QUEENSLAND COMPETITION AUTHORITY

Draft Report

Seqwater
Irrigation Price Review: 2013-17
Volume 2
Logan River Water Supply Scheme

December 2012

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SUBMISSIONS

This report is a draft only and is subject to revision. Public involvement is an important element of the decision-making processes of the Queensland Competition Authority (the Authority). Therefore submissions are invited from interested parties. The Authority will take account of all submissions received.

Written submissions should be sent to the address below. While the Authority does not necessarily require submissions in any particular format, it would be appreciated if two printed copies are provided together with an electronic version on disk (Microsoft Word format) or by e-mail. Submissions, comments or inquiries regarding this paper should be directed to:

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The **closing date** for submissions is **22 February 2013**.

Confidentiality

In the interests of transparency and to promote informed discussion, the Authority would prefer submissions to be made publicly available wherever this is reasonable. However, if a person making a submission does not want that submission to be public, that person should claim confidentiality in respect of the document (or any part of the document). Claims for confidentiality should be clearly noted on the front page of the submission and the relevant sections of the submission should be marked as confidential, so that the remainder of the document can be made publicly available. It would also be appreciated if two copies of each version of these submissions (i.e. the complete version and another, excising confidential information) could be provided. Again, it would be appreciated if each version could be provided on disk. Where it is unclear why a submission has been marked "confidential", the status of the submission will be discussed with the person making the submission.

While the Authority will endeavour to identify and protect material claimed as confidential as well as exempt information and information disclosure of which would be contrary to the public interest (within the meaning of the *Right to Information Act 2009 (RTI)*), it cannot guarantee that submissions will not be made publicly available. As stated in s187 of the *Queensland Competition Authority Act 1997* (the QCA Act), the Authority must take all reasonable steps to ensure the information is not disclosed without the person's consent, provided the Authority is satisfied that the person's belief is justified and that the disclosure of the information would not be in the public interest. Notwithstanding this, there is a possibility that the Authority may be required to reveal confidential information as a result of a RTI request.

Public access to submissions

Subject to any confidentiality constraints, submissions will be available for public inspection at the Brisbane office of the Authority, or on its website at www.qca.org.au. If you experience any difficulty gaining access to documents please contact the office (07) 3222 0555.

Information about the role and current activities of the Authority, including copies of reports, papers and submissions can also be found on the Authority's website.

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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 (WSS) from 1 July 2013 to 30 June 2017 (the 2013-17 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 to the Logan River WSS for the 2013-17 regulatory period are outlined in **Table 1** together with actual prices since 1 July 2006.

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

	Actual Prices							*Recommended Prices*			
	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
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

Source: Actual Prices (Seqwater 2012) and Recommended Prices (QCA, 2012).

Draft Report

Volume 1 of this Draft Report addresses key issues 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 extensively 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.

Comments on the Draft Report are due by **22 February 2013.** All submissions will be taken into account by the Authority in preparing its Final Report due by **30 April 2013**.

1. LOGAN RIVER WATER SUPPLY SCHEME

1.1 Scheme Description

The Logan River water supply scheme (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: Key Scheme Information for the Logan River WSS

	Logan River WSS
Business Centre	Beaudesert
Irrigation Uses of Water	136 customers holding medium priority WAE
Urban water supplies	South East Queensland Water Grid Manager (SEQ WGM) holding high priority WAE
Other	12 users including Seqwater holding high priority WAE

Source: Seqwater (2012an).

The Logan River WSS has 149 bulk customers. There are 136 irrigation customers holding 13,552ML of medium priority water access entitlements (WAE). The SEQ WGM holds 8,910ML of high priority WAE. Medium and high priority water access entitlements (WAE) are outlined in **Table 1.2**.

Table 1.2: Water Access Entitlements

Customer Group	***Irrigation WAE (ML)***	***Total WAE (ML)***
Medium Priority	13,552	13,554.5
High Priority	0	9,856
Total	**13,552**	**23,410.5**

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

Storage Infrastructure	*Capacity (ML)*	*Age (years)*
Maroon Dam	86,398[1]	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). 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; and

  (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:

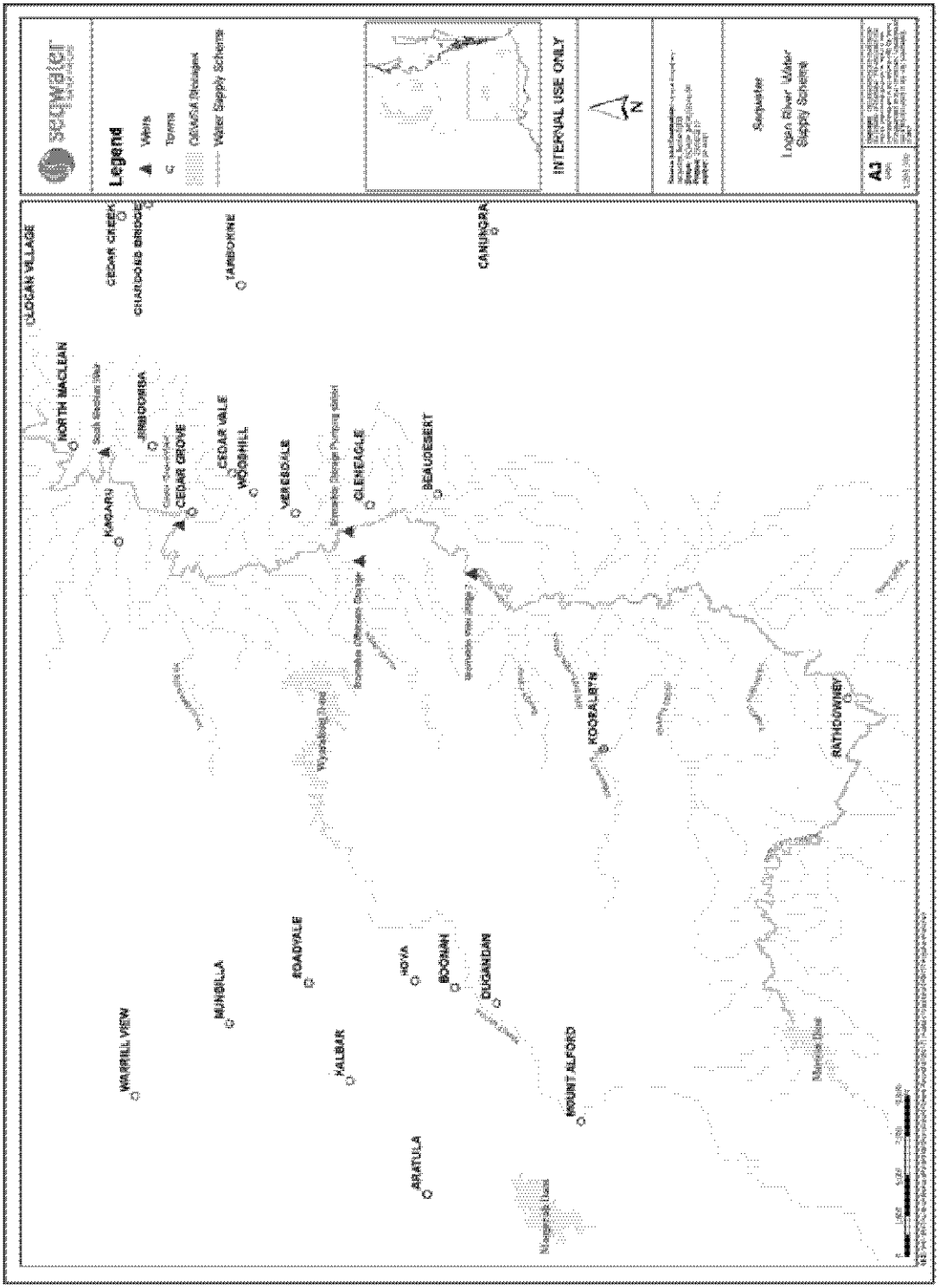
(a) Maroon dam is an earth and rock fill dam;

(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**.

Figure 1.1: Logan River WSS Locality Map



Source: Seqwater (2012an).

1.3 Network Service Plans

The Logan River WSS network service plan (NSP) presents Seqwater's:

(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 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 extensively with Seqwater and other 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 Stakeholder Submissions

Seqwater

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

In summary, 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 consider 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, medium priority supply will rely on natural flows from Christmas and Running Creeks. Stored water will be required to meet high priority 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.

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.

In Round 1 consultations, 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.

2.3 Authority's Analysis

The Authority has, 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

Risk	*Nature of the Risk*	*Allocation of Risk*	*Authority's Recommended Response*
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 recommends 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 notes 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 considers 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 medium and high priority users. This issue is further reviewed in Chapter 4.

In response to Drynan's comment on risk, the Authority accepts that there is volume-related risk borne by irrigators and that revenues can be cyclic. As noted above, the Authority considers that irrigators are best placed to manage this risk, particularly given that trading of water allocations is an option.

In response to Drynan's comment on trading, the Authority accepts 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, 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.

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)

	2008-09	***2009-10***	***2010-11***	***2011-12***
Permanent	0	0	999	230
Temporary	201	127	302	317

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

3. PRICING FRAMEWORK

Under the Ministerial Direction, the Authority is required to recommend Seqwater's irrigation prices (and tariff structures) to apply from 1 July 2013 to 30 June 2017, for each of the tariff groups in the seven relevant WSSs.

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.

In accordance with the Ministerial Direction, the Authority will adopt 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 usage, surplus revenues were incorporated into the Part B charge, resulting in the adjusted ratio of 53:47. Prices were indexed at the consumer price index (CPI) annually.

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, IA Logan 2012, G. Drynan 2012) submitted that the proposed 100% fixed charge tariff structure will impact on irrigators, provides 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 usage 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 has, in Volume 1, analysed the tariff structure and the efficiency implications of the tariff structure, to apply to Seqwater's schemes.

The Authority considers that, 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 recommends that all, and only, 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 (and the Ministerial Direction), 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 recognises 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.

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 usage forecasts were based on the long term average actual usage level. Where there was a clear trend away from the long term average, SunWater adjusted the forecast in the direction of that trend. Usage forecasts also took into account SunWater's assessment of future key impacts on water usage, such as changes in industry conditions, impact of trading and scheme specific issues (SunWater, 2006a).

For the Logan River WSS, SunWater (2006b), as the previous scheme operator assumed a water usage forecast of 55% of the nominal amount of medium priority 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 usage rates were achieved at around 80%, but declined to 20% during drought periods with low announced allocations.

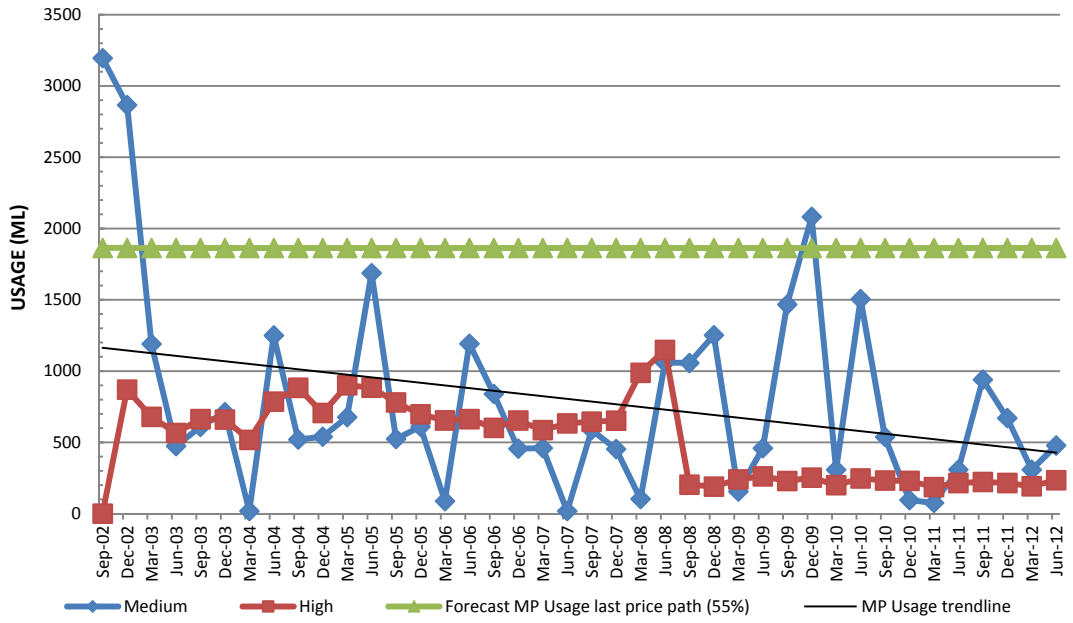
Stakeholder Submissions

Seqwater

Seqwater (2012) 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 usage information on a quarterly basis since September 2002 for the Logan River WSS submitted by Seqwater (Seqwater, 2012an).

Figure 3.1: Water Usage for the Logan River WSS



Source: Seqwater (2012an).

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

Other Stakeholders

In Round 1 consultations, 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: Draft Prices of this report.

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

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

In 2000-06 and 2006-13, 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 & 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 high and medium priority 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:

  (i) reviewing whether renewals expenditure in 2006-13 was prudent and efficient. This affects the opening ARR balance for the 2013-17 regulatory period; and

  (ii) the unbundling of the opening ARR balance for bulk and distribution systems (where applicable);

(b) the prudency and efficiency of Seqwater's forecast renewals expenditure;

(c) the methodology for apportioning renewals between medium and high priority WAEs; and

(d) the methodology to calculate the renewals annuity.

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

The Authority notes that Seqwater has 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 over the 2013-17 regulatory period. 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 prudency 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 prudency 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 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.

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) for the period 2000-06, applying urban and industrial revenue and expenditure to the previously approved irrigation only opening 2006 ARR balance. This established a closing ARR balance on a whole of scheme (or all sectors) basis at 30 June 2006;

(b) calculating balances based on all sectors 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% between 2000-06 and 9.69% over 2006-13.

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 Renewal Expenditure (Direct) 2006-11 (Nominal $)

Tariff Group	*Forecast 2006-11*	*Actual 2006-11*	*Variance*
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 direct and indirect renewals expenditure are shown in Table 4.2, allocated between direct and non-direct costs.

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

	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*
Direct Costs	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)

Tariff Group	*Actual 2011-12*	*Forecast 2012-13*	*Total*
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, compared to the opening balance at 1 July 2006.

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

Tariff Group	*1 July 2006 (Seqwater)*	*Seqwater Proposed ARR Balance 1 July 2013*
Logan River	(358,552)	(707,153)

Source: Indec (2012).

Seqwater's estimated balance of negative $707,153 represented a significant adjustment from an initial estimate of negative $932,884 provided in Seqwater's first submitted 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.

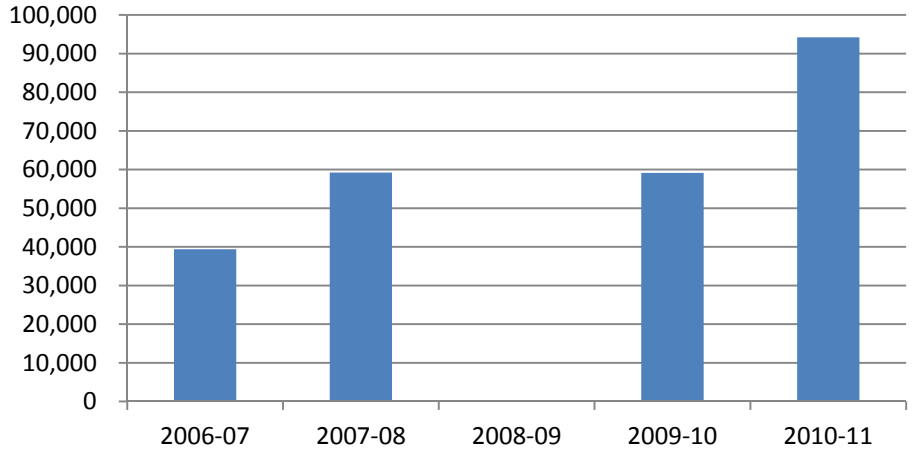
In Round 1 consultations, irrigators queried whether flood damage costs have been included in ARR balances, including insurance revenue.

Authority's Analysis

Renewals Expenditure 2006-13

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

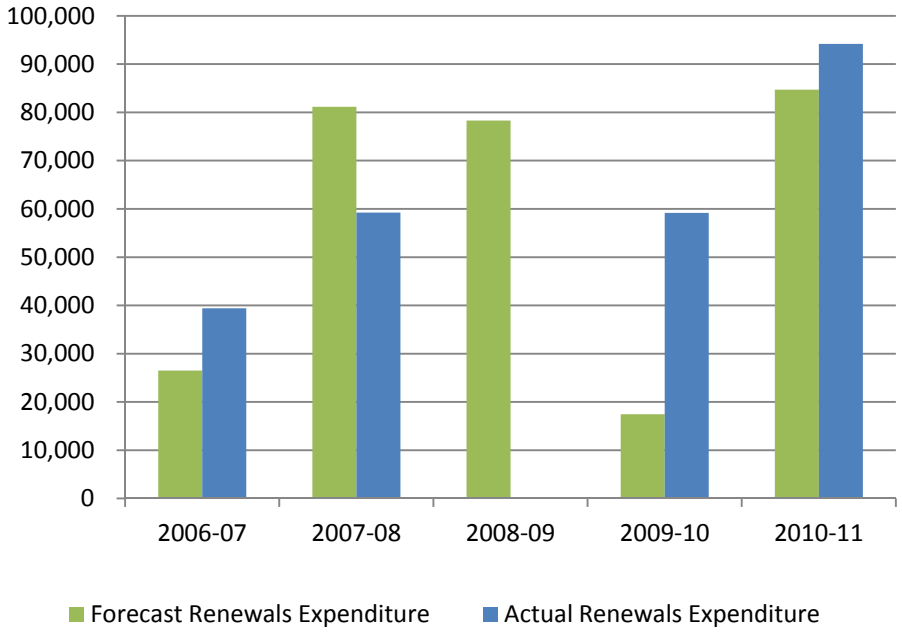
Figure 4.1: Past (Actual) Direct Renewals Expenditure 2006-11 (Nominal $)



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 prudency and efficiency of past renewals, the Authority notes 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 recommends, 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 remains 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 prudency and efficiency. The Authority has not specifically reviewed 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 of operating the former SunWater schemes), expenditure incurred in this year could not be considered prudent or efficient.

For 2009-10 and beyond, however, Seqwater has 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 Scheme with the findings considered for application to other renewals items.

The two past items were:

(a) recreational maintenance associated with the Mary Valley tariff group at a cost of $110,602 in 2008-09 and $123,293 in 2010-11; and

(b) infrastructure maintenance (reactive maintenance) associated with the Pie Creek tariff group at a cost of $31,015 in 2008-09 and $36,172 in 2010-11.

Although these items are defined as maintenance, the Authority considers that the nature of the expenditure is predominantly renewals related.

SKM found that based on the inability of Seqwater to substantiate renewals expenditure incurred in 2008-09 (the first year of operating the former SunWater schemes), expenditure incurred in this year associated with the sampled items, could not be considered prudent or efficient.

The Authority applied these findings to other renewals expenditure incurred in 2008-09.

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 has been unable to substantiate past renewals expenditure during its first year of operating the former SunWater schemes (2008-09), renewals expenditure in that year has been reduced to zero; and

(c) all renewals expenditure 2009 to 2013 is to be accepted, unadjusted.

Accordingly, based on this approach, the Authority recommends 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 prudency 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 the QFF's submission regarding the negative ARR balance, the Authority notes that Seqwater has resubmitted its NSP for the Logan River WSS which has resulted in a new ARR balance as noted above.

In addition, the Authority has reviewed not only Seqwater's proposed methodology for calculating an ARR balances to apply 1 July 2013, but also the prudency and efficiency of past renewals expenditure. This has 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 has been included in HUF calculations, the Authority has confirmed that prudent and efficient costs associated with Wyaralong 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 has confirmed that these costs will be met in their entirety, by insurance. As a consequence, no flood damage costs have been included in ARR balances.

4.3 Forecast Renewals Expenditure

4.3.1 Prudency and Efficiency of Forecast Renewals Expenditure

Submissions

Seqwater

Seqwater submitted a summary of significant proposed renewals expenditure items for the Logan River WSS as presented in **Table 4.6**.

Table 4.6: Forecast Renewals Expenditure 2013-17 (2012-13 $'000)

Facility	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Bromelton Weir	0	5	0	0
Logan Gauging Station	0	0	0	0
Maroon Dam	130	10	0	0
Water flowmeters	66	66	34	34
Total	**196**	**81**	**34**	**34**

Source: Seqwater (2012an). 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:

(d) refurbishment of gantry and hoist at Maroon Dam, costing $40,000 in 2013-14; and

(e) 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)

Tariff Groups	*Phase 1: 2012-13 to 2014-15*	*Phase 2: 2015-16 to 2021-22*	*Phase 3: 2022-23 to 2035-36*	*Total*
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.

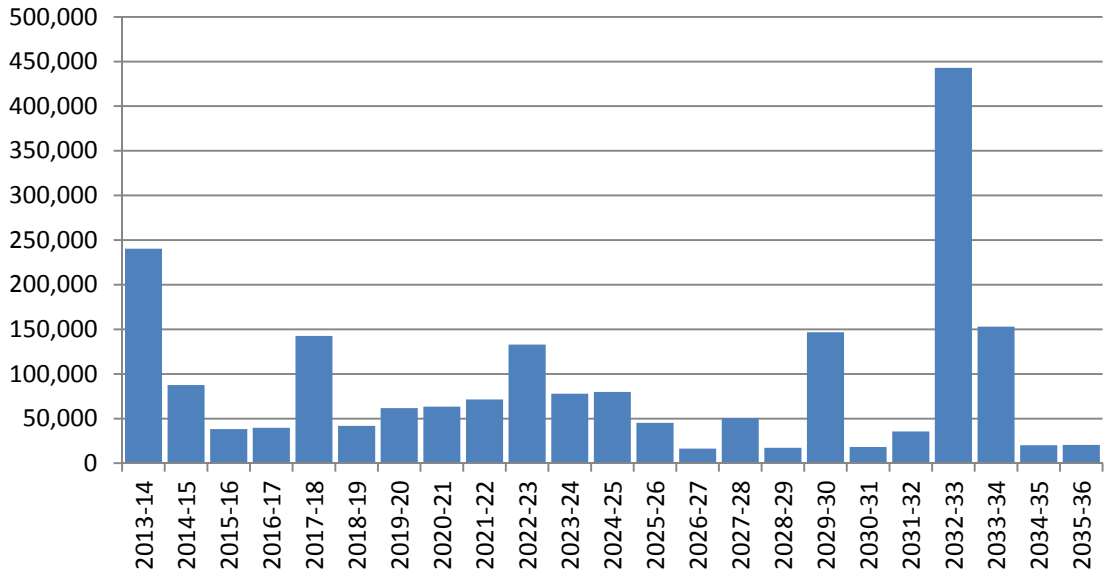
SKM concluded that although Seqwater may not currently have good asset condition information due to the lack of condition information transferred from previous operators, the policies and procedures Seqwater has adopted to assess the condition of its assets will rectify this situation over time. Accordingly, SKM consider 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. The Authority has identified the direct cost component of this expenditure, which is reviewed below. The indirect and overheads component of expenditure relating to these items is reviewed in Chapter 5 – Operating Costs.

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



Source: Seqwater (2012au).

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

In addition, Seqwater consider 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 is 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 prudency and efficiency of that expenditure, the Authority has applied a reduction.

Item Reviews

Consultants SKM reviewed the prudency 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 considered 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 renewal 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 prudency and efficiency assessment.

Prudency

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 (tailwater). The proposed telemetry equipment will fulfil these requirements.

The level of service required to be provided in accordance with the Resource Operating Licence (ROL) is for continuous time series data for the water level (headwater) and the stream flow (tailwater). SKM interprets this from an engineering perspective 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 a historical file for periodic retrieval, SKM does not believe this is the intention as described in the ROL. 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 approximately 10 years service, 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. In some cases the equipment 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 has been 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 has 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

Item	*Seqwater Estimate*	*SKM Estimate*
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
Total	**$35,000**	**$39,700**

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 accepts 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 is noted that the additional installation was effectively externally funded by the Bureau of Meteorology.

Item 2: Metering Replacements

Seqwater

Seqwater submitted that expenditure of $132,000 in 2013-14 to 2014-15, $238,000 in the 2015-16 to 2021-22 period 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 has 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 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 National Water Initiative 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 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 is not specifically stated by Seqwater and no justification has been provided for this assumption. Accordingly, the additional 75 meters were considered not to be prudent.

In summary, SKM found that:

(a) for the first 3 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 7 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

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

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)

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

Source: SKM (2012).

Authority's Analysis

The Authority notes 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, concludes that the expenditure associated with metering associated with the Logan River WSS be adopted as outlined, above, in **Table 4.6**.

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 in the Mary Valley 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 prudency and efficiency.

Authority's Analysis

The Authority accepts SKM's conclusions.

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 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 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, 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 notes SKM's conclusion that it is 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 considers 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, 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 notes 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 is 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 made 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 prudency 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 notes 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 is therefore considered prudent and efficient.

Conclusion

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 have been 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, is 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, due to time limitations, the Authority was unable to comprehensively review all past or forecast renewals expenditure for prudency and efficiency. Accordingly, the Authority drew on the results of consultant reviews, as detailed below.

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

Items Sampled	*Value (Real $'000)*	*Variance with SKM Estimate ($,000)*	*Portion of Costs Reviewed (%)*	*Average Saving Identified*
11	5,079	(652)	54	12.84

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

The 11 forecast renewals items reviewed account for an average across the schemes of some 21% of the total forecast irrigation renewals expenditure being directly reviewed with SKM's findings also applying to similar assets, taking the sample size to in excess of 50%.

The reviews identified systematic errors in Seqwater's renewals expenditure forecasting approach. Hence, the Authority considers 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 $0.65 million is the appropriate basis for the Authority's cost savings to be applied to non-sampled items.

The net variance of $0.65 million, expressed as a portion of Seqwater's initially submitted sampled forecast irrigation renewal expenditure of $5.08 million, results in a 12.8% (or 13%) implied cost saving that the Authority will apply to non-sampled items.

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

	Item	*Year*	*Seqwater*	*Authority's Findings*	*Recommended*
Sampled Items					
1.	Bromelton Weir Telemetry	2022, 2032	105 (70)[1]	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
Results Applied from Other Reviews					
3.	Maroon Dam Telemetry	2022, 2032	20	Results could not be applied to assess prudency or efficiency.	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
Non-Sampled Items					13% cost saving applied

Source: SKM (2012) 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

Submissions

Seqwater

Seqwater made no submission regarding this topic.

Other Stakeholders

QFF (2012) submitted that although Seqwater has evaluated potential projects against critical and other criteria, has conducted workshops with local staff and undertaken site inspections, 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 Round 1 consultation in June 2012 stakeholders submitted that there is no current 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 considers that this approach also be adopted by Seqwater.

In addition, Seqwater should also be required to submit renewals expenditure programs to irrigators for comment whenever they are amended and that irrigators' comments be documented and published on Seqwater's website and provided to the Authority.

In response to stakeholders, the Authority does not propose to 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 considers 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.

4.5 Allocation of Headworks Renewals Costs

Previous Review

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

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 high priority WAE. Specifically, the HUF methodology takes into account water sharing rules, critical water sharing arrangements (CWSAs) and other operational requirements that typically give high priority entitlement holders exclusive access to water stored in the lower levels of storage infrastructure.

Seqwater (2012) 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 high priority (HP) and medium priority (MP) for the purposes of the HUFs calculation[1].

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

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 high priority; the middle layer, which is effectively reserved for medium priority; and the top layer, which is shared between the medium and high priority groups.

Step 4: Assess the hydrological performance of each headworks' storage using the Integrated Quantity and Quality models 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.

[1] 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 high or medium priority grouping, or neither.

Table 4.13: Summary of HUF Methodology

Drought Period	*Drought Period With Minimum Inflows*		*Drought Period Without Minimum Inflows*	
	Medium Priority (%)	*High Priority (%)*	*Medium Priority (%)*	*High Priority (%)*
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 medium priority 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 medium priority holders gain much more from stream flows than do high priority holders. This is because:

(a) high priority holders have priority access to water in the storage, and their security of supply is dependent on volume in the storage;

(b) medium priority 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 medium priority cut-off is reached more often and a smaller proportion of the storage is attributed to medium priority holders.

The HUFs for this scheme (Seqwater 2012an) are 16% for medium priority and 84% for high priority.

Other Stakeholders

No other stakeholders have provided comment regarding this topic.

Authority's Analysis

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

This modification by Seqwater to the SunWater approach accords with the purpose of the HUF (to allocate headworks capital costs to beneficiaries). That is, medium priority holders receive a large proportion of their water from stream flows rather than storage volumes. When stream flows are removed from the HUF simulation model, the medium priority cut-

offs for access to storage volumes are reached more often, resulting in a smaller proportion of costs being attributed to medium priority.

Accordingly, Seqwater's approach reduces costs that would otherwise have been attributed (inappropriately) to MP WAE.

The Authority recommends that Seqwater's proposed HUF methodology be adopted for Logan River WSS.

The Authority estimates that based on the HUF methodology, the conversion for medium priority to high priority would be 7.2:1. This compares with the WPCF of 2.1:1 used for 2007-12 price paths. Further, the Authority notes that under the HUF approach, medium priority irrigators will now pay 16% of the cost of renewals whereas previously medium priority irrigators paid 40%.

4.6 Calculating the Renewals Annuity

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

For the Logan River WSS the recommended renewals annuity for the 2013-17 regulatory period is shown in Table 4.14. The renewals annuity for 2006-13 and Seqwater's proposed annuity for 2013-17 is also presented for comparison.

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*
Seqwater (April)	**225,755**	**295,548**	**298,591**	**333,130**	**286,011**	**335,398**	**355,323**	**163,281**	**168,299**	**170,870**	**173,541**
Seqwater (November)	**80,062**	**88,212**	**38,876**	**44,124**	**41,036**	**47,138**	**49,730**	**148,008**	**150,376**	**150,765**	**151,161**
Authority											
High Priority	-	-	-	-	-	-	-	74,800	76,258	75,337	74,427
Medium Priority	-	-	-	-	-	-	-	38,509	38,944	38,936	38,940
Authority Total	-	-	-	-	-	-	-	**113,309**	**115,203**	**114,274**	**113,367**
Irrigation only								**38,509**	**38,944**	**38,936**	**38,940**

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

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 the following:

(a) Seqwater's direct operating expenditure forecasting methodology;

(b) the prudency 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).

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 considers 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 argues 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

Although the Authority acknowledges 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 considers 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.

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.

For information, historical forecast costs 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 irrigation 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 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[2];

(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.

Non-Direct Costs

Seqwater categorises its non-direct operations costs as follows:

(a) water delivery costs include costs associated with dam operations, infrastructure maintenance, environmental management and recreation and catchment maintenance services;

(b) asset delivery costs are costs associated with project planning and managing the delivery of projects;

(c) corporate costs include business services, organisational development and the office of the Chief Executive Officer (CEO). These include costs associated with the provision of information, communication and technology services (ICT), finance, procurement, legal and risk, governance and compliance activities; and

(d) other costs which include the North Quay facilities and flood control centres.

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

(a) non-infrastructure assets costs are the non-direct costs associated with the use of non-infrastructure assets such as buildings and plant 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

[2] 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).

(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

Submissions

Seqwater

Seqwater submitted that it has adopted an approach to forecasting whereby operating expenditure for schemes is derived for a representative base year (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 provides 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 grid service charges submission to the QCA. Seqwater has 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 grid service charges submission have been reviewed by the QCA for prudency and efficiency.

The following escalators have been applied to 2012-13 operating costs to derive forecasts for the regulatory period:

(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 forecast CPI (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 (2012e); and

(b) a version in November 2012 (2012n) with revised operating costs compiled in response to the Authority's review of Grid Service Charges, the Minister's subsequent decision regarding these charges and further analysis by Seqwater of bulk water costs.

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 $)

	April NSP	*November NSP*	*Variance*
Direct Operating Costs			
Operations			
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)
Sub-Total	**537,058**	**463,264**	**(73,794)**
Repairs and Maintenance			
Planned	76,455	75,724	(731)
Unplanned	31,228	30,929	(299)
Sub-Total	**107,683**	**106,653**	**(1,030)**
Dam Safety	0	0	0
Rates	56,217	56,217	0
Total Direct Operating Costs	**700,958**	**626,134**	**(74,824)**
Non Direct Operating Costs			
Operations			
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)
Sub-Total	**367,657**	**273,617**	**(94,040)**
Non-Infrastructure Asset	30,721	28,080	(2,641)
Insurance	162,828	144,106	(18,722)
Working Capital	10,795	10,795	0
Total Non-Direct Operating Costs	**572,001**	**456,598**	**(115,403)**
Total Operating Costs	**1,272,960**	**1,082,732**	**(190,228)**

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

Details submitted by Seqwater of the total direct and non-direct operating expenditure forecasts for the Logan River scheme consistent with the November NSP are provided in Table 5.3.

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

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Direct					
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
Non-Direct					
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
Total	**1,082,732**	**1,116,904**	**1,152,214**	**1,188,703**	**1,254,006**

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
Total	**1,082,732**	**1,116,904**	**1,152,214**	**1,188,703**	**1,254,006**

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

Other Stakeholders

During Round 1 consultation in June 2012, 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 recommends 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 needs to be improved.

The Authority notes stakeholder comments regarding the need to review the prudency and efficiency of operating costs. The analysis in respect of direct and non-direct costs appears below.

In response to issues raised concerning consultation, the Authority recommends 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.

For the purposes of the analysis of the prudency of operating costs, the Authority has reviewed Seqwater's November revised NSP data.

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 operating expenditure and the method of extrapolation.

Stakeholder Submissions

Seqwater

Seqwater's submission provided details of the key cost components in 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 regulatory requirements under various Acts 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: labour; contractors and materials; and "other".

(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 QCA 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 QCA'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 Facilities Asset Management Plans (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 over the regulatory period.

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 5 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 the November 2012 NSPs, are detailed in Table 5.5.

Table 5.5: Seqwater Direct Operating Costs by Activity, Logan River WSS (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
Total	**626,134**	**648,891**	**672,501**	**696,997**	**750,007**

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

Direct operating costs by type are outlined in Table 5.6.

Table 5.6: Seqwater Direct 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 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
Total	**626,134**	**648,891**	**672,501**	**696,997**	**750,007**

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

Other Stakeholders

Irrigators during Round 1 consultation in June 2012 submitted that the Authority should demonstrate that operating expenditure is prudent and efficient.

Authority's Analysis

The Authority engaged SKM to review the prudency 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. Direct labour costs were specifically reviewed in response to comments from QFF.

Item 1: Operations – Direct Labour

Stakeholder Submissions

Seqwater

Direct labour costs forecast for 2013-14 are typically determined by Seqwater escalating the 2012-13 budget by a factor of 4%. In initial submissions, Seqwater's 2012-13 direct labour budget for the Logan River WSS was $392,085. Escalating at 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 labour costs being included.

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

In its November 2012 submission of 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)

Item	*2012-13 Budget*	*2012-13 Revised (April 2012)*	*2012-13 Revised*	*2012-13 Forecast (Seqwater's November submission)*
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)

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

Source: SKM (2012).

Provided Documentation

The documents used for this review are:

(a) Seqwater, 2013-14 Irrigation Pricing, Submission to the Queensland Competition Authority, 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 2012-13 budget. 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 $)

Item	*2009-10 Actual*	*2010-11 Actual*	*2011-12 Actual*	*2011-12 Budget*	*2012-13 Budget*
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 regarding the estimated quantity of FTEs (Table 5.10 refers).

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

Activity	*Salaries Applied ($)*
Group Support	53,876
Dam Operations	190,441
Water Treatment	10,508
Logan Irrigation Scheme	137,260
Total	**392,085**

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 and Warrill schemes 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 after hours 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.

In its initial review, SKM identified anecdotal evidence of systemic underutilisation of operational staff. Dam operating staff considered that they were more fully utilised under the SunWater operating model when they were responsible for some minor maintenance of the dam and surrounding facilities including the recreational areas. With the transfer of the assets to Seqwater and the consequent change in operating model, these dam operators have had their work load reduced and that of the rangers increased to now manage the maintenance of the recreational facilities associated with the dams.

SKM indicated that dam operators have possibly a capacity to undertake at least 20% to 30% more work while the rangers responsible for the maintenance of the recreational facility are fully (perhaps even over) utilised. 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, indicates 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 correlates with the reduction in responsibilities and change of emphasis to dam safety and asset management practices.

Pay rates outlined in Table 5.10 are generally consistent with other operators and ranges employed by Seqwater and are reasonable for such employees. While the almost 2 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 1.4FTEs for dam operations in Logan River WSS.

SKM also views 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 has 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 downwards its forecast.

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 $)

	2009-10 Actual	*2010-11 Actual*	*2011-12 Actual*	*2011-12 Budget*	*2012-13 Budget*	*increase 2011-12 (actual) to 2012-13 (budget)*
Logan River WSS	89,738	248,867	238,431	362,469	392,086	65%
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 Water Supply Scheme 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)

Item	*Seqwater's Proposed Budget 2012-13*	*SKM Revised Budget 2012-13*	*Seqwater's Proposed Initial Forecast 2013-14*	*SKM Revised Forecast 2013-14*	*Difference*
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 has revised the overtime benchmarks for dam operations.

SKM considered that the proposed 2012-13 labour budget (reduced to $321,500) for the Logan River Water Supply Scheme is slightly excessive and recommended that the 2012-13 budget be reduced to reflect the 2011-12 labour cost at the Logan River Water Supply Scheme 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 has adjusted the percentage of labour allocated to the Logan River Water Supply Scheme 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 $)

Service Activity	*Salaries & Wages Applied ($)*
Group Support	38,075
Dam Operations	150,574
Water Treatment	26,071
Logan Irrigation Scheme	91,412
Total - 2012-13	**306,132**

Source: SKM (2012).

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

Authority's Analysis

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

Conclusion

The Authority notes the submissions from stakeholders that Seqwater's proposed labour costs appear high and require analysis to determine their prudency and efficiency.

This concern is largely addressed by Seqwater's revised estimate of costs which is a 21% reduction on its initial forecast.

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 accepts SKM's recommendation.

Unsampled Operating Costs

For unsampled items, as outlined in Volume 1 the Authority reviewed in detail approximately 55% of proposed direct operating expenditure for prudency and efficiency. At 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 4.9%[3] (or 5% rounded).

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

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

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

Source: SKM (2012) and QCA (2012an).

In addition to the efficiency adjustments for the 2012-13 year, the Authority also considers it appropriate to reduce forecast direct operating costs by a further 1.5% per annum in real terms as a general productivity gain, applied cumulatively for each of the 4 years of the regulatory period (2013-14 to 2016-17). Details are provided in Volume 1.

Cost Escalation

Seqwater

Seqwater proposed that where its costs rise in line with inflation, it has adopted the mid-point of the Reserve Bank of Australia's (RBA's) target range for consumer price inflation 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 5 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.

[3] Although the average saving indentified 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.

Seqwater has 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 should be escalated by 3.6% per annum rather than 4% as proposed by Seqwater;

(b) the cost of direct materials should be escalated by 4% per annum;

(c) other direct costs and non-direct costs should be escalated by 2.5% per annum; and

(d) 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.

Summary of Direct Operating Costs

A comparison of Seqwater's and the Authority's 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 $)

	Seqwater				*Authority*			
	2013-14	***2014-15***	***2015-16***	***2016-17***	***2013-14***	***2014-15***	***2015-16***	***2016-17***
Operations	480,349	498,082	516,487	535,590	451,492	459,813	468,187	476,606
Repairs and Maintenance	110,919	115,356	119,970	124,769	104,795	107,327	109,894	112,495
Dam Safety	57,622	59,063	60,540	62,053	57,623	59,063	60,540	62,053
Rates	648,891	672,501	696,997	750,007	613,909	626,203	638,620	675,797
Total	**480,349**	**498,082**	**516,487**	**535,590**	**451,492**	**459,813**	**468,187**	**476,606**

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

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 data at the renewals project level for it to allocate non-direct costs to individual renewals projects.

The prudency and efficiency of Seqwater's overall non-direct costs were reviewed for the Authority by SKM as part of the 2012-13 grid services charges (GSC) review.

For this investigation, Seqwater made adjustments to the aggregate non-direct cost estimates that it 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 the proportion of total direct costs attributable to individual scheme.

Stakeholders

Seqwater

As noted in Volume 1, Seqwater submitted that it will incur $9,479,000 in total non-direct costs in 2012-13. Seqwater's approach to the forecasting of non-direct operating expenditures is detailed in Volume 1.

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 Actual and Proposed Non-Direct Costs (Nominal $'000)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater	9,479	9,716	9,959	10,208	10,463
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, and subsequently revised them in November 2012 following the Authority's review of Grid Service Charges 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 – Logan River Valley WSS, 2012-13 Forecasts (Nominal $'000)

	April NSP	*November NSP*	*Variance ($)*	*Variance (%)*
Water Delivery	69.1	58.6	(10.4)	(15)
Asset Delivery	30.8	28.9	(1.9)	(6)
Business Services	170.4	117.2	(53.2)	(31)
Organisational Development	69.5	55.2	(14.3)	(21)
Executive	6.8	8.7	1.9	27
Other	21.0	5.0	(16.0)	(76)
Total Non-Direct Operations	**367.7**	**273.6**	**(94.0)**	**(26)**

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

Corporate functions have been 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 – Logan River WSS (Nominal $)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Operations					
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
Sub-Total	**273,617**	**280,457**	**287,469**	**294,655**	**302,022**
Non-Infrastructure Assets	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
Total	**456,598**	**468,013**	**479,713**	**491,706**	**503,999**

Source: Seqwater (2012aj) 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 scheme 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 has allocated its 2012-13 premium to the Logan River scheme using the replacement value of scheme assets. This value has been escalated by CPI to determine a premium for each year of the forecast period.

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

Seqwater has allocated a portion of this working capital allowance to the Logan River scheme 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 Reserve Bank of Australia's (RBA's) target range for consumer price inflation at the time of its submission, being 2.5% per annum.

Other Stakeholders

During Round 1 consultation, irrigators (IA 2012) questioned how much Seqwater is paying on catchment management activities 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 better catchment management practices on farm.

Irrigators (IA 2012) also asked during Round 1 consultation, 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 Full Time Equivalents (FTEs) for vacant and new positions, both to apply to the 2012-13 year.

Seqwater (2012aj) has taken these adjustments into account in its revised submission to the Authority. As these costs have been approved by Government, the Authority does not propose a further reduction for 2012-13. However, as the implications of the merger are currently being considered by Government, further adjustments to the Authority's estimates of non-direct costs may be necessary for the Final Report.

The Authority notes 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 accepts 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 considers it appropriate to apply 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 recommends 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 4 years of the regulatory period (2013-14 to 2016-17).

In regard to working capital, the largest portion of irrigators' payments to Seqwater arises from fixed Part A and C 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 has not incorporated a working capital allowance is justified in this instance.

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

As noted above, the Authority proposes that catchment management and water quality activities that are conducted for the sole benefit of urban water supply have been removed from forecast costs.

In regard to flood enquiry costs, Seqwater has 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.

The Authority's recommended level of non-direct costs to be recovered from the Logan River WSS (from all customers) is set out in Table 5.19. The allocation of these costs between high and medium priority customers is discussed below.

Table 5.19: Recommended Non-Direct Costs (Nominal $)

	Seqwater				*Authority*			
	2013-14	***2014-15***	***2015-16***	***2016-17***	***2013-14***	***2014-15***	***2015-16***	***2016-17***
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
Total	**468,013**	**479,713**	**491,706**	**503,999**	440,181	445,764	451,312	456,819

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

5.6 Allocation of Non-Direct Operating Costs

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 directs 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 medium and high priority 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.

Stage 2 - Allocation of Costs Between Priority Groups

Previous Review

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

Stakeholder Submissions

Seqwater

Seqwater proposed that renewals, insurance and maintenance costs are allocated to medium priority 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 medium priority customers of 16% (see Chapter 4).

Seqwater has assigned working capital costs between medium and high priority customers proportional to lower bound revenue.

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

Other Stakeholders

No other stakeholders provided comment regarding this topic.

Authority's Analysis

The Authority agrees 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 medium and high priority 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 high priority 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 medium and high priority 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) that 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).

5.7 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. (The non-direct costs allocated to renewals are not included in these tables.)

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

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
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
Repairs and Maintenance				
Planned	78,753	81,903	85,179	88,586
Unplanned	32,166	33,453	34,791	36,183
Dam Safety	0	0	0	27,595
Rates	57,622	59,063	60,540	62,053
Non-Direct Costs				
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
Total	**1,116,904**	**1,152,214**	**1,188,703**	**1,254,006**

Source: Seqwater (2012an).

Table 5.21: Authority's Recommended Operating Costs (Nominal $)

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
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
Repairs and Maintenance				
Planned	82,788	84,788	86,816	88,871
Unplanned	22,007	22,539	23,078	23,624
Dam Safety	0	0	0	24,643
Rates	57,623	59,063	60,540	62,053
Non-Direct Costs				
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
Total	1,054,090	1,071,967	1,089,932	1,132,616

Source: QCA (2012).

The Authority's recommended operating costs for 2012-13 are 6% lower than Seqwater's proposed amount, as defined in its November NSP.

6. DRAFT PRICES

6.1 Background

Ministerial Direction

The Ministerial Direction requires the Authority to recommend Seqwater's irrigation prices for water delivered from 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 has 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.

Submissions

Seqwater

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 notes 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 proposes to accept the amount of $24,400 as a revenue offset for Logan River WSS.

Summary of Total Costs

The Authority's estimate of prudent and efficient total costs for the Logan River WSS for the 2013-17 regulatory period is outlined in **Table 6.1**. Total costs in 2012-13 are also provided. Total costs reflect the costs for the service contract (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 (Nominal $)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater (April NSP)					
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
Total	**1,407,899**	**1,451,315**	**1,497,081**	**1,541,760**	**1,615,544**
Seqwater (November NSP)					
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
Total	**1,202,771**	**1,239,944**	**1,276,999**	**1,313,236**	**1,378,280**
Authority					
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
Total	**-**	**1,142,432**	**1,161,578**	**1,177,974**	**1,219,096**

Source: QCA (2012).

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 of the irrigation schemes.

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 usage.

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 schemes 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 sought to, where appropriate, apply the Indec findings to Seqwater schemes. Volume 1 provides further details on this analysis.

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

Table 6.2: Recommended Variable Costs

Activity	*% Variable in Bulk*
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 notes that the proposed price structure contains a higher fixed charge proportion than current charges. As noted by Drynan, this means that the unit cost to an irrigator is lower when more water is used. This pricing signal conforms with the structure of costs incurred by Seqwater as noted above.

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 of the irrigation schemes.

6.5 Allocation of Costs According to WAE Priority

To establish the irrigation share of fixed costs, total fixed costs must be allocated between medium and high priority WAE in each relevant tariff group. Variable costs are allocated according to usage of water.

The Authority has identified in earlier chapters its preferred approach to allocating costs between medium and high priority WAE. This approach is summarised in Table 6.3.

Table 6.3: Authority's Recommended Fixed Cost Allocation Between High and Medium Priority WAE

Cost Component	*Fixed Cost Allocation Methodology*	
	Bulk WSSs	*Distribution Systems*
Renewals Annuity	HUF	WAE
Operations	50% by HUF, and 50% by WAE	WAE
Repairs and Maintenance	HUF	WAE

Source: QCA (2012). Note: Where the HUF does not apply the Authority has developed an alternative approach. Refer Vol 1 - Chapter 5: Renewals Annuity. Variable costs are allocated between medium and high priority WAE according to water use by way of the Authority's recommended volumetric tariffs.

The resulting total fixed revenue requirements for high and medium priority WAE are as shown in Table 6.4. The irrigation share of the total fixed revenue requirement is also shown in Table 6.4.

Table 6.4: Authority's Recommended Allocation of Fixed Revenue Requirement between High and Medium Priority WAE 2013-14 Nominal ($'000)

Tariff Group	*High Priority Fixed Revenue Requirement*	*Medium Priority Fixed Revenue Requirement*	*High Priority Irrigation Share of Fixed Revenue Requirement*	*Medium Priority Irrigation Share of Fixed Revenue Requirement*
Logan River	710	433	0	433

Source: QCA (2012).

6.6 Volumetric Charges

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

The Authority notes 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, the Authority notes that usage in the Logan River WSS is highly variable between each year with no discernible year to year 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 usage as a basis for establishing the per ML 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.

As the notion of typical costs relates to management practices which seek to ensure services are made available when required, the Authority has 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) would 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.

Instead of a ten year average, therefore, the Authority removed each year of all sectors water use that was below the 10 year average (on the basis that these years appeared not to be typical and appropriate for determining a $/ML charge). The Authority then calculated the average of the remaining years to derive a more typical all sectors water use assumption for each tariff group.

Table 6.5 shows total variable costs (all sectors), the typical all sectors' average water use and the resulting volumetric charge for the Logan River WSS.

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

Tariff Group	*Total Variable Costs ($'000)*	*Authority's Estimate of Typical Water Use (ML)*	*Volumetric Tariff ($/ML)*
Logan River	110	7,140	15.27

Source: QCA (2012). Note: The volumetric charge is derived by taking the NPV of total variable costs divided by the estimate of typical water use.

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) proposed tariffs and the Authority's cost reflective tariffs.

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

Tariff Group	*Actual*	*Seqwater (April)*	*Seqwater (November)*	*Cost Reflective*
	2012-13	*2013-14*	*2013-14*	*2013-14*
Logan River				
Fixed (Part A)	17.50	34.54	27.85	26.37
Variable (Part B)	27.93	0.00	0.00	15.27

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

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 Draft 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, (such as in the Central Lockyer Valley WSS), 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.

Where price increases in real terms are necessary, 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.

Authority's Analysis

The Authority has 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 is 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.

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

Tariff Group	*Current Revenue*	*Revenue Based on QCA Cost Reflective Prices*	*Revenue Difference*	*Current Cost Recovery*
Logan River	317.9	397.3	79.5	80%

Source: QCA (2012).

Table 6.8 summarises the total revenue maintenance requirement consistent with Government's requirements. 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: Total Revenue Maintenance Requirement (Nominal $'000)

Tariff Group	*Revenue Maintenance Requirement*	*Fixed Revenue*	*Variable Revenue*
Logan River	345.0	296.4	48.6

Source: QCA (2012). Note: Given the scheme is currently below recovery of the revenue requirement, the total revenue requirement takes into account additional revenues from usage charges based on the 10 year average. This means that the required revenue from the variable charge is higher than indicated based on the 5 year average water use.

Given current revenues for Logan River are below the assessed level of efficient costs (that is, charges are below lower bound), the Authority is required to recommend a price path for the four-year regulatory period (from 1 July 2013 to 30 June 2017).

The Authority proposes 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.

It is also proposed to escalate 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).

However, the Authority has not recommended price paths beyond the 2013-17 period on the grounds that such price paths should be subject to a subsequent regulatory review.

Water Prices

On the basis of the previously described analysis and principles, and the Minister's Direction to at least maintain real (2006-11) revenues, the Authority recommends prices as outlined below (Table 6.9 refers).

The Authority's recommended prices are presented in nominal terms for 2012-17. However, it is anticipated that actual prices will be established each year (March quarter) by Seqwater on the basis of changes in the Brisbane All Groups CPI.

Table 6.9: Past and Recommended Water Prices 2006-17 (Nominal $/ML)

Tariff Group	*Past Prices*						*Recommended Prices*				
	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Logan River											
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

Source: QCA (2012).

Logan River WSS current revenues are 80% 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 2016-17.

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 usage and nominal WAE (see Volume 1).

The Authority also notes that 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 is considered to apply 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 formed the basis of the April NSPs, for the years 2013-14 to 2035-36 in 2012-13 dollar terms.

Parent Asset	*Year*	*Description*	*Total ($,000)*
Bromelton Weir	2017/18	Refurbish Bromelton Weir Amtd 113.2Km	15
	2022/23	Refurbish Bromelton Weir Amtd 113.2Km	15
	2027/28	Refurbish Bromelton Weir Amtd 113.2Km	15
	2032/33	Refurbish Bromelton Weir Amtd 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

Parent Asset	*Year*	*Description*	*Total ($,000)*
	2019/20	Replace Switchboard	15
Water Flowmeters	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
Total			**1,295**