to Seqwater's forecasts for the current 2013-17 regulated price review.

The Authority, nevertheless, considered that the relationship between the operating costs incurred by Seqwater in its irrigation schemes in more recent years and the derivation of its 2012-13 budgets should be explicitly analysed. In particular, the Authority noted the efficiency targets imposed by the Minister for Energy and Water Supply for the 2012-13 Grid Service Charges (GSCs).

The lower bound cost benchmarks developed for the 2006 price review by SunWater are not directly comparable to either Seqwater's historic costs, or its 2012-13 budget and forecasts for the current 2013-17 regulated price review.

### Final Report

No submissions were received in regard to historical costs.

For information, historical forecast costs and actual costs (where available) are provided in Table 5.1.

**Table 5.1: Actual and Forecast Total Operating Expenditure 2006-11 (Nominal \$)**

	2006-07	2007-08	2008-09	2009-10	2010-11
Forecast	808,597	848,974	828,186	793,583	735,439
Actual	1,254,542	6,841,214	n.a.	n.a.	n.a.
Variance	445,945	5,992,240	n.a.	n.a.	n.a.

Source: SunWater (2006b), Seqwater (2012s) and Seqwater (2012ba).

### 5.3 Forecast Total Operating Costs

#### Operating Cost Characteristics

##### Operating activities

Seqwater (2012aj) advised that its operating activities include:

- (a) scheduling and releasing bulk water from storages, surveillance of water levels and flow rates in water courses and quarterly meter reading;
- (b) customer service and account management;
- (c) operating and maintaining recreational facilities; and
- (d) complying with:
  - (i) requirements set out in the relevant IROLs, ROLs and ROPs;
  - (ii) dam safety obligations including under the *Water Act 2000*;
  - (iii) the *Environmental Protection Act 1994*; and
  - (iv) land management, workplace health and safety and other reporting obligations.

##### Operating cost classifications

Seqwater defines its operating costs as either direct or non-direct. Direct costs are those directly attributed to particular schemes. Non-direct costs are those common to all schemes, and therefore need to be allocated to tariff groups using an appropriate cost allocator.

##### Direct Operating Costs

Direct costs are those costs that have been budgeted at the individual asset level in the scheme and include:

- (a) operations relating to the day-to-day costs of delivering water and meeting compliance obligations. Operations activities include:
  - (i) dam operations, which relate to managing dams and weirs. It is the largest direct cost category and activities include providing information and services to customers, monitoring water flows, meeting regulatory requirements for compliance, safety, and flood management, and developing system operating plans for infrastructure; and

- (ii) group support and catchment management, which include delivering catchment maintenance services (including recreation areas) for operational assets. Activities include implementation of asset management plans and meeting compliance obligations (recreation services, public safety, catchment conservation);
- (b) repairs and maintenance, which relate to maintaining assets that support irrigation water supply including:
  - (i) scheduled maintenance generated by the corporate information system (CIS);
  - (ii) planned maintenance, which comprises scheduled inspections and strategic maintenance; and
  - (iii) reactive maintenance, which results from unplanned breakdowns.

Seqwater has set a target ratio of 71:29 planned to unplanned maintenance in 2012-13, and this ratio has been applied for the forecast period. In this context, 'planned' includes scheduled and planned maintenance activities.

Contractors deliver most maintenance activities. Contractors are generally selected from Seqwater's panel of providers and supervised by Seqwater staff. Seqwater currently employs 49 full-time contractors plus ad-hoc contractors depending on workload; and

- (c) other (direct) costs including:
  - (i) local government rates payable on Seqwater's land including storages; and
  - (ii) detailed dam safety inspections conducted every five years, in addition to the costs of routine (annual) dam safety inspections (included in operations expenditure).

Seqwater also disaggregates its direct operations costs into the following cost types: labour, contractors and materials, and other.

- (a) labour costs are the direct labour costs arising from budgeted operations activities for 2012-13 (base year). Total irrigation direct labour (for Seqwater employees) has been submitted under the category 'direct operations costs'; however, in practice a small proportion of this 'operations' labour will be used for maintenance activities<sup>2</sup>;
- (b) contractors and materials costs are based on the quantities required in the work instructions for 2012-13; and
- (c) other direct operations costs include plant and fleet hire, water quality monitoring and fixed energy costs.

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<sup>2</sup> Repairs and maintenance are budgeted as a separate line item, and exclude labour. Seqwater has minimised the manipulation of data from its financial system when presenting forecast costs. While there are shortcomings to this approach, Seqwater does not believe there is a material impact on prices, given the overall proportion of labour costs that relate to repairs and maintenance is small (on average, 3% across all schemes).



### *Non-Direct Operating Costs*

Non-direct operations costs are classified by type of expenditure and comprise:

- (a) water delivery costs of dam operations, infrastructure maintenance, environmental management and recreation and catchment maintenance services;
- (b) asset delivery costs of project planning and managing the delivery of projects;
- (c) corporate costs of business services, organisational development and the office of the Chief Executive Officer (CEO); including the costs of IT services, finance, procurement, legal and risk, governance and compliance activities; and
- (d) other costs mainly associated with the Creek Street facilities and flood control centres.

Seqwater categorises its other non-direct operating costs as follows:

- (a) non-infrastructure costs of assets such as buildings, plants and equipment. Seqwater uses aggregate depreciation costs as a proxy for the costs associated with the use of these assets;
- (b) insurance premium costs are associated with industrial special risks, machinery breakdown, public liability, professional indemnity, contract works and directors and officers insurance; and
- (c) a working capital allowance to provide for the economic cost arising from the timing difference between accounts receivable and accounts payable.

## **Forecast Operating Costs**

### **Draft Report**

#### *Stakeholder Submissions*

#### *Seqwater*

Seqwater (2012aj) submitted forecast total operating expenditure for 2012-13 and escalated forward over each year of the regulatory period on the basis of predetermined escalation factors.

The 2012-13 year was adopted as the base year as it provided the best and most current representation of the costs required to deliver Seqwater's service standards and obligations during the regulatory period.

Aggregate operating costs for 2012-13 (including costs associated with both grid and irrigation services but excluding costs associated with unregulated activities) were derived as part of Seqwater's 2012-13 GSCs submission to the Authority.

Seqwater developed its 2012-13 budget on the basis of a zero base build-up, taking into account costs which could be reasonably anticipated at the time of budget development. In addition, Seqwater noted that the 2012-13 operating expenditure forecasts provided in the GSCs submission were previously reviewed by the Authority for prudence and efficiency.

Seqwater applied these escalators to 2012-13 operating costs to derive forecasts for 2013-17:

- (a) direct labour, materials and contractors' costs and repairs and maintenance were escalated at 4.0% per annum over the regulatory period; and
- (b) 'other' direct costs and all non-direct costs were escalated at CPI of 2.5% per annum.

Seqwater provided two versions of its Logan River WSS NSP that described both direct and non-direct budgeted operating costs for 2012-13. Specifically, Seqwater provided:

- (a) an original version in April 2012 (Seqwater 2012e); and
- (b) a version in November 2012 (Seqwater 2012n) with revised operating costs compiled in response to the Authority's review of GSCs, the Minister's subsequent decision regarding these charges and further analysis by Seqwater of bulk water costs.

Total operating costs outlined in the two NSPs have been compared (Table 5.2).

This comparison shows that the total costs for the scheme are about 15% lower than originally proposed.

**Table 5.2: Seqwater's Forecast Operating Costs for the 2012-13 Base Year (Nominal \$)**

	<i>April NSP</i>	<i>November NSP</i>	<i>Variance</i>
<b>Direct Operating Costs</b>			
<i>Operations</i>			
Labour	393,086	320,337	(72,749)
Contractors	21,600	21,600	0
Materials	25,513	24,983	(530)
Electricity	6,494	6,494	0
Other	90,365	89,850	(515)
<b>Sub-Total</b>	<b>537,058</b>	<b>463,264</b>	<b>(73,794)</b>
<i>Repairs and Maintenance</i>			
Planned	76,455	75,724	(731)
Unplanned	31,228	30,929	(299)
<b>Sub-Total</b>	<b>107,683</b>	<b>106,653</b>	<b>(1,030)</b>
Dam Safety	0	0	0
Rates	56,217	56,217	0
<b>Total Direct Operating Costs</b>	<b>700,958</b>	<b>626,134</b>	<b>(74,824)</b>
<b>Non Direct Operating Costs</b>			
<i>Operations</i>			
Water Delivery	69,059	58,646	(10,413)
Asset Delivery	30,831	28,888	(1,943)
Corporate	246,736	181,093	(65,643)
Other	21,031	4,990	(16,041)
<b>Sub-Total</b>	<b>367,657</b>	<b>273,617</b>	<b>(94,040)</b>
<i>Non-Infrastructure Asset</i>	30,721	28,080	(2,641)
<i>Insurance</i>	162,828	144,106	(18,722)
<i>Working Capital</i>	10,795	10,795	0
<b>Total Non-Direct Operating Costs</b>	<b>572,001</b>	<b>456,598</b>	<b>(115,403)</b>
<b>Total Operating Costs</b>	<b>1,272,960</b>	<b>1,082,732</b>	<b>(190,228)</b>

Source: Seqwater (2012e) and Seqwater (2012an).

Details submitted by Seqwater of the total direct and non-direct operating expenditure forecasts for the Logan River WSS by activity are provided in Table 5.3, based on the November NSP.

**Table 5.3: Seqwater's Operating Expenditure by Activity (Nominal \$)**

<i>Costs</i>	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
<b>Direct</b>					
Operations	463,264	480,349	498,082	516,487	535,590
Repairs and Maintenance	106,653	110,919	115,356	119,970	124,769
Dam Safety	0	0	0	0	27,595
Rates	56,217	57,622	59,063	60,540	62,053
<b>Non-Direct</b>					
Operations	273,617	280,457	287,469	294,656	302,022
Non-infrastructure	28,080	28,782	29,502	30,239	30,995
Insurance	144,106	147,709	151,401	155,186	159,066
Working Capital	10,795	11,065	11,341	11,625	11,916
<b>Total</b>	<b>1,082,732</b>	<b>1,116,904</b>	<b>1,152,214</b>	<b>1,188,703</b>	<b>1,254,006</b>

Source: Seqwater (2012aj) and Seqwater (2012an).

The total operating costs by type are detailed in Table 5.4 for the Logan River WSS.

**Table 5.4: Operating Costs by Type, Logan River WSS (Nominal \$)**

	2012-13	2013-14	2014-15	2015-16	2016-17
Labour	320,337	333,150	346,476	360,336	374,749
Contractors and Maintenance	46,583	48,446	50,384	52,400	54,496
Electricity	6,494	6,656	6,823	6,993	7,168
Others	89,850	92,096	94,399	96,759	99,178
Planned Repairs and Maintenance	75,724	78,753	81,903	85,179	88,586
Unplanned Repairs and Maintenance	30,929	32,166	33,453	34,791	36,183
Dam Safety	0	0	0	0	27,595
Rates	56,217	57,622	59,063	60,540	62,053
Non-direct	456,598	468,013	479,713	491,706	503,999
<b>Total</b>	<b>1,082,732</b>	<b>1,116,904</b>	<b>1,152,214</b>	<b>1,188,703</b>	<b>1,254,006</b>

Source: Seqwater (2012aj) and Seqwater (2012an).

#### Other Stakeholders

During Round 1 consultation in June 2012 (QCA 2012c), irrigators stated that the Authority should demonstrate to irrigators that Seqwater's operating expenditure (including direct and non-direct/overhead costs) is prudent and efficient. Irrigators see this issue as complex and the absence of any advisory and formalised committee to discuss with Seqwater aspects of the above topics makes informed comment difficult.

#### Authority's Analysis

In Volume 1, the Authority concluded that given the changes that have occurred in recent years, it is reasonable for Seqwater to adopt zero-based budgeting for 2012-13 as the base year for 2013-17 forecast costs.

The Authority recommended that Seqwater upgrade its policies, procedures, and information systems for the budgeting, incurrence and management of operating costs in its irrigation sector. In particular, the gathering, recording, documentation and analysis of operating cost information relevant to Seqwater's irrigation sector need to be improved.

The Authority noted stakeholder comments on the need to review the prudence and efficiency of operating costs. The analysis of direct and non-direct costs appears below.

In response to issues raised concerning consultation, the Authority recommended that Seqwater improve its consultation processes with irrigation customers in relation to the forecasting of operating costs, and submit its proposals in regard to consultation procedures to the Authority by 30 June 2014.

#### Final Report

No submissions were received on forecast operating costs.

## 5.4 Prudency and Efficiency of Direct Operating Expenditure

### Introduction

Seqwater forecast its direct operating costs for the 2013-17 regulatory period by extrapolating 2012-13 (base year) budgeted expenditure across the 2013-17 regulatory period.

Accordingly, the Authority focused its review on 2012-13 budgeted costs and the method of cost escalation.

### Draft Report

For the purposes of the analysis of the prudency and efficiency of operating costs, the Authority reviewed Seqwater's submitted NSP data.

### Stakeholder Submissions

#### *Seqwater*

Seqwater submitted details of key components of direct operating costs. Operations relates to the day-to-day costs of delivering water and meeting compliance obligations. The primary activities relate to dam operations and group support. Dam operations must meet the various regulatory requirements including those relating to Dam Safety, Flood Management, ROPs, and providing sufficient water to meet standards of service.

Dam operations are relatively labour intensive and expenditure is driven by:

- (a) providing efficient service to irrigation customers in terms of information and management and delivery of service;
- (b) developing robust and acceptable systems to monitor water flows to manage water sources, floods and regulations;
- (c) developing an effective and technically capable and resilient flood operations centre utilising systems of quality standards;
- (d) improving data management to ensure compliance on a wide variety of water management areas;
- (e) ensuring security and safety at our water sources is meeting regulatory and community standards; and
- (f) developing system operating plans to ensure the efficiency and operation of dams, weirs, bores and other water sources.

Group support has responsibility for the development and delivery of recreation and catchment maintenance services for all operational assets. The team ensures that asset management plans, processes, systems and practices are implemented in accordance with relevant regulatory requirements.

Seqwater has responsibility for the ongoing management and maintenance of recreation sites transferred from SunWater. The use of Seqwater assets for recreational purposes is secondary to Seqwater's main function of water supply and treatment. However, recreation facilities must be managed in a sustainable and environmentally responsible manner to ensure that Seqwater's core responsibilities and accountabilities are not adversely impacted.

The costs associated with catchment management activities (for water quality outcomes) are excluded from the lower bound cost base for irrigation.

Seqwater presented direct operations costs for the above activities in terms of the type of cost (that is, labour; contractors and materials; and “other”). Specifically:

- (a) labour costs are derived on the basis of budgeted work in the scheme for 2012-13 and the related salary costs for routine activities. The costs represent all costs budgeted as employee costs for the scheme. In practice, a small proportion of this labour will be used for maintenance activities. Consistent with the current Enterprise Bargaining Agreement for Seqwater and the recommendation of the Authority’s in its draft SunWater report, Seqwater has escalated internal labour costs at 4% per annum for the regulatory period 2013-14 to 2016-17;
- (b) contractor and materials costs for 2012-13 are based on the quantities required in the work instructions for the scheme. As per the Authority’s draft SunWater report, contractor and material costs have been escalated at 4% per annum for the regulatory period; and
- (c) “other” direct operating costs incorporate a range of expenses including plant and fleet hire, water quality monitoring expenses and fixed energy costs. These costs have been escalated at forecast CPI for the regulatory period.

Seqwater submitted that repairs and maintenance is performed at the scheme in accordance with Seqwater’s maintenance system. This system identifies the maintenance requirements for each asset, and then sets out a schedule for maintenance over the year(s) for that asset. In addition, maintenance requirements are developed through FAMPs and as a result of scheduled inspections.

There is also unplanned maintenance which is required in response to asset breakdown or failure, or where new information emerges about asset condition (e.g. via regular inspections). Expenditure on unplanned maintenance for 2012-13 is derived based on past experience.

Seqwater set a target ratio of 71:29 for planned maintenance to unplanned maintenance in 2012-13. This ratio has been applied for the forecast period.

Repairs and maintenance for 2012-13 has been escalated at 4% per annum for 2013-17.

Routine dam safety inspections are carried out to identify and plan maintenance requirements and to provide information for management planning of water delivery assets. These costs are included in forecast operations expenditure.

In addition, more thorough periodic dam safety inspections are carried out on a five-yearly basis. Costs associated with these inspections have been added to forecast direct operating expenditure in the year in which the expenditure is expected to be incurred. In the Logan River WSS, Seqwater has allowed for inspection of Maroon Dam in 2016-17.

Seqwater incurs rates in relation to its land portfolio, including storages. Seqwater has forecast rates expenses for the Logan River scheme based on 2011-12 actual rates, and has forecast these to increase annually by CPI for the regulatory period.

Seqwater’s proposed direct operating costs by activity, as submitted in Seqwater’s November 2012 NSPs, are provided in Table 5.5.

**Table 5.5: Seqwater Direct Operating Costs by Activity (Nominal \$)**

	2012-13	2013-14	2014-15	2015-16	2016-17
Operations	463,264	480,349	498,082	516,487	535,590
Repairs and Maintenance	106,653	110,919	115,356	119,970	124,769
Dam Safety Inspections	0	0	0	0	27,595
Rates	56,217	57,622	59,063	60,540	62,053
<b>Total</b>	<b>626,134</b>	<b>648,891</b>	<b>672,501</b>	<b>696,997</b>	<b>750,007</b>

Source: Seqwater (2012aj) and Seqwater (2012an).

Forecast direct operating costs by type are outlined in Table 5.6.

**Table 5.6: Seqwater Direct Operating Costs by Type (Nominal \$)**

	2012-13	2013-14	2014-15	2015-16	2016-17
Labour	320,337	333,150	346,476	360,336	374,749
Contractors and Materials	46,583	48,446	50,384	52,400	54,496
Electricity	6,494	6,656	6,823	6,993	7,168
Other	89,850	92,096	94,399	96,759	99,178
Planned Repairs and Maintenance	75,724	78,753	81,903	85,179	88,586
Unplanned Repairs and Maintenance	30,929	32,166	33,453	34,791	36,183
Dam Safety	0	0	0	0	27,595
Rates	56,217	57,622	59,063	60,540	62,053
<b>Total</b>	<b>626,134</b>	<b>648,891</b>	<b>672,501</b>	<b>696,997</b>	<b>750,007</b>

Source: Seqwater (2012aj) and Seqwater (2012an).

### Other Stakeholders

During consultation in June 2012 (QCA 2012c), irrigators stated that the Authority should demonstrate that operating expenditure is prudent and efficient.

### Authority's Analysis

The Authority engaged SKM to review the prudence and efficiency of Seqwater's proposed direct operating expenditure for this scheme.

SKM reviewed a sample of items, taking account of comments received from stakeholders in regard to specific costs categories for this scheme.



## Item 1: Operations – Direct Labour

### Stakeholder Submissions

#### Seqwater

Direct labour costs forecast for 2013-14 are typically determined by Seqwater escalating the budget for 2012-13 by 4% per annum. In initial submissions, Seqwater's 2012-13 direct labour budget for Logan River WSS was \$392,085, which escalated by 4% provided a 2013-14 forecast of \$407,768.

This compared to an actual cost of \$238,400 for 2011-12.

Seqwater subsequently submitted a revised forecast cost of \$418,400 for 2013-14 (\$402,300 in 2012-13) which was the basis for SKM's initial review. Seqwater advised that this additional cost was due to maintenance staff costs being included.

After further review by SKM, Seqwater acknowledged that it had re-examined the allocation of staff time across the Logan River and Warrill Valley WSS assets and has developed new allocation percentages resulting in a reduction in 2012-13 budgeted costs at Logan River WSS falling to \$321,500 from the revised forecast of \$402,300.

In its November 2012 revised NSPs, Seqwater advised that the direct labour cost for Logan River WSS in 2012-13 is forecast at \$320,337.

#### Other Stakeholders

QFF (2012) submitted that labour costs appear excessive and need to be analysed to determine need and efficiency.

### Authority's Analysis

#### Consultant's Review

Seqwater submitted the following estimates for the 2012-13 budgeted costs for the operating expenditure item direct labour (Table 5.7 refers).

**Table 5.7: Logan River WSS – Direct Labour 2012-13 (Real \$'000)**

<i>Item</i>	<i>2012-13 Budget</i>	<i>2012-13 Revised (April 2012)</i>	<i>2012-13 Revised</i>	<i>2012-13 Forecast (Seqwater's November submission)</i>
Direct Labour	392	393	321.5	320.3

*Source: SKM (2012).*

Seqwater's initial 2013-14 forecast was escalated from the budgeted 2012-13 base forecast by 4%. The 2012-13 base forecast was built up from a zero base (bottom up). This category of costs relates to internal Seqwater staff costs only.

#### Operating Item Description

Labour relates to the operation of certain functions and activities such as Maroon Dam (including catchment and associated recreation areas) and the Maroon (Recreation) WTP.

Table 5.8 provides a breakdown of costs for Seqwater's initial submission. Seqwater did not provide corresponding breakdowns for its subsequently revised estimates.

**Table 5.8: Direct Labour Costs – Initial Seqwater 2013-14 Forecast (Nominal \$'000)**

<i>Function/Activity</i>	<i>Amount</i>
Maroon Dam Operations	199
Logan River Irrigation	143
Maroon Dam Catchment Services	56
Maroon Recreation WTP	11
<b>Total</b>	<b>408</b>

Source: SKM (2012).

#### Provided Documentation

The documents used for this review are:

- (a) Seqwater, 2013-14 Irrigation Pricing, Submission to the QCA, April 2012;
- (b) Seqwater, Logan River Water Supply Scheme, Network Supply Scheme;
- (c) Seqwater, Information Request Response – QCA Irrigation Price Review 2013-17, RFI 017, Logan River WSS, Operations – Direct Labour, 14 Aug 2012;
- (d) Seqwater, Budget 2012-13, Salaries and Wages, Dam Operations;
- (e) Seqwater, Budget 2012-13, Salaries and Wages, Group Support; and
- (f) Seqwater, Opex – Irrigation Updated YTD.xlsx.

SKM also requested evidence of historical costs for contracted recreational area maintenance including the cost of mowing services. While some information was provided for 2008-09 and 2009-10, SKM noted that a change in classification in mowing services (perhaps to Vegetation Management Services or General Maintenance Services) resulted in the non-identification of costs for this aspect of operating expenditure for subsequent years.

#### Prudency

Maroon Dam is referable under the *Water Supply (Safety and Reliability) Act 2008*. Accordingly, labour resources are needed to undertake:

- (a) Dam Operations – meet Market Rules requirements, water ownership and water use legislation, water information reporting requirements, dam safety and reliability legislation;
- (b) Catchment Services – meet environmental protection legislation, recreation responsibilities, catchment management responsibilities and land ownership legislation; and
- (c) Water Treatment Operations – meet Market Rules requirements and recreation responsibilities.

Accordingly, proposed expenditure is considered prudent.

#### Efficiency

For expenditure to be efficient, the least-cost means of providing the requisite level of service within the relevant regulatory framework is to be achieved.

Labour projections are not based on water demand (as a cost driver) but are rather based on the budget for 2012-13. In SKM's view, basing the labour forecast cost on a previous budget is not satisfactory as actual costs may vary significantly from budget. Forecast costs should be based on actual incurred costs taking into account trends exhibited by recent actual expenditure, changes in working practices and changes in asset operation. Accordingly, SKM sought additional information regarding actual historical expenditure.

Seqwater informed SKM that the costs being examined do not include any maintenance labour costs as these costs have been factored into the labour budgets for maintenance. Accordingly, the costs reviewed by SKM in this sample relate only to operations costs.

In response to SKM's request for information, Seqwater provided historical and budgeted costs for labour between 2009-10 and 2012-13 (Table 5.9 refers). SKM noted that this information differed from that provided above.

**Table 5.9: Actual and Budgeted Direct Labour Costs (Nominal \$)**

<i>Item</i>	<i>2009-10 Actual</i>	<i>2010-11 Actual</i>	<i>2011-12 Actual</i>	<i>2011-12 Budget</i>	<i>2012-13 Budget</i>
Direct Labour	89,738	248,867	238,431	362,469	402,315

*Source: SKM (2012). Note: SKM noted that this information differs from that supplied to SKM from Seqwater in an earlier information request*

Seqwater also provided information on the estimated quantity of FTEs (Table 5.10 refers).

**Table 5.10: Breakdown – 2012-13 Labour Cost Budget (Nominal \$)**

<i>Activity</i>	<i>Salaries Applied (\$)</i>
Group Support	53,876
Dam Operations	190,441
Water Treatment	10,508
Logan Irrigation Scheme	137,260
<b>Total</b>	<b>392,085</b>

*Source: SKM (2012).*

As outlined in Table 5.10, labour costs associated with dam operations (operating and monitoring infrastructure) are the largest contributor to direct operating costs. Dam operations are relatively labour intensive with expenditure required to:

- (a) deliver services to irrigation customers in terms of information and management;

- (b) develop systems to monitor water flows to manage water sources, floods and regulations;
- (c) develop flood operations centre;
- (d) ensure security and safety associated with water infrastructure to meet regulatory and community standards; and
- (e) develop system operating plans for dams, weirs, bores and other water sources.

Group Support (and Catchment Management) is responsible for the development and delivery of recreation and catchment maintenance services for all operational assets. The team of rangers and bio security officers ensures that asset management plans, processes, systems and practices are implemented in accordance with relevant regulatory requirements. Seqwater also has responsibility for the ongoing management and maintenance of any associated recreation sites.

While the use of Seqwater assets for recreational purposes is not a core function, these facilities, which are an operating licence condition, must be managed in a responsible manner to ensure that Seqwater's core responsibilities are not adversely impacted. When SunWater managed these recreation facilities prior to transfer to Seqwater, dam operators were also responsible for daily maintenance like mowing and minor repairs.

Seqwater also indicated that prior to the change of ownership from SunWater of the Logan River and Warrill Valley WSSs in July 2008, the duties of the operations staff in the schemes included mowing and maintaining the recreation areas and tending the recreation water treatment plants. Mowing activities extended to the vegetation management of the scheme's weirs, diversion regulating structures and the irrigation channels for both mowing and herbicide application. These activities occupied a minimum of 30% of the operators' time with the management of water treatment facilities making up a large proponent of afterhours activities. The work was performed across the two schemes by 5 FTEs.

When these schemes came under Seqwater's ownership, Group Support rangers took responsibility for mowing and maintaining the recreation areas while the water treatment plants came under the control of Water Treatment Operations group.

With the transfer of the assets to Seqwater and the consequent change in operating model, these dam operators have not had their work load reduced. However, the workload of the rangers increased to include maintenance of the recreational facilities associated with the dams.

As a result, rangers are often not able to undertake maintenance work themselves but rather have to contract to a third party grounds maintenance (mainly lawn mowing associated with recreational facilities and slashing of verges and access routes). Information from Seqwater regarding the cost of mowing allocated to the Logan River WSS, while not fully detailed for 2010-11, indicated that just under \$10,000 was paid to the mowing contractor in 2009-10. If this service is reclassified as part of dam operations and brought (back) under the responsibility of the dam operator, this will more fully utilise the dam operator, reduce the work load of the rangers in managing the mowing contractor and save contractor costs. Under this arrangement, the rangers could maintain responsibility for managing/supervising the mowing or ensuring the mowing is done albeit with the dam operators carrying out the task rather than contractors.

However, Seqwater subsequently advised that the former SunWater scheme operators became part of the Dam Operations group and their scope of work was redefined with a

greater emphasis on surveillance and monitoring and more focussed asset management responsibilities. The Dam Operations group also became responsible for the new Wyaralong Dam, Bromelton Dam and Cedar Grove Weir, each of which, with the exception of Bromelton Dam, has a fishway. Bromelton Dam incorporates a Raw Water Pumping Station from the Logan River which is used to harvest natural stream flows to Bromelton Dam. The RWPS is operated and maintained by the Dam Operation team. The number of FTEs was reduced from 5 to 4.35 for the core scheme management.

This reduction correlated with the reduction in responsibilities and change of emphasis to dam safety and asset management practices.

Pay rates outlined in Table 5.10 were generally consistent with other operators and rangers employed by Seqwater and are reasonable for such employees. While the almost two FTE's allocated to Maroon Dam is considered excessive in light of the identified under utilisation, the allocation would be appropriate if the mowing were brought back in-house and dam operators allowed to undertake minor maintenance work. SKM recommended 1.4 FTEs for dam operations in Logan River WSS.

SKM also considered that the overall numbers of dam operators is appropriate given some excess capacity may be necessary during normal operations to address peak requirements. As mentioned, outside peak requirements, this excess may be utilised in non-core activities like mowing and minor maintenance during non-peak events. However, the current operating model does not take advantage of this capacity but rather incurs extra maintenance contracting costs which, in SKM's view, are inefficient.

An overtime allocation of \$52,000 for dam operations has been provided. Seqwater advised that on-call allowances have been included in this allocation. Actual overtime costs are budgeted to be \$27,700 while allowances are \$24,600. This represented about 20% of normal dam operations labour cost. SKM considered over-time costs to be reasonable, but adjusted allowances in accordance with adjustments to cost allocation.

Similarly, overtime of \$7,500 has been allocated for the WTP operator. The WTP operator is only expected to spend 3% of the time at this facility with a normal time cost of \$3,000. Overtime is thus expected, by Seqwater, to account for more than twice as much. Even if allowances are factored in, the overtime (plus allowance) budget for the WTP is high. SKM recommended that the overtime allowance be reduced to a nominal \$1,000 whilst recognising that this still represents over 30% of normal time cost.

SKM noted the large increase in Seqwater's initial 2012-13 budget of labour cost from the labour actual cost incurred previously. No reasons were provided from Seqwater to explain these increases, but Seqwater subsequently revised its forecast downwards.

In initial submissions Seqwater expected a 14% increase in labour expenditure for its irrigation business which is compared to Logan River WSS (Table 5.11 refers).

**Table 5.11: Labour Costs Compared (Real \$)**

	<i>2009-10 Actual</i>	<i>2010-11 Actual</i>	<i>2011-12 Actual</i>	<i>2011-12 Budget</i>	<i>2012-13 Budget</i>	<i>increase 2011- 12 (actual) to 2012-13 (budget)</i>
Logan River WSS	89,738	248,867	238,431	362,469	392,086	64%
Seqwater	1,802,969	3,780,608	4,185,252	3,968,741	4,784,302	14%

Source: SKM (2012).

In its initial assessment, SKM considered the proposed increase to be excessive and recommended that the total labour cost should be \$243,650 in 2012-13). To arrive at this estimate, SKM adjusted the percentage of labour allocated to the Logan River WSS for 2012-13 and then factored a 4% adjustment consistent with Seqwater's wage inflation expectations (Table 5.12 refers).

**Table 5.12: SKM's Revised Direct Labour Cost Budget (2012-13) & Forecast (2013-14)**

<i>Item</i>	<i>Seqwater's Proposed Budget 2012-13</i>	<i>SKM Revised Budget 2012-13</i>	<i>Seqwater's Proposed Initial Forecast 2013-14</i>	<i>SKM Revised Forecast 2013-14</i>	<i>Differen ce</i>
Direct Labour	392,086	243,650	407,769	253,396	(38%)

Source: SKM (2012).

SKM subsequently reviewed its estimate taking account of new information provided by Seqwater. This included the greater emphasis on dam safety and asset management practices following transfer from SunWater. Further, given the requirement of weekend manning of dam operations together with minimum time provisions of the EBA, SKM accepted that the overtime benchmarks it applied to dam operators are too low. Accordingly SKM revised the overtime benchmarks for dam operations.

SKM considered that the proposed 2012-13 labour budget (reduced to \$321,500) for the Logan River WSS is slightly excessive and recommended that the 2012-13 budget be reduced to reflect the 2011-12 labour cost at the Logan River WSS after taking into consideration the additional cost of infrastructure maintenance. In SKM's view an appropriate level of labour cost is approximately \$306,000 in 2012-13 which will result in the 2013-14 budget of approximately \$318,000 after applying an increase that reflects the overall Seqwater employee cost increase for 2012-13. To arrive at this estimate, SKM adjusted the percentage of labour allocated to the Logan River WSS for 2012-13.

The resulting revised recommended labour cost for Logan River WSS is shown in Table 5.13 below.

**Table 5.13: Adjusted 2012-13 Labour Cost Budget (Real \$)**

<i>Service Activity</i>	<i>Salaries &amp; Wages Applied (\$)</i>
Group Support	38,075
Dam Operations	150,574
Water Treatment	26,071
Logan Irrigation Scheme	91,412
<b>Total – 2012-13</b>	<b>306,132</b>

Source: SKM (2012).

SKM considered the efficient cost for 2012-13 to be \$306,132.

### Conclusion

The Authority accepted SKM's conclusion that the 2012-13 amount of \$306,132 is prudent and efficient.

### Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) noted that the Authority reduced labour costs for 2012-13 by \$15,375. Seqwater submitted that this reduction was on the basis of misleading anecdotal evidence that operations staff were underutilised.

Seqwater submitted that SKM subsequently accepted Seqwater's explanations of the supposed underutilisation of staff. Seqwater therefore submitted that the 2012-13 revised labour cost estimate of \$321,507 should be accepted.

### Authority's Response to Submissions Received on the Draft Report

In the Draft Report, the issue of potential underutilisation of operations staff was addressed in a subsequent review by SKM following the provision of new information by Seqwater.

Seqwater initially recommended a 2013-14 estimate of \$253,400, but revised this to \$318,400. This was equivalent to \$306,000 in 2012-13. Details are as shown in Table 5.13 above. The Authority accepted the revised labour costs proposed by SKM.

While SKM subsequently accepted Seqwater's comments about staff utilisation, SKM's further review still recommended a 4.5% reduction on the basis of its assessment of 2011-12 direct labour costs associated with infrastructure management. The Seqwater cost was revised down by about 4.5%. If this reduction is applied to Seqwater's revised estimate, the result of \$307,600 for 2012-13 is not significantly different from the Draft Report estimate.

The Authority proposes, therefore, not to change the Draft Report conclusion.

## Conclusion

### Draft Report

#### *Sampled Operating Cost Items*

For the Logan River WSS, the Authority sampled one direct operating cost item. This item was found to be prudent, and only a small reduction in efficient costs (as compared to final forecast estimates) was identified.

Seqwater's direct labour cost estimate for 2012-13 was \$393,000 in April 2012. SKM initially reduced this to \$244,000 having regard to historical expenditure patterns in the WSS. Seqwater then revised the forecast to \$320,300. Based on its above analysis, SKM's final estimate was \$306,000 for 2012-13.

The Authority accepted SKM's recommendation.

#### *Unsampled Operating Cost Items*

For unsampled items, as outlined in Volume 1, the Authority reviewed in detail approximately 55% of proposed direct operating expenditure for prudence and efficiency. An issue is how to address scheme specific direct operating expenditure not reviewed in detail. Accordingly, the Authority drew upon the results of the SKM review which identified an average saving across all sampled operating cost items.

As outlined in Volume 1, the Authority considered there was merit in applying an average, uniform saving to unsampled direct operating expenditure (excluding electricity and rates) of 5%<sup>3</sup>.

Based on this methodology, the Authority's recommended direct operating expenditure is outlined below (Table 5.14 refers).

### Final Report

No changes are proposed for the Final Report. Details are provided in Table 5.14.

**Table 5.14: Review of Budgeted 2012-13 Direct Operating Expenditure (Nominal \$'000)**

	<i>Seqwater Initial Estimate</i>	<i>Seqwater (April NSP) Revised</i>	<i>Seqwater (November NSP)</i>	<i>Authority's Recommended</i>
<b>Sampled Item</b>				
Direct Labour	392	393	320	306
<b>Unsampled Items</b>				5% saving to apply

Source: SKM (2012), Seqwater (2012e), Seqwater (2012an) and QCA (2012, 2013).

In addition to the efficiency adjustments for the 2012-13 year, the Authority also reduced forecast direct operating costs by a further 1.5% per annum in real terms as a general

<sup>3</sup> Although the average saving identified from sampled items was 15.53%, the Authority chose not to include a large reduction in Repairs & Maintenance costs in the Central Lockyer WSS that were included in the original sample in error.



productivity gain, applied cumulatively for each of the four years of the regulatory period (2013-14 to 2016-17). Details are provided in Volume 1.

### **Summary of Direct Operating Costs**

A comparison of Seqwater's and the Authority's draft and final direct operating costs for the Logan River WSS is set out in Table 5.15.

The Authority's proposed costs include all specific adjustments and the Authority's proposed cost escalations as noted above.

**Table 5.15: Direct Operating Costs (Nominal \$)**

	<i>Seqwater</i>				<i>Authority</i>			
	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
					<b>Draft</b>			
Operations	480,349	498,082	516,487	535,590	451,492	459,813	468,187	476,606
Repairs and Maintenance – Planned	78,753	81,903	85,179	88,586	82,788	84,788	86,816	88,871
Repairs and Maintenance – Unplanned	32,166	33,453	34,791	36,183	22,007	22,539	23,078	23,624
Dam Safety	0	0	0	27,595	0	0	0	24,643
Rates	57,622	59,063	60,540	62,053	57,623	59,063	60,540	62,053
<b>Total</b>	<b>648,891</b>	<b>672,501</b>	<b>696,997</b>	<b>750,007</b>	<b>613,909</b>	<b>626,203</b>	<b>638,620</b>	<b>675,797</b>
					<b>Final</b>			
Operations					451,298	459,627	468,008	476,437
Repairs and Maintenance – Planned					81,996	83,977	85,986	88,021
Repairs and Maintenance – Unplanned					21,796	22,323	22,857	23,398
Dam Safety					0	0	0	24,643
Rates					57,623	59,063	60,540	62,053
Consultation					7,175	7,354	7,538	7,727
<b>Total</b>					<b>619,888</b>	<b>632,345</b>	<b>644,929</b>	<b>682,278</b>

Source: Seqwater (2012an), QCA (2012) and (2013).

## 5.5 Prudency and Efficiency of Non-Direct Costs

### Introduction

Seqwater (2012aj) advised that all non-direct costs were assigned to operating expenditure as it does not have sufficiently disaggregated renewals data to allocate non-direct costs. The prudency and efficiency of Seqwater's overall non-direct costs were reviewed for the Authority by SKM as part of the 2012-13 GSC review.

For this investigation, Seqwater made adjustments to the aggregate non-direct cost estimates submitted to the Authority's GSC investigation to exclude costs not relevant to the provision of irrigation services.

The costs remaining after these adjustments were made were then allocated to irrigation tariff groups using the total direct costs as the cost allocator (see Volume 1).

### Previous Review

As noted above, in the previous review, Indec reviewed Seqwater's non-direct costs for 2006-11. Non-direct costs were allocated to schemes on the basis of total direct costs.

### Draft Report

#### Stakeholder Submissions

##### *Seqwater*

Seqwater submitted that non-direct costs for 2012-13 were derived at the aggregate level for all schemes and allocated to individual schemes based on the proportion of direct costs attributable to the individual scheme (except for insurance costs which were allocated by asset replacement value). These costs were then escalated forward to derive forecast non-direct costs for the regulatory period.

Total non-direct costs and those allocated to the Logan River WSS are in Table 5.16.

**Table 5.16: Seqwater's Budgeted and Forecast Non-Direct Costs (Nominal \$'000)**

	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Seqwater	9,524	9,762	10,006	10,256	10,512
Logan River WSS	457	468	480	492	504

*Source: Seqwater (2012aj) and Seqwater (2012an).*

As noted in Volume 1, Seqwater initially submitted non-direct forecasts in April 2012. Seqwater subsequently revised these forecasts in November 2012 following the Authority's review of GSCs and the Minister's subsequent decision and further analysis by Seqwater of bulk water costs.

A comparison of the alternative estimates for the Logan River WSS is provided in Table 5.17 for non-direct operations costs.

**Table 5.17: Non-Direct Operations Costs 2012-13 Forecasts (Nominal \$)**

	<i>April NSP</i>	<i>November NSP</i>	<i>Variance (\$)</i>	<i>Variance (%)</i>
Water Delivery	69,069	58,646	(10,413)	(15)
Asset Delivery	30,831	28,888	(1,943)	(6)
Business Services	170,442	117,214	(53,226)	(31)
Organisational Development	69,455	55,184	(14,271)	(21)
Executive	6,839	8,692	1,854	27
Other	21,031	4,990	(16,041)	(76)
<b>Total Non-Direct Operations</b>	<b>367,657</b>	<b>273,617</b>	<b>(94,040)</b>	<b>(26)</b>

Source: Seqwater (2012e) and Seqwater (2012a).

Corporate functions were defined as comprising the office of the CEO and the Organisational Development and Business Services groups. Corporate costs represent almost half the non-direct operating costs allocated to irrigation schemes in 2012-13.

The major component of corporate costs relates to Information, Communication and Technology (ICT). The major functions involved in ICT relate to services support, database administration, monitor and maintenance of various servers and network infrastructure, demand management, application management, strategy maintenance and development, business analysis and subject matter expert advice.

Seqwater's submitted non-direct operating costs for the Logan River WSS are detailed in Table 5.18 below (November 2012 NSPs).

**Table 5.18: Seqwater's Forecast Non-Direct Costs (Nominal \$)**

	2012-13	2013-14	2014-15	2015-16	2016-17
<i>Operations</i>					
Water Delivery	58,646	60,113	61,615	63,156	64,735
Asset Delivery	28,888	29,610	30,350	31,109	31,887
Business Services	117,216	120,146	123,150	126,229	129,384
Organisational Development	55,184	56,564	57,978	59,427	60,913
Executive	8,692	8,910	9,132	9,361	9,595
Other	4,990	5,115	5,243	5,374	5,508
<b>Sub-Total</b>	<b>273,617</b>	<b>280,457</b>	<b>287,469</b>	<b>294,655</b>	<b>302,022</b>
<i>Non-Infrastructure Assets</i>					
Insurance	144,106	147,709	151,401	155,186	159,066
Working Capital	10,795	11,065	11,341	11,625	11,916
<b>Total</b>	<b>456,598</b>	<b>468,013</b>	<b>479,713</b>	<b>491,706</b>	<b>503,999</b>

Source: Seqwater (2012e) and Seqwater (2012an).

In addition to operations related non-direct costs, Seqwater identified costs associated with the use of non-infrastructure assets, insurance and working capital.

The Logan River WSS utilises a range of non-infrastructure assets (buildings and plant and equipment). These assets are not included in the renewals expenditure forecasts. However, it is necessary for costs associated with the use of these assets to be attributed to the Scheme. Seqwater has used depreciation costs as a proxy for the cost associated with use of these assets. However, these depreciation costs are not captured for the WSS. Accordingly, aggregate non-infrastructure depreciation for 2012-13 has been allocated to facilities on the basis of direct costs and escalated forward over the forecast period.

Seqwater's annual insurance premium cost for 2012-13 is forecast at \$6.2 million. The major components to the premium include industrial special risks, machinery breakdown, public liability, professional indemnity, contract works and directors and officers insurance.

Seqwater allocated its 2012-13 premium to the Logan River WSS using the replacement value of scheme assets. This value was escalated by CPI to determine a premium for each year of the forecast period.

In regard to working capital, Seqwater indicated that the Authority has already adopted a methodology for calculating Seqwater's working capital in GSCs. Seqwater calculated the working capital allowance using this methodology and the values submitted to the Authority for 2012-13, at \$5.538 million.

Seqwater allocated a portion of this working capital allowance to the Logan River WSS on the basis of revenue attributable to the scheme. The 2012-13 working capital allowance has then been escalated by CPI to provide a forecast for each year of the regulatory period.

Seqwater proposed that all non-direct costs be escalated from the 2012-13 base year in line with its estimate of inflation, based on the mid-point of the RBA's target range for CPI at the time of its submission, being 2.5% per annum.

#### *Other Stakeholders*

During consultation in June 2012 (QCA 2012c), irrigators questioned how much Seqwater is paying on catchment management and proposed that rather than irrigators paying for catchment management (which delivers environmental and water quality benefits to urban customers), Seqwater should pay irrigators for on-farm catchment management practices.

Irrigators (IA 2012) also asked during Round 1 consultations in June 2012 (QCA 2012c), whether any costs related to the presentations to and findings of the dam enquiry and any associated legal action will be included in irrigators' water charges.

#### *Authority's Analysis*

The Authority (QCA 2012b) assessed Seqwater's non-direct operating costs as part of its 2012-13 GSC Review. That review concluded that Seqwater's operating costs (including non-direct costs) should be reduced by 2.5% to reflect a general efficiency gain.

The Government subsequently increased the general efficiency gain to 3.0% and removed Seqwater's proposed recruitment of 62.5 FTEs for vacant and new positions, both to apply to the 2012-13 year.

Seqwater (2012aj) took these adjustments into account in its revised submission to the Authority. As these costs have been approved by Government, the Authority did not propose a further reduction for 2012-13.

The Authority noted that Seqwater adjusted its aggregate non-direct costs to exclude those costs not relevant to the provision of irrigation services, including costs associated with technical warranty and development, water treatment operations including catchment and water quality management, and costs associated with planning and policy for major non-irrigation capital projects. The Authority accepted these adjustments, noting that specific cost attribution may remain problematic in some cases.

In addition to the above adjustments for the 2012-13 year, the Authority also applied a productivity adjustment to the established efficient cost base for 2012-13 for anticipated future efficiency gains brought about by technological, organisational, and operational improvements in service delivery. The Authority recommended a reduction in forecast non-direct operating costs by a further 1.5% per annum in real terms as a general productivity gain, applied cumulatively for each of the four years of the regulatory period (2013-14 to 2016-17).

For working capital, the largest portion of irrigators' payments to Seqwater arises from fixed charges paid in advance, whereas GSC charges are paid in arrears. This means that, for irrigation activities, Seqwater would not suffer an economic cost resulting from the timing difference between receivables and payables. Seqwater was requested to provide further substantiation of its proposal. However, as further evidence was not forthcoming, the Authority did not incorporate a working capital allowance in this instance.

The Authority accepted Seqwater's proposed escalation of 2.5% per year for 2013-17 for non-direct costs.

As noted above, the Authority removed catchment management and water quality activities that are conducted for the sole benefit of urban water supply.

In regard to flood enquiry costs, Seqwater advised the Authority that the cost of participation in the flood enquiry is not relevant to irrigators. However, it is possible that some costs related to enquiry recommendations may be relevant at some future date. At this stage, no provision for these costs was made in the 2012-13 budget and consequently, no costs were carried forward into the 2013-17 period for irrigation prices.

### **Submissions Received from Stakeholders on the Draft Report**

Seqwater (2013a) submitted that the 1.5% efficiency reduction should not be applied to insurance as Seqwater has limited ability to influence the amount of insurance premiums. This is particularly as Seqwater has made large claims for flood damage in recent years. Insurance is negotiated on a portfolio of assets and not a scheme basis. Therefore Seqwater submitted that the efficiency reduction should not apply to insurance costs in any scheme.

### **Authority's Response to Submissions Received on the Draft Report**

In response to Seqwater, as insurance service provision is a competitive market, it should be possible to negotiate savings in premiums. However, the Authority agrees that since the flood inquiry and other events subsequent to the Draft Report, it may not be reasonable for Seqwater to be expected to achieve year-on-year reductions in insurance premium costs.

The Authority concludes that Seqwater's insurance premiums for 2013-17 should be exempt from the productivity gains due current circumstances (that is, recent claims made by Seqwater and increasing insurance risks due to climate change). Accordingly, the Authority accepts Seqwater's submission and will not apply the 1.5% annual saving to insurance costs.

The Authority's draft and final recommended non-direct costs to be recovered from the Logan River WSS (all sectors) are set out in Table 5.19.

Compared to the Draft Report, total non-direct costs are slightly higher, with increases in non-direct operations costs and insurance costs.

The allocation of these costs between HP and MP customers is discussed below.

**Table 5.19: Non-Direct Operating Costs (Nominal \$)**

	<i>Seqwater</i>				<i>Authority</i>			
	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
					<b>Draft</b>			
Non-Direct Operations	280,457	287,469	294,656	302,022	267,433	271,393	275,345	279,287
Non-Infrastructure	28,782	29,502	30,239	30,995	27,255	27,511	27,763	28,010
Insurance	147,709	151,401	155,186	159,066	145,493	146,860	148,203	149,522
Working Capital	11,065	11,341	11,625	11,916	0	0	0	0
<b>Total</b>	<b>468,013</b>	<b>479,713</b>	<b>491,706</b>	<b>503,999</b>	440,181	445,764	451,312	456,819
					<b>Final</b>			
Non-Direct Operations					270,410	274,414	278,411	282,396
Non-Infrastructure					27,544	27,803	28,057	28,307
Insurance					147,709	151,402	155,187	159,066
Working Capital					0	0	0	0
<b>Total</b>					<b>445,663</b>	<b>453,618</b>	<b>461,655</b>	<b>469,769</b>

Source: Seqwater (2012an) and QCA (2012) and (2013).

## 5.6 Allocation of Non-Direct Operating Costs

### Draft Report

It is necessary to determine the method to allocate non-direct costs across Seqwater's business, including irrigation tariff groups. By definition, non-direct costs do not directly apply to specific activities within schemes, and thereby cannot be allocated according to their relevance to individual service contract activities.

Seqwater's submissions describe a two stage process for cost assignment:

- (a) Stage 1 – Seqwater attributes its direct costs to the tariff groups in which they are incurred, and allocates its non-direct costs to tariff groups using the preferred cost allocation methodology for this stage; and
- (b) Stage 2 – Seqwater allocates all of the fixed costs assigned to tariff groups in Stage 1 above (which at this point include direct and non-direct costs), between MP and HP WAE within each tariff groups using the preferred cost allocation methodology for this stage.



## Stage 1 - Allocation of Costs to Tariff Groups

### Stakeholder Submissions

#### Seqwater

Seqwater (2012aj) proposed to allocate non-direct costs to tariff groups using total direct costs (TDC) (with the exception of insurance premium costs and working capital) because:

- (a) TDC represents a reasonable driver of the non-direct operating costs of Seqwater's irrigation activities;
- (b) it is relatively simple to administer, identify and extract from the reporting system;
- (c) it allows regular comparison between forecast and actual outcomes, and to update allocations where appropriate; and
- (d) it results in cost allocations consistent with expectations about non-direct cost incurrence.

Seqwater noted that the Authority used direct labour costs (DLC) as the cost allocator in the recent SunWater review. Seqwater's comparisons of cost allocations using both DLC and TDC showed use of DLC resulted in significantly more costs being allocated to schemes than considered reasonable.

For those components of its non-direct costs which are not allocated using TDC, Seqwater proposes to allocate:

- (a) insurance premium costs to tariff groups on the basis of the replacement value of insured assets; and
- (b) working capital allowance to tariff groups according to forecast revenue.

#### Authority's Analysis

In the Authority's SunWater review, analysis by Deloitte was largely ambivalent on which of these two measures DLC or TDC (out of the several considered and rejected) would be most suitable to allocate non-direct costs. Both were relatively highly ranked.

Although the DLC approach was adopted for SunWater, the Authority concluded that this did not necessarily apply for other entities. The Authority considered the approach proposed by Seqwater was fair and reasonable, having regard to Seqwater's particular cost accounting systems and procedures. The Authority considered that TDC (excluding variable electricity) is a suitable method for allocating non-direct costs.

## Stage 2 - Allocation of Costs Between Priority Groups

### Previous Review

For the 2006-11 price paths, all costs were apportioned between medium and HP customers according to WPCFs in both bulk and distribution systems.

## Stakeholder Submissions

### Seqwater

Seqwater (2012a) proposed that renewals, insurance and maintenance costs are allocated to MP using the Headworks Utilisation Factor (HUF).

Seqwater commissioned Parsons Brinckerhoff (PB) to calculate the HUF percentage for the scheme, using the methodology endorsed by the QCA for irrigation pricing in SunWater schemes.

PB calculated a HUF for MP customers of 16% (see Chapter 4).

Seqwater assigned working capital costs between MP and HP customers proportional to lower bound revenue.

The balance of costs have been allocated to MP based on a 50:50 split between the HUF (16%) and the nominal ML entitlements attributable to MP customers (57.9%).

### Other Stakeholders

No other stakeholders provided comment regarding this topic.

## Authority's Analysis

The Authority agreed with Seqwater's proposal to use the stage 2 cost allocation approach that it recommended for the SunWater investigation (QCA 2012a).

For the Logan River WSS:

- (a) fixed repairs and maintenance costs are to be allocated to MP and HP customers using HUFs (as for renewals expenditure) as repairs and maintenance expenditures have a similar purpose to renewals expenditures. As these activities are more related to headworks assets, they are more likely to deliver a higher standard of service per ML to HP users; and
- (b) in principle, those components of fixed operations costs that are asset-related (for example, dam safety, water, facilities and environmental management) are to be allocated to MP and HP customers using HUFs, while those components of fixed operations costs that are more related to service provision (scheduling, water delivery, customer service, account management) be allocated using current WAE. The asset-related components of fixed operations costs are more closely linked to the provision of higher service standards (reliability) than the non-asset components, which tend to provide similar service standards to all users. However, as Seqwater does not disaggregate operations costs into those which are asset and non-asset related, it is proposed that 50% of these costs be allocated using HUFs and 50% using current nominal WAEs.

The effect for the Logan River WSS is detailed in the following chapter (as it takes into account other factors relevant to establishing total costs).

## Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) concurred with the Authority's Draft Report recommendations in regard to allocation of costs between priority groups.

## Authority's Response to Submissions Received on the Draft Report

The Authority proposes no change to Draft Report recommendations.

### 5.7 Cost Escalation

#### Draft Report

##### *Seqwater*

Seqwater proposed that where its costs rise in line with inflation, it has adopted the mid-point of the RBA's target range for CPI at the time of its submission, being 2.5% per annum.

For direct labour costs, Seqwater proposed an annual increase of 4% over the 2013-17 period. This aligned with the Authority's SunWater recommendations and was in line with historic growth in labour cost indices over the past five to 10 years.

Similarly, Seqwater proposed a 4% escalation for materials and contractors costs, also consistent with the SunWater report and growth in relevant ABS construction cost indices over the last 10 years.

Seqwater submitted that electricity costs comprise only a small proportion of total operating costs of the irrigation water supply schemes and are difficult to forecast.

Seqwater proposed that electricity costs associated with the assumed pumping in the 2012-13 budget be escalated by inflation (2.5%) for the regulatory period (from 2013-14) with a proposed settlement at the end of the regulatory period to reflect the actual electricity costs incurred.

Seqwater proposed that other direct operating cost categories (that is, other than direct labour and contractors & materials) and all non-direct costs, be escalated from the 2012-13 base year in line with inflation.

##### *Authority's Analysis*

The Authority's analysis of cost escalation is detailed in Volume 1.

The Authority recommends that for the regulatory period 2013-17:

- (a) the costs of direct and non-direct labour and contractors should be escalated by 3.6% per annum rather than the proposed 4% by Seqwater;
- (b) the cost of direct materials should be escalated by 4% per annum;
- (c) the costs of repairs and maintenance should be escalated by 4% per annum;
- (d) other direct costs and non-direct costs should be escalated by 2.5% per annum; and
- (e) in general, electricity should be escalated by 2.5% per annum. However, should Seqwater sustain material electricity cost changes above the escalated level, consideration should be given to an application by Seqwater to the Authority for an end-of-period adjustment to future prices.

## Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) advised that the actual enterprise bargaining increase for 2012-13 is 2.2% and the average salary increment is approximately 3%. Seqwater submitted, therefore, that labour cost escalation for 2012-13 could be about 5.2 %.

However, as future enterprise bargaining outcomes are not known and as average salary increments may trend down over-time (if staff turnover is low); Seqwater submitted that the annual nominal escalation factor for total labour costs should be 4% for 2012-17. This is preferred to the Authority's draft proposal of 3.6% per annum in nominal terms.

Seqwater clarified that it accepts the Authority's draft recommended annual nominal escalation for contractors at 3.6% per annum for 2012-17.

Seqwater (2013a) agreed that [from 2013-14] electricity should be escalated by 2.5% per annum in nominal terms. However, in the event that Seqwater experiences material actual electricity cost increases (or decreases) relative to the recommended escalated levels, Seqwater may apply to the Authority for an end-of-period adjustment.

QFF (2013b) accepted the escalation rates recommended in the Authority's Draft Report.

## Authority's Response to Submissions Received on the Draft Report

### Labour Costs

The Authority notes that while Seqwater's submission argues for a possible 5.2% increase in labour costs from 2012-13 to 2013-14, Seqwater recommends that the annual nominal escalation factor for total labour costs should be 4% for 2012-17. However, Seqwater provides limited support for this recommendation, except that it acknowledges the uncertainty of future enterprise agreements and salary increments.

The Authority's draft recommendation was that all labour costs be escalated by 3.6% per annum for 2012-17, based on the Queensland Treasury (Treasury) labour cost forecasts for 2013-2016 (2012-13 State Budget). That is, the available three-year average forecast in Queensland Wage Price Index (WPI) growth is 3.6% per annum for 2013-16.

There is no forecast for 2016-17; however, the Authority considers Treasury's WPI forecast to be the most appropriate basis for escalating labour costs for 2012-17. The Authority also notes Seqwater's acceptance of the recommended 3.6% escalation for contractor costs.

As there are no compelling grounds to alter the Draft Report, the Authority recommends that total labour and contractor costs be escalated at 3.6% per annum from 2012-13 to 2016-17.

To clarify that the above relates to total (direct and non-direct) labour costs, while Seqwater initially proposed a 2.5% escalation for non-direct labour costs, the Authority adopted a 3.6% escalation for all labour costs in its Draft Report. Seqwater has since confirmed its intention to submit that the escalation for non-direct labour should be the same as for direct labour. The Authority therefore recommends application of a 3.6% nominal escalation rate to all direct and non-direct labour costs from 2012-17.

### Electricity

In February 2013, the Authority published the Draft Determination: Regulated Retail Electricity Prices 2013-14, which has been adopted as the basis for any 2013-14 regulated electricity tariffs incurred by Seqwater in its irrigation schemes.

While the Authority's draft electricity tariffs may change, this is the most current and public source of electricity forecasts for 2013-14. By adopting this approach, the Authority has effectively increased 2012-13 regulated electricity prices by about 15% (e.g. using the draft Tariff 22 for 2013-14).

Beyond 2013-14, and consistent with the Draft Report, the Authority recommends escalation of all electricity costs by 2.5% each subsequent year of the regulatory period. The Authority also endorses Seqwater's view that material variations could be addressed via application for an end-of-period adjustment to future prices.

## 5.8 Summary of Operating Costs

Seqwater's proposed operating costs by activity and type are set out in Table 5.20. The Authority's recommended operating costs are set out in Table 5.21.

**Table 5.20: Seqwater's Proposed Operating Costs (Nominal \$)**

	2013-14	2014-15	2015-16	2016-17
<b>Direct Operations</b>				
Labour	333,150	346,476	360,336	374,749
Contractors and Materials	48,446	50,384	52,400	54,496
Electricity	6,656	6,823	6,993	7,168
Other	92,096	94,399	96,759	99,178
<b>Repairs and Maintenance</b>				
Planned	78,753	81,903	85,179	88,586
Unplanned	32,166	33,453	34,791	36,183
<b>Dam Safety</b>	0	0	0	27,595
<b>Rates</b>	57,622	59,063	60,540	62,053
<b>Non-Direct Costs</b>				
Non-Direct Operations	280,457	287,469	294,656	302,022
Non-Infrastructure	28,782	29,502	30,239	30,995
Insurance	147,709	151,401	155,186	159,066
Working Capital	11,065	11,341	11,625	11,916
<b>Total</b>	<b>1,116,904</b>	<b>1,152,214</b>	<b>1,188,703</b>	<b>1,254,006</b>

Source: Seqwater (2012an).

**Table 5.21: Authority's Draft Operating Costs (Nominal \$)**

	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
<b>Direct Operations</b>				
Labour	312,394	318,711	325,079	331,492
Contractors and Materials	45,769	46,792	47,827	48,873
Electricity	6,657	6,823	6,994	7,168
Other	86,673	87,487	88,287	89,073
<b>Repairs and Maintenance</b>				
Planned	82,788	84,788	86,816	88,871
Unplanned	22,007	22,539	23,078	23,624
<b>Dam Safety</b>	0	0	0	24,643
<b>Rates</b>	57,623	59,063	60,540	62,053
<b>Non-Direct Costs</b>				
Non-Direct Operations	267,433	271,393	275,345	279,287
Non-Infrastructure	27,255	27,511	27,763	28,010
Insurance	145,493	146,860	148,203	149,522
Working Capital	0	0	0	0
<b>Total</b>	1,054,090	1,071,967	1,089,932	1,132,616

Source: QCA (2012).

The Authority's draft recommended operating costs for 2013-14 were 6% lower than Seqwater's proposed amount, as defined in its November NSP.

The final total operating costs are set out in Table 5.22. Total operating costs are slightly higher than reported in the Draft Report due to the inclusion of consultation costs, higher insurance costs and increased electricity costs.

**Table 5.22: Authority's Final Operating Costs (Nominal \$)**

	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
<b>Direct Operations</b>				
Labour	312,394	318,711	325,079	331,492
Contractors and Materials	45,545	46,563	47,592	48,633
Electricity	7,468	7,655	7,846	8,043
Other	85,891	86,698	87,491	88,270
<b>Repairs and Maintenance</b>				
Planned	81,996	83,977	85,986	88,021
Unplanned	21,796	22,323	22,857	23,398
<b>Dam Safety</b>	0	0	0	24,643
<b>Rates</b>	57,623	59,063	60,540	62,053
<b>Consultation Costs</b>	7,175	7,354	7,538	7,727
<b>Non-Direct Costs</b>				
Non-Direct Operations	270,410	274,414	278,411	282,396
Non-Infrastructure	27,544	27,803	28,057	28,307
Insurance	147,709	151,402	155,187	159,066
Working Capital	0	0	0	0
<b>Total</b>	<b>1,065,551</b>	<b>1,085,963</b>	<b>1,106,584</b>	<b>1,152,047</b>

Source: QCA (2013).

## 6. TOTAL COSTS AND FINAL PRICES

### 6.1 Background

#### Ministerial Direction

The Ministerial Direction requires the Authority to recommend irrigation prices to apply to Seqwater water supply schemes. Prices are to apply for the four year regulatory period from 1 July 2013 to 30 June 2017.

Recommended prices and tariff structures are to provide a revenue stream that allows Seqwater to recover:

- (a) prudent and efficient expenditure on renewing and rehabilitating existing assets through a renewals annuity; and
- (b) efficient operational, maintenance and administrative costs to ensure the continuing delivery of water services.

In considering the tariff structures, the Authority is to have regard to the fixed and variable nature of the underlying costs. The Authority is to adopt tariff groups as proposed in Seqwater's NSPs and not to investigate additional nodal pricing arrangements.

The Ministerial Direction also requires that:

- (a) where current prices are above the level required to recover prudent and efficient costs, current prices are to be maintained in real terms;
- (b) where cost-reflective prices are above current prices, the Authority must consider recommending price paths to moderate price impacts on irrigators, whilst having regard to Seqwater's commercial interests; and
- (c) for certain schemes or segments of schemes [hardship schemes], prices should increase in real terms at a pace consistent with 2006-11 price paths, until such time as the scheme reaches the level required to recover prudent and efficient costs.

Price paths may extend beyond 2013-17, provided the Authority gives its reasons. The Authority must also give its reasons if it does not recommend a price path, where real price increases are recommended by the Authority.

#### Previous Review

In the 2006-11 price paths, real price increases over the five years were capped at \$10/ML for relevant schemes. The cap applied to the sum of Part A and Part B real prices. In each year of the price path, the prices were indexed by CPI.

For the Logan River WSS, the 2005-06 prices were assessed as already above the assessed reference tariff (lower bound costs) and increases in the tariffs were limited to CPI increases.



## 6.2 Approach to Calculating Prices

In order to calculate Seqwater's irrigation prices in accordance with the Ministerial Direction, the Authority has:

- (a) identified the total prudent and efficient costs of the scheme;
- (b) identified the fixed and variable components of total costs;
- (c) allocated the fixed and variable costs to each priority group where appropriate;
- (d) calculated cost-reflective irrigation prices;
- (e) compared the cost-reflective irrigation prices with current irrigation prices; and
- (f) implemented the Government's pricing policies in recommended irrigation prices.

## 6.3 Total Costs

Based on the methodology outlined in previous chapters, the Authority determined total efficient costs for all sectors for each tariff group. This is comprised of prudent and efficient renewals costs used as a basis for estimating the renewals annuity, and efficient direct and non-direct operating costs. In many schemes, external revenue sources can offset some of these costs.

### Revenue Offsets

Seqwater receives revenue from property leases, recreation fees and the provision of town water supplies. To ensure that Seqwater is not overcompensated for the provision of services, this revenue needs to reduce the estimate of efficient costs.

#### Draft Report

##### *Stakeholder Submissions*

In the Logan River WSS, Seqwater included a revenue offset of \$24,400, based on the 2012-13 expected amount of such revenue. These off-sets were primarily for lease revenue associated with buildings and land.

##### *Authority's Analysis*

The Authority noted that the proposed amount for the revenue offset is slightly lower than the recent average of \$25,100 (over the 2009-10 to 2011-12 period). However, the Authority accepted the amount of \$24,400 as a revenue offset for Logan River WSS.

#### Final Report

The Authority proposes no changes to revenue offsets for the Final Report.

### Summary of Total Costs

The Authority's estimate of prudent and efficient total costs for the Logan River WSS for 2013-17 is outlined in Table 6.1. Total costs in 2012-13 are also provided including an imputed renewals annuity deflated from 2013-14 (not actual). Total costs reflect the costs for all sectors and do not include any adjustments for the Queensland Government's pricing policies.

**Table 6.1: Total Costs for the Logan River WSS (All Sectors) (Nominal \$)**

	2012-13	2013-14	2014-15	2015-16	2016-17
<b>Seqwater (April NSP)</b>					
Renewals Annuity	159,298	163,281	168,299	170,870	173,541
Direct Operating	700,958	726,700	753,415	781,139	837,507
Non-Direct Operating	561,206	575,236	589,617	604,358	619,467
Less Revenue Offsets	(24,358)	(24,967)	(25,592)	(26,231)	(26,887)
Return on Working Capital	10,795	11,065	11,341	11,625	11,916
<b>Total</b>	<b>1,407,899</b>	<b>1,451,315</b>	<b>1,497,081</b>	<b>1,541,760</b>	<b>1,615,544</b>
<b>Seqwater (November NSP)</b>					
Renewals Annuity	144,398	148,008	150,376	150,765	151,161
Direct Operating	626,134	648,891	672,501	696,997	750,007
Non-Direct Operating	445,803	456,948	468,372	480,081	492,083
Less Revenue Offsets	(24,358)	(24,967)	(25,592)	(26,231)	(26,887)
Return on Working Capital	10,795	11,065	11,341	11,625	11,916
<b>Total</b>	<b>1,202,771</b>	<b>1,239,944</b>	<b>1,276,999</b>	<b>1,313,236</b>	<b>1,378,280</b>
<b>Authority - Draft</b>					
Renewals Annuity	-	113,309	115,203	114,274	113,367
Direct Operating	-	613,909	626,203	638,620	675,797
Non-Direct Operating	-	440,181	445,764	451,312	456,819
Less Revenue Offsets	-	(24,967)	(25,592)	(26,231)	(26,887)
Return on Working Capital	-	0	0	0	0
<b>Total</b>	<b>-</b>	<b>1,142,432</b>	<b>1,161,578</b>	<b>1,177,974</b>	<b>1,219,096</b>
<b>Authority - Final</b>					
Renewals Annuity	-	117,143	119,026	118,183	117,361
Direct Operating	-	619,888	632,345	644,929	682,278
Non-Direct Operating	-	445,663	453,618	461,655	469,769
Less Revenue Offsets	-	(24,967)	(25,592)	(26,231)	(26,887)
Return on Working Capital	-	0	0	0	0
<b>Total</b>	<b>-</b>	<b>1,157,727</b>	<b>1,179,398</b>	<b>1,198,536</b>	<b>1,242,521</b>

Source: Seqwater (2012e), Seqwater (2012an), QCA (2012) and (2013).

## 6.4 Fixed and Variable Costs

The Ministerial Direction requires the Authority to have regard to the fixed and variable nature of Seqwater's costs in recommending tariff structures for each WSS.

### Previous Review 2006-11

In the 2006-11 price path, for the Logan River WSS, fixed charges were set to recover 53% of revenue and variable charges were set to recover 47% of revenue, given the agreed forecast water use.

### Draft Report

#### Stakeholder Submissions

##### *Seqwater*

Seqwater (2012s) submitted that all operations (including electricity), maintenance and renewal costs for the Logan River tariff group do not vary with water use (that is, they are 100% fixed costs).

##### *Other Stakeholders*

G. Drynan (2012) noted that with a 100% fixed charge as proposed by SunWater, the only price signal is that the more water is used, the cheaper it becomes. This structure provides no incentive for Seqwater to seek out efficiencies.

### Authority's Analysis

The Authority's review of SunWater irrigation pricing considered the issue of tariff structures, with a detailed review by Indec Consulting of the proportion of costs that could reduce when water demand is low. Details are in Volume 1.

The Authority noted that SunWater and Seqwater WSSs share similar characteristics. Most of the costs associated with operating a bulk WSS are fixed and do not vary with water use. The Authority therefore, where appropriate, applied the Indec findings to Seqwater schemes.

In summary, the Authority considered that some costs in both bulk schemes and distribution systems will vary with water use. Accordingly, the Authority applied the average findings determined for the SunWater Review to Seqwater schemes (Table 6.2 refers).

**Table 6.2: Variable Costs**

<i>Activity</i>	<i>% Variable in Bulk</i>
Labour	20%
Contractors	20%
Repairs and Maintenance	20%
Materials and Other	20%
Dam Safety	0%
Rates	0%
Electricity (pumping)	n. a.
Non-Directs	0%
Renewals Annuity	0%

Source: Indec (2012).

In response to comments, the Authority noted that the proposed price structure contains a higher fixed charge proportion than current charges. As noted by G. Drynan (2012), this means that the unit cost to an irrigator is lower when more water is used. This pricing signal conforms to the structure of costs incurred by Seqwater and the Ministerial Direction, as noted above.

### Final Report

No changes to the above are proposed for the Final Report.

## 6.5 Allocation of Costs According to WAE Priority

### Draft Report

To establish the irrigation share of fixed costs, total fixed costs must be allocated between MP and HP WAE in each relevant tariff group. Variable costs were allocated according to water use.

Earlier, the Authority identified its preferred approach to allocating costs between MP and HP WAE. The Authority's general approach is summarised in Table 6.3.

### Final Report

The cost allocation approach remains unchanged for the Final Report.

**Table 6.3: Fixed Cost Allocation between HP and MP WAE**

<i>Cost Component</i>	<i>Fixed Cost Allocation Methodology</i>	
	<i>Bulk WSSs</i>	<i>Distribution Systems</i>
Renewals Annuity	HUF	WAE
Repairs and Maintenance	HUF	WAE
Other Operating Costs	50% by HUF, and 50% by WAE	WAE

Source: QCA (2012). Note: Variable costs are allocated between MP and HP WAE according to water use by way of the Authority's recommended volumetric tariffs.

The resulting total fixed revenue requirements for HP and MP WAE and the irrigation share of that requirement are shown in Table 6.4.

**Table 6.4: Authority's Recommended Allocation of Fixed Revenue Requirement between HP and MP WAE and Irrigation WAE (2013-14 Nominal \$'000)**

<i>Tariff Group</i>	<i>HP Fixed Revenue Requirement</i>	<i>MP Fixed Revenue Requirement</i>	<i>HP Irrigation Share of Fixed Revenue Requirement</i>	<i>MP Irrigation Share of Fixed Revenue Requirement</i>
Logan River - Draft	672	361	0	361
Logan River - Final	678	371	0	371

Source: QCA (2012) and (2013).

## 6.6 Volumetric Charges

### Draft Report

On the basis of its analysis of the share of total costs, the Authority estimated total variable costs for Logan River WSS. To convert this estimate of total variable costs to a volumetric tariff required the Authority to consider how such costs vary with each ML of water use.

The Authority noted that Seqwater's forecast total costs were developed using a zero-based budgeting approach that assumed a typical year but also assumed that all costs (except some electricity) were fixed.

Moreover, water use is highly variable between each year with no discernible consistency (other than when there is no supply in which case variable costs and volumetric charges would be zero). It is more variable than for SunWater where the Authority adopted the highest five of the eight years of use to establish the volumetric charge. A simple ten-year average would also be misleading given the large number of recent low use years due to drought and floods in SEQ.

As the notion of typical costs relates to management practices to ensure services are available when required, the Authority adopted a water use estimate based on the average of those years that exceed the ten-year average for each tariff group. A longer term estimate (say the past 15 years) may fail to recognise structural changes occurring in water use, while a shorter period (say the most recent five years) would reflect the most recent years of flood and drought.

## Final Report

In many Seqwater schemes, stakeholders were concerned that the 10-year data set included a series of drought years followed by floods which have resulted in abnormally low water use. For the Final Report, the Authority determined that a 15-year data set could be used.

In the Logan River WSS, the typical water use assumption based on 15 years data is 10,881ML compared to 7141ML based on 10 years data. This change has the effect of reducing the volumetric cost reflective charge but increasing the fixed (Part A) charge (see Table 6.5).

**Table 6.5: 2013-14 All Sectors Water Use and Volumetric Tariffs**

<i>Tariff Group</i>	<i>Total Variable Costs (\$'000)</i>	<i>Authority's Estimate of Typical Water Use (ML)</i>	<i>Volumetric Tariff (\$/ML)</i>
Logan River - Draft	110	7,140	15.27
Logan River - Final	110	10,881	9.98

*Source: QCA (2012 and 2013). Note: The volumetric charge is derived by taking the NPV of total variable costs divided by the estimate of typical water use. Observable inconsistencies between \$/ML and the costs divided by water use are due to the effects of this NPV approach and rounding (i.e. costs are in \$'000s).*

## 6.7 Cost Reflective Fixed and Volumetric Tariffs

The Authority derived cost-reflective fixed and volumetric tariffs on the basis of assessed efficient costs identified above, and the recommended tariff structures.

These prices are cost reflective only and do not take account of the Government's pricing policies. This is discussed in the next section.

Table 6.6 presents current tariffs, the Tier 1 reference (lower bound) tariff, Seqwater's (April and November 2012) proposed tariffs and the Authority's Draft Report and Final Report cost reflective tariffs.

**Table 6.6: Cost-Reflective Tariffs (Nominal \$/ML)**

<i>Tariff Group</i>	<i>Actual</i>	<i>Seqwater (April 2012)</i>	<i>Seqwater (November 2012)</i>	<i>Cost Reflective (Draft)</i>	<i>Cost Reflective (Final)</i>
	<i>2012-13</i>	<i>2013-14</i>	<i>2013-14</i>	<i>2013-14</i>	<i>2013-14</i>
<b>Logan River –</b>					
Fixed (Part A)	17.50	34.54	27.85	26.37	27.19
Variable (Part B)	27.93	0.00	0.00	15.27	9.98

*Source: Seqwater (2012), Seqwater (2012e), Seqwater (2012an) and QCA (2012) and (2013).*

Cost-reflective prices reflect the Authority's estimates of prudent and efficient costs, recommended tariff structures, and the allocation of costs to different priority groups.

## 6.8 Queensland Government Pricing Policies and Final Prices

Under the Ministerial Direction, where current prices are already above the level required to recover efficient allowable costs, water prices are to be maintained in real terms using an appropriate measure of inflation (as recommended by the Authority).

Where prices are below efficient cost recovery, prices are to be set to increase in real terms at a pace consistent with the 2006-11 prices until such time as the WSS reaches efficient costs, whereupon prices are maintained in real terms.

In addition, for tariff groups where the Authority's calculated tariffs that would otherwise result in a price increase for irrigators higher than the Authority's measure of inflation:

- (a) the Authority must consider phasing in the price increase in order to moderate price impacts on irrigators but at the same time have regard for Seqwater's legitimate commercial interests;
- (b) the price path may be longer than one price path period provided the Authority gives its reason for the longer timeframe; and
- (c) the Authority must give its reasons if the recommendation is not to phase in prices.

### Revenue Target

The Authority estimated a current revenue level in each scheme to be used as a benchmark for establishing revenue targets over the 2013-17 period. Current revenue was calculated as:

$$(current\ fixed\ charges \times WAE) + (current\ variable\ charges \times average\ water\ use\ over\ the\ 2006 - 12\ period)$$

Table 6.7 compares the current revenue with the revenue that would be required to achieve efficient cost recovery, and the Authority's Draft and Final estimates.

**Table 6.7: 2013-14 Irrigation Revenues (Nominal \$'000)**

<i>Tariff Group</i>	<i>Current Revenue</i>	<i>Revenue Based on QCA Cost Reflective Prices</i>	<i>Revenue Difference</i>	<i>Current Cost Recovery</i>
Logan River - Draft	317.9	397.3	79.5	80%
Logan River - Final	317.9	394.6	76.7	81%

Source: QCA (2012) and (2013).

For Logan River WSS, current revenues are 81% of final cost reflective revenues.

Table 6.8 summarises the total revenue maintenance requirement consistent with Government's requirements, that is, it includes provision for an initial \$2/ML increase in fixed charges for 2013-14. Table 6.8 (below) compares the Authority's draft and final estimates.

The split between variable revenues, based on a 10 year average irrigation water use, and the balance to be recouped through fixed charges is also shown.

**Table 6.8: Revenue Maintenance Target (2013-14 Nominal \$'000)**

<i>Tariff Group</i>	<i>Revenue Maintenance Target</i>	<i>Fixed Revenue</i>	<i>Variable Revenue</i>
Logan River - Draft	345.0	296.4	48.6
Logan River - Final	345.0	313.2	31.8

Source: QCA (2012) and (2013).

## Irrigation Water Prices

### Draft Report

Given current revenues for Logan River were below the assessed level of the efficient cost (that is, charges are below cost), the Authority was required to recommend a price path for 2013-17.

The Authority proposed a price path set at an average pace similar to that applied over 2006-11, that is, an average of \$2/ML per year. This level of increase was previously considered as being reasonable. The Authority escalated all such charges at CPI (2.5% per annum from July 2013) in accordance with past practice. The \$2/ML increase will be applied to the fixed charges (Part A).

The Authority did not recommend price paths beyond 2013-17 as this is beyond the scope of the Ministerial Direction.

On the basis of the previously described analysis and principles, and the Authority's interpretation that the Ministerial Direction requires recommended prices to at least maintain real (2006-11) revenues, the Authority's recommended prices were outlined in Table 6.9.

On the basis of the previously described analysis and principles, and the Ministerial Direction to maintain current prices (interpreted to be a requirement to maintain average revenues over 2006-12), the Authority recommended prices are in Table 6.9.

### Submissions Received from Stakeholders on the Draft Report

QFF (2013b) accepted the tariff recommendations outlined in the Draft Report. QFF noted that irrigation enterprises that made more than average use of their nominal WAE will see a reduction in their water bills in 2013-14 compared to the current year. Water bills will increase for farms that under-utilise their WAE.

In consultations (January 2013), irrigators noted that they typically hold more WAE (than is normally needed) as insurance if water availability should drop. An increase to the Part A charge will make this strategy more expensive, as holding costs increase.

Irrigators also generally supported the Authority's draft prices and expressed concern at the prospect of Government not necessarily approving the Authority's recommended prices.

### Authority's Response to Submissions Received on the Draft Report

The Authority's approach using cost reflective volumetric charges results in a reduction in volumetric charges and an increase in fixed charges, resulting in the water bill impacts noted by QFF. These arrangements increase the holding costs for inactive users and should promote water trading (which is available in this WSS).



The Authority accepts that some irrigators may adopt a strategy of holding more WAE to ensure reliability of supply. This will necessarily involve a cost, which is at least offset to some extent by lower volumetric charges (and the on-farm benefits of the increased water supply reliability achieved by such a strategy).

The Authority notes that whether the Government approves the Authority's recommended prices is a matter for Government.

The Authority's final recommended price paths for Logan River WSS during 2013-17 are shown in Table 6.9.

In the Logan River WSS, cost reflective volumetric charges are lower when compared to 2012-13. To maintain revenues, the balance not recouped by volumetric charges is recovered by fixed charges which are higher than current levels. As current revenues are below cost-reflective revenues, the Authority recommends price paths where fixed charges increase annually by \$2 per ML (plus CPI) until cost-reflective levels are reached. Volumetric charges are increased at CPI over the balance of the regulatory period.

Prices are presented in nominal terms and will not be varied by Seqwater during the regulatory period, regardless of annual changes in CPI. This approach is consistent with that adopted for SunWater irrigation prices 2012-17 and was approved by Government.

**Table 6.9: Water Prices 2006-17 (Nominal \$/ML)**

<i>Tariff Group</i>	<i>Past Prices</i>						<i>Recommended Prices</i>				
	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
<b>Logan River - Draft</b>											
Fixed (Part A)	14.56	14.96	15.68	16.19	16.67	17.27	17.50	21.87	24.47	27.18	28.40
Volumetric (Part B)	23.22	23.90	25.05	25.84	26.61	27.57	27.93	15.27	15.65	16.04	16.45
<b>Logan River - Final</b>											
Fixed (Part A)								23.11	25.74	28.48	29.28
Volumetric (Part B)								9.98	10.23	10.49	10.75

Source: QCA (2012 and 2013).

Logan River WSS current revenues are 81% of cost-reflective revenues. With the adoption of the cost reflective volumetric charge and annual \$2/ML real increase applied to the fixed charge, this scheme reaches cost-reflective levels in 2015-16.

## 6.9 Impact of Recommended Prices

The impact of any change in prices on the total cost of water to a particular irrigator can only be accurately assessed by taking into account the individual irrigator's water use and nominal WAE (see Volume 1).

The capacity of irrigators to pay cost-reflective charges is beyond the scope of the Ministerial Direction. In the Authority's SunWater review, the original Ministerial Direction was amended to exclude consideration of capacity to pay from the Authority's brief. The same approach applies to the Seqwater irrigation review.

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## APPENDIX A: FUTURE RENEWALS LIST

Below are listed Seqwater's forecast renewal expenditure items submitted by Seqwater in June 2012 and which formed the basis of the April NSPs, for the years 2013-14 to 2035-36 in 2012-13 dollar terms.

<i>Parent Asset</i>	<i>Year</i>	<i>Description</i>	<i>Total (\$,000)</i>
Bromelton Weir	2017/18	Refurbish Bromelton Weir Amdt 113.2Km	15
	2022/23	Refurbish Bromelton Weir Amdt 113.2Km	15
	2027/28	Refurbish Bromelton Weir Amdt 113.2Km	15
	2032/33	Refurbish Bromelton Weir Amdt 113.2Km	15
	2014/15	Refurbish Outlet Works	5
	2029/30	Refurbish Outlet Works	5
	2023/24	Refurbish Valve, 600Mm Gate John	10
	2013/14	Replace Telemetry	35
	2023/24	Replace Telemetry	35
	2033/34	Replace Telemetry	35
	2027/28	Replace Water Level Recorder	7
Logan Gauging Station	2022/23	Replace Gauging Stations-Logan River	52
	2032/33	Replace Gauging Stations-Logan River	52
Maroon Dam	2021/22	- Telemetry	10
	2031/32	- Telemetry	10
	2025/26	Refurbish Concrete Structure	20
	2013/14	Refurbish Gantry And Hoist	40
	2013/14	Refurbish Instrumentation	20
	2013/14	Refurbish Intake & Outlet Works	10
	2017/18		70
	2024/25		40
	2029/30	Refurbish Intake Trash Screens (12 Off)	36
	2013/14	Refurbish Main Wall Embankment	40
	2033/34	Refurbish Main Wall Embankment	40
	2029/30	Refurbish Right Outlet Cone Valve & Act 1.067M	39
	2020/21	Refurbish Roads	15
	2032/33	Replace Building-Instrumentation	32
	2032/33	Replace Cables & Cableways	105
	2021/22	Replace Control	10
	2022/23	Replace Fan, 380Mm Axial Flow	10
	2032/33	Replace Fencing	15
	2013/14	Replace Float Well Recorder	5
	2032/33	Replace Gates	25
	2013/14	Replace Instrumentation	15
	2022/23	Replace Motor, 440V Nilson	10
	2014/15	Replace Piezometer Hut	10
2024/25	Replace Sump Pump, 0.37Kw Lowara	5	

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<i>Parent Asset</i>	<i>Year</i>	<i>Description</i>	<i>Total (\$,000)</i>
Water Flowmeters	2019/20	Replace Switchboard	15
	2025/26	Replace Water Meters	32
	2026/27	Replace Water Meters	32
	2027/28	Replace Water Meters	32
	2028/29	Replace Water Meters	32
	2029/30	Replace Water Meters	32
	2030/31	Replace Water Meters	32
	2031/32	Replace Water Meters	32
	2032/33	Replace Water Meters	32
	2033/34	Replace Water Meters	32
	2034/35	Replace Water Meters	32
	2035/36	Replace Water Meters	32
	<b>Total</b>		

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