QUEENSLAND COMPETITION AUTHORITY

Final Report

Seqwater Irrigation Price Review 2013-17

Volume 2

Lower Lockyer Valley Water Supply Scheme

April 2013

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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 (WSSs) from 1 July 2013 to 30 June 2017 (regulatory period). A copy of the Ministerial Direction forms Appendix A to Volume 1.

Summary of Price Recommendations

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

Table 1: Prices for Lower Lockyer Valley WSS (Nominal $/ML)

	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***
Fixed (Part A)	15.88	17.52	19.60	21.50	23.33	24.17	24.49	28.98	31.76	34.65	37.67
Volumetric (Part B)	19.41	21.43	24.00	26.32	28.57	29.60	29.99	22.25	22.80	23.37	23.96

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

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

Final Report

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

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

Consultation

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

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

1. LOWER LOCKYER VALLEY WATER SUPPLY SCHEME

1.1 Scheme Description

The Lower Lockyer Valley WSS is located near the town of Lowood, in the Lockyer Valley, and was established following construction of Atkinson Dam in 1970.

The scheme is regulated under the authority of the Interim Resource Operations Licence (IROL) for the Lower Lockyer Valley WSS, issued in July 2008.

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

Table 1.1: Overview of Lower Lockyer Valley WSS

Lower Lockyer Valley WSS	
Business Centre	Lowood
Irrigation Uses	Agriculture (dairy, vegetable and forage crops)
Urban Water Supplies	Atkinson Dam – Amenities

Source: Seqwater (2012ao).

The Lower Lockyer Valley WSS has 171 bulk customers. Of these, there are 164 irrigators holding 11,118ML of medium priority (MP) interim water allocation (IWA) with a further 150ML currently unallocated.

Seqwater holds 1,510ML of MP IWA, of which 1,500ML is an allowance for losses and 10ML is for amenities. MP IWA volumes are outlined in Table 1.2.

Table 1.2: Interim Water Allocations

	Irrigation IWA (ML)	***Total IWA (ML)***
Medium Priority	11,268	12,778
High Priority	0	0
Total	**11,268**	**12,778**

Source: Seqwater (2012ao).

1.2 Bulk Water Infrastructure

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

Atkinson Dam is an off-stream storage, predominantly supplied by diverted water from Buaraba Creek with the remainder from runoff from its own catchment and Seven Mile Lagoon. Water from Atkinson Dam is used to maintain water levels in the supply weirs as well as releasing water to the Brightview Channel system and Buaraba Creek.

Scheme water is diverted from regulated streams. Many irrigators also have access to unregulated groundwater supplies.

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 Lower Lockyer Valley WSS

Storage Infrastructure	*Capacity (ML)*	*Age (years)*
Atkinson Dam	30,400 ML	42
Buaraba Creek Diversion Weir	74 ML	n/a
Brightview Weir	390 ML	n/a
Sippels Weir	25 ML	n/a
Potters Weir	30 ML	n/a
O'Reilly's Weir	610 ML	n/a

Source: Seqwater (2012ao).

Other assets include gauging stations, Buaraba Creek Pipeline, Buaraba Creek Supply Channel, Seven Mile Lagoon Diversion Channel, Atkinson Pump Station, Atkinson Low Level Pump Station, and Brightview Weir Supply Channel.

The characteristics of the bulk water assets are that:

(a) Atkinson Dam is an off-stream storage with a zoned earth-fill embankment;

(b) Buaraba Creek Diversion Weir is a steel sheet piling weir;

(c) Brightview Weir is a mass concrete with "ogee" crest storage weir with fishway;

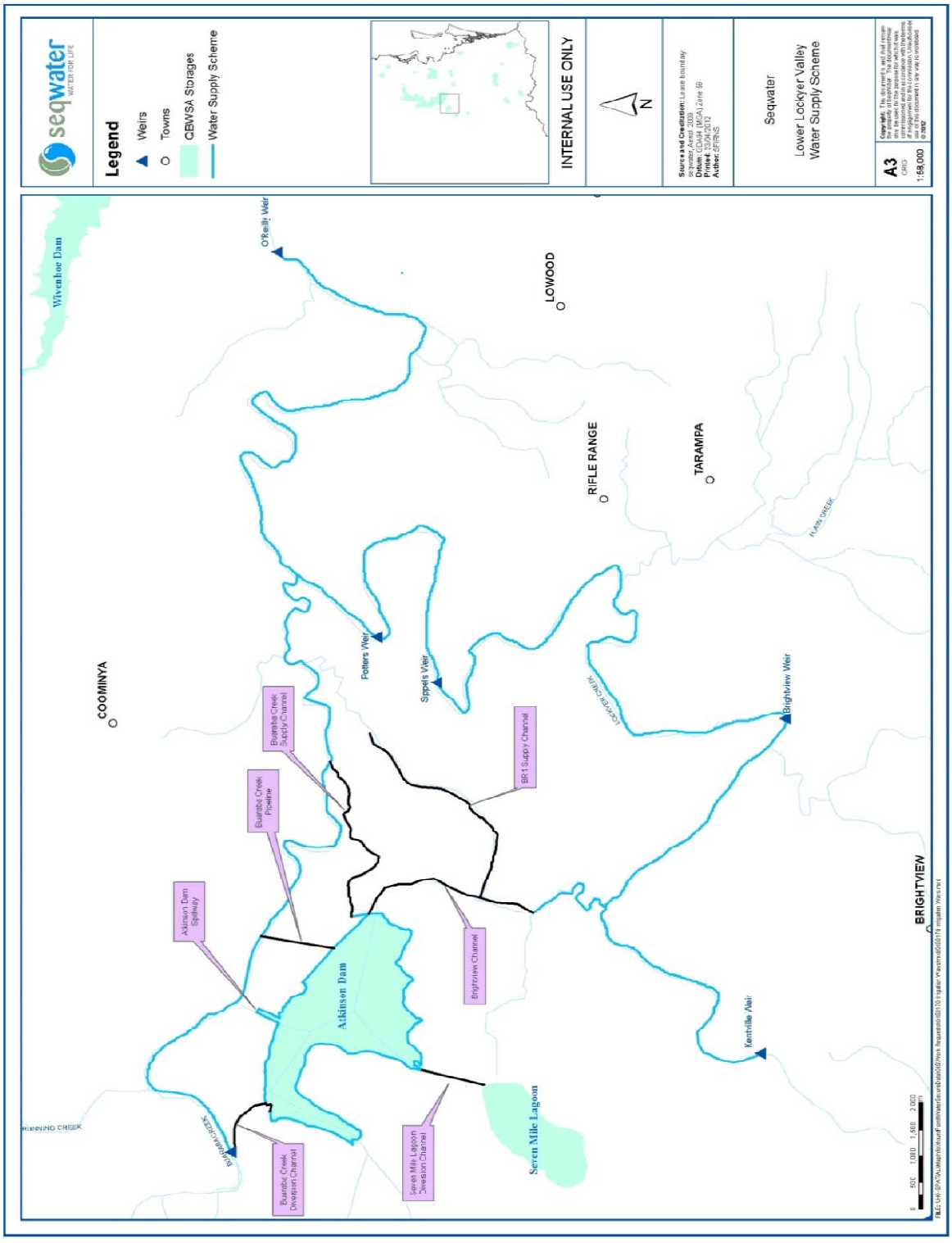
(d) Sippels Weir is a storage weir with reinforced concrete headwall;

(e) Potters Weir is a storage weir with reinforced concrete headwall; and

(f) O'Reilly's Weir is an irrigation storage and underground water recharge weir. Mass concrete with "ogee" crest and sheet piled embankment.

Lower Lockyer Valley WSS's location and key infrastructure are shown in Figure 1.1.

Figure 1.1: Lower Lockyer Valley WSS Locality Map



Source: Seqwater (2012ao).

1.3 Network Service Plans

Seqwater submitted the Lower Lockyer Valley WSS network service plan (NSP) which presents:

(a) existing service standards (where relevant);

(b) forecast operating and renewals costs, including the proposed renewals annuity;

(c) risks relevant to the NSP; and

(d) proposed lower bound irrigation reference tariffs (cost-reflective prices).

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

(a) invited submissions from interested parties;

(b) met with stakeholders to identify and discuss relevant issues;

(c) published notes on issues arising from each round of consultation;

(d) commissioned independent consultants to review aspects of Seqwater's submissions;

(e) published all reports and submissions on its website; and

(f) considered all submissions and reports in preparing this report for comment.

The Ministerial Direction forms Appendix A to Volume 1.

2. REGULATORY FRAMEWORK

2.1 Introduction

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

In the 2006-11 irrigation price review, the Lower Lockyer Valley 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. The Tier 2 group did not opt to take up a drought tariff option.

2.2 Regulatory Framework and Risk Allocation

Draft Report

Stakeholder Submissions

Seqwater

Seqwater submitted that it owns and operates the infrastructure in the scheme under the authority of an IROL, issued in July 2008.

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

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

Other Stakeholders

The Queensland Farmers Federation (QFF 2012) noted that irrigators in the Lockyer WSS will not be able to trade entitlements for some time yet. This means that customers will not have an avenue to trade to cope with the impacts of new prices, particularly high fixed charges.

Similarly, during Round 1 consultations in June 2012, irrigators noted that IWA cannot be permanently traded (QCA 2012c). Therefore, a high fixed charge will impose high costs as irrigators have no opportunity to avoid this cost through trading. Irrigators noted that to avoid high charges they may be forced to surrender their IWAs.

Irrigators also suggested that introducing permanently tradeable water allocations would increase water use as water could move towards its highest and best use, economic activity would increase and customers would be able to adjust to respond to price signals.

Authority's Analysis

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

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

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 recommended that short term volume risk should be assigned to customers through a tariff structure that recovers fixed costs through fixed charges and any and all variable costs through volumetric charges.

The Authority accepted that a high relative fixed charge will shift more short term volume risk to customers. The basis for this is outlined in Volume 1, namely that it is more efficient for customers to manage and respond to this risk, through such measures as trading. A higher fixed charge ratio combined with trading will encourage a transition to higher value water use options.

Trading

In response to QFF's submission and comment from irrigators during Round 1 consultation regarding the impracticalities associated with trade, the Authority noted the particular circumstances of this WSS with allocations currently based on IWAs under an IROL. This means that allocations can be temporarily but not permanently traded, and until WAEs are issued, they can be surrendered.

Under current arrangements with IWAs in place, temporary transfers have been limited. The volumes of temporary water traded, in recent years for the Lower Lockyer Valley WSS are identified in Table 2.2.

Table 2.2: Volume of Water Traded in Lower Lockyer Valley WSS (ML)

Year	*2008-09*	*2009-10*	*20010-11*	*2011-12*
Temporary	63	396	23	82
% of total IWA	0.5	3.1	0.2	0.6

Source: Seqwater (2012ao).

Essentially, the absence of permanent trading means that risks are less able to be managed by irrigators or Seqwater as there are limits to their ability to on-sell water to other parties.

To allow customers and Seqwater to better manage demand risk, the Authority considered that permanently tradeable WAE should be in place for every Seqwater irrigation customer. For this purpose, the Authority also recommended that relevant ROPs (or sections of ROPs) be finalised and permanent water allocations be issued in the Lower Lockyer Valley WSS by 30 June 2015. Such an arrangement will also direct water to its highest and best use and is consistent with recommendations to this effect at the last price review.

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) supported the Authority's recommendation for finalisation of the ROP.

The Department of Natural Resources and Mines (DNRM) (2013a) supported the recommendation to implement tradeable WAE by 30 June 2015 as it forms part of the DNRM work plan.

During consultations in January 2013 (QCA 2013a), irrigators indicated that they had been promised by Government for many years that IWAs would become permanently tradeable. They supported the Authority's recommendations that DNRM introduce permanent trading by 30 June 2015.

QFF (2013b) supports the Authority's draft recommendation and submitted that proposals have been made for defined trading zones in the preparation of the ROP to encourage trading of inactive WAE.

Authority's Response to Submissions Received on the Draft Report

As noted by irrigators, there have been long delays in the implementation of permanently tradeable WAE in this scheme. The Authority acknowledges support for the draft recommendation from all key stakeholders and that DNRM will meet the recommended timeline of 30 June 2015.

Any constraints on trading (such as trading zones) will be established by DNRM as part of this ROP amendment process.

The Authority maintains its draft report recommendation that permanently tradeable WAE be issued in this scheme and the ROP amended by 30 June 2015.

3. PRICING FRAMEWORK

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

3.1 Tariff Groups

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

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

3.2 Tariff Structure

Previous Review 2006-11

In the 2006-11 price path, for the Lower Lockyer Valley WSS, fixed charges were set to recover 70% of revenue and variable charges were set to recover 30% of revenue, given the agreed forecast water use.

In the previous review, Lower Lockyer Valley was identified as a Category 3 Scheme as the Government considered it was too onerous to achieve lower bound pricing in 2006-11.

Draft Report

Stakeholder Submissions

Seqwater

Seqwater (2012aj) 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 in 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 (2012ao) considered that all costs associated with the provision of irrigation services in the Lower Lockyer Valley WSS are fixed. Accordingly, Seqwater proposed to apply a single fixed tariff to Lower Lockyer Valley WSS irrigation customers.

Other Stakeholders

QFF (2012) submitted that Seqwater's proposed tariff structure of a 100% fixed charge is unacceptable. Adopting this structure will lock the Lower Lockyer Valley WSS into long-term real price increases over a number of years and threaten scheme viability.

QFF (2012) submitted that the Authority needs to consider the impact of shifting from a 70:30 fixed variable split to a high Part A fixed charge, and consider how prices could be transitioned to mitigate their impacts.

During Round 1 consultations in June 2012 (QCA 2012c), stakeholders argued that it is not appropriate to have a 100% fixed charge, as proposed by Seqwater, when there is no permanent trading.

M. Jendra (2012) proposed that the tariff structure should be set at 50% fixed and 50% variable, so that irrigators that are not using their full entitlement have access to water trading before it can be moved to a higher fixed tariff, enabling them to sell their entitlement to others who can pay.

In addition, M. Jendra (2012) submitted that consideration of future prices needs to be looked at carefully so that farmers can compete in an open market.

Authority's Analysis

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

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

While noting stakeholders concerns regarding a high fixed charge, particularly in periods of low water availability, under current legislative and contractual arrangements (and the Ministerial Direction), customers must meet the water supply charges applied 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.

It was the Authority's view that tariffs with a higher proportion of fixed charges may lead to increased volumes of trade. However, as discussed in Chapter 2 to reduce risks of managing water and costs, and allow water to be allocated to its highest and best use, the Authority recommended that DNRM by 30 June 2015 issue permanently tradable water allocations for the Lower Lockyer Valley WSS customers (as recommended in the previous price review).

Submissions Received from Stakeholders on the Draft Report

QFF (2013b) submitted that the Authority's revised tariff structures, with a volumetric charge lower than proposed in the Draft Report, would be supported.

Authority's Response to Submissions Received on the Draft Report

No change is proposed to the Authority's draft recommendations.

3.3 Water Use Forecasts

Previous Review 2006-11

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

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

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

For the Lower Lockyer Valley WSS, SunWater (2006b) assumed a water use forecast of 35% of IWA in the river system, equivalent to 3,944ML per year. SunWater noted that when water was available, relatively high water use rates were achieved at around 80%, but declined to 20% during drought periods with low announced allocations.

Draft Report

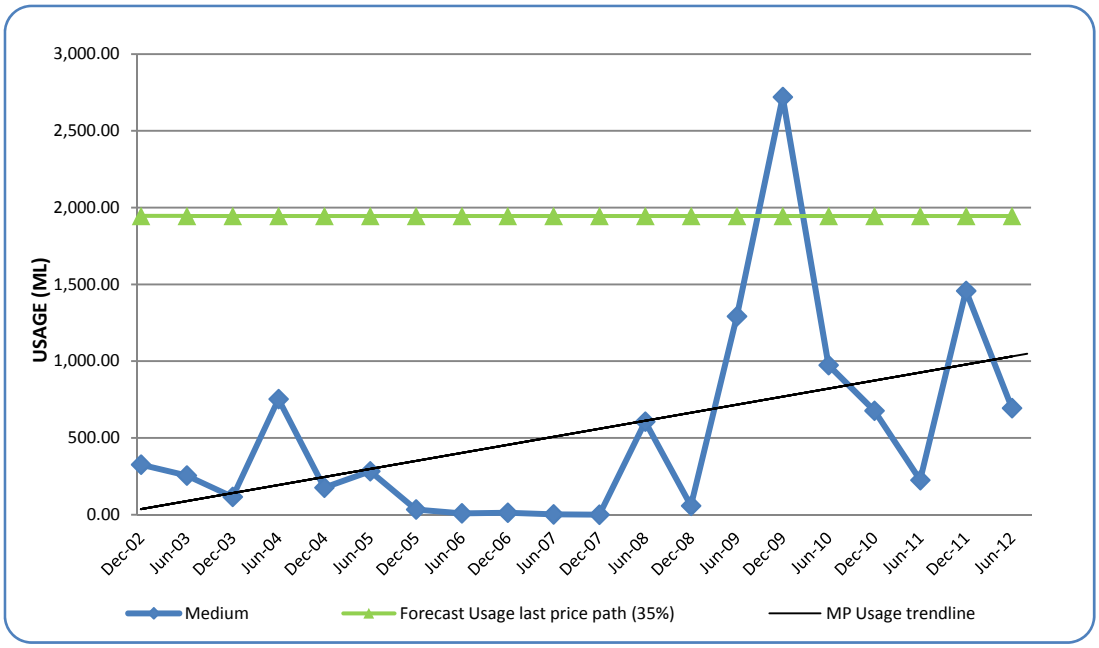
Stakeholder Submissions

Seqwater

Seqwater (2012ao) confirmed that the previous price path adopted a water use forecast at 35% of the nominal amount of IWA, equivalent to 3,944ML/annum or 986ML/quarter. Seqwater noted that continuing drought impacted the availability of water during 2005-07, and that the average water use over the 2006-11 period was actually only 1,459ML per year. Announced allocations were zero in 2005-06 and 2006-07. Over the nine years to December 2011, average actual water use was 1,050ML per year.

Figure 3.1 shows the historic water use information (six-monthly) for the Lower Lockyer Valley WSS submitted by Seqwater (Seqwater 2012ao).

Figure 3.1: Water Use for the Lower Lockyer Valley WSS



Source: Seqwater (2012ao).

Seqwater (2012ao) advised that the spike in water use in 2009 resulted from irrigators replenishing on-farm storages following the availability of water.

Other Stakeholders

During Round 1 consultations in June 2012 (QCA 2012c), stakeholders noted that it is difficult to forecast future water use as crop types are changing. Irrigators noted that they are moving from small crops to lucerne which means past water use cannot be used to predict future water use.

Further, irrigators noted that as the storages are currently full, it is likely that water use in the next 1-2 years will be higher than the past average and Atkinson Dam could reduce from full to empty in 18 – 24 months.

Authority's Analysis

The application of two-part tariffs removes the need for water use forecasts.

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: Total Costs and Final Prices of this report.

Stakeholders in the Lower Lockyer Valley WSS also considered that due to currently full water storages, water use is likely to be higher than historical averages for 2012-13 and 2013-14 (first year of the regulatory period). In response, however, the Authority noted that while this may turn out to be correct in initial years, significant uncertainty exists in later years.

Final Report

Details of the Authority's approach to estimating typical water use are given in Chapter 6: Total Costs and Final Prices (below).

3.4 Bulk Losses

Introduction

Seqwater holds 1,500ML IWA under the IROL as an allowance for losses. In the Lower Lockyer Valley WSS there are significant in-stream and storage losses which Seqwater excludes in the base WAE for calculation of prices for the scheme.

Draft Report

Stakeholder's Submissions

Seqwater

Seqwater (2012ao) submitted that the losses associated with the Lower Lockyer Valley WSS, although referred to as distribution losses in the relevant IROLs, are not genuine distribution losses as they relate to losses associated with bulk assets.

Seqwater (2012ao) submitted that it excludes losses in the regulated sections of Lockyer, Buaraba and Woolshed Creeks. According to the IROL, this loss IWA will not be permanently transferable. It is intended that it will be reviewed through a Water Resource Plan and ROP after which an appropriate water allocation will then be established. At such time, transferability will be subject to any provision of the ROP.

Seqwater (2012s) also submitted that as part of finalising ROPs for Lower Lockyer Valley WSS, DNRM will eventually undertake an assessment of appropriate levels. Seqwater considers that the full volume of these nominal losses could be required at any time and until DNRM reviews the loss WAEs, no adjustment by the Authority should be made.

Other Stakeholders

QFF (2012) submitted that in the Lower Lockyer Valley WSS there are significant in-stream and storage losses which help replenish the aquifer for the benefit of groundwater users but that these users are not paying any charge for this benefit, as there are no defined entitlements for groundwater use in the scheme.

QFF (2012) also noted that it was indicated during the last price path consultations for the Lower Lockyer Valley WSS, that the groundwater section would be regulated as part of the scheme within the five-year term to 2011. This has not been achieved and indications are now that another five years or more will be required to regulate groundwater in the scheme. Further, the ROP for surface water has also not been prepared and implemented.

QFF (2012) requests for clarification when planning for both surface and groundwater resources is likely to proceed and submits that it should be treated as a priority.

M. Jendra (2012) submitted that while losses to underground in the last two years were virtually nil, in drought years it could be more than 50% of releases. Therefore, any losses to systems underground are not recouped making the scheme more expensive overall.

Authority's Analysis

The volume of MP loss IWA (1500ML) represents 12% of total bulk IWA.

The Authority noted that not all MP loss IWAs may be required to deliver MP WAEs. This means that, by default, excess loss entitlements remaining in storages may be generating a benefit for river and groundwater customers as the surplus water may be redistributed in the form of higher announced allocations.

However, Seqwater submitted that there is very limited data available on actual losses delivered. For this reason, it is not generally clear that Seqwater's holding of nominal loss IWA or WAE is excessive in each of its WSSs.

As noted by M. Jendra (2012), the volume of losses actually used could vary substantially according to seasonal conditions.

The Authority recommended that prudent and efficient bulk costs associated with loss IWAs should be paid for by customers, but these should exclude the costs associated with loss IWAs held by Seqwater in excess of that needed to meet required actual loss releases. Seqwater should bear the costs of holding loss IWA greater than is needed to supply customers, if any, where permanently tradeable loss water allocations are held.

Where it becomes evident that there is (or may be) a sustained difference between prescribed loss IWA and actual losses, the loss IWA should be reviewed by DNRM (and Seqwater) by 30 June 2015. The Authority particularly recommended that DNRM do this for the Lower Lockyer Valley WSS as part of finalising the ROP.

Once the results of the review are known, any material impact on prices can be taken into account either through a within or end-of-period adjustment.

Submissions Received from Stakeholders on the Draft Report

Determining Efficient Level of Loss WAE

Seqwater (2013a) agreed in-principle with the recommendation for a review of all bulk and distribution loss WAE by 30 June 2015, but suggested the review should only occur for schemes that are subject to a ROP. For schemes subject to an IROL, such as Lower Lockyer Valley WSS and Warrill Valley WSS, the review should be carried out in conjunction with ROP amendment. This is needed so that Seqwater is able to trade any excess loss WAE.

DNRM (2013) submitted that it does not support the Draft Report recommendation that DNRM review and determine the efficient levels of bulk and loss WAE. The volume of WAE needed to cover losses is essentially a function of operation, asset maintenance and contractual arrangements between the scheme operator and the customer. It is inappropriate for a natural resource regulator such as DNRM to be exercising judgement as to what the appropriate loss WAE should be.

Timing

Seqwater (2013) and QFF (2013b) supported the draft recommendation that DNRM determine efficient bulk loss WAE by 30 June 2015.

Cost of Inefficient Loss WAE

Seqwater (2013) supported the Draft Report recommendation that costs of (any) inefficient loss WAE, as identified by DNRM, be borne by Seqwater. Seqwater submitted that this should be subject to permanently tradable water allocations being in place.

QFF (2013b) submitted that customers should not pay for loss WAEs held by Seqwater in excess of requirements and that if (any) inefficient loss WAE is identified, it may be necessary for prices to be adjusted from 1 July 2015.

Authority's Response to Submissions Received on the Draft Report

Determining Efficient Level of Loss WAE

The Authority notes Seqwater's and QFF's support for the recommendation that DNRM determine efficient bulk and distribution loss WAE.

The Authority also notes DNRM's submission that because the appropriate volume of loss WAE is essentially a function of scheme operation and contractual arrangements between the WSS and customers, it is DNRM's view that it is inappropriate for the resource regulator (DNRM) to exercise judgement as to what the appropriate volume of loss WAE should be.

In response, the Authority notes:

(a) DNRM has an ongoing role in WRP and ROP compliance and review;

(b) DNRM is well placed to initiate a review to determine the efficient level of loss WAE, particularly where there are not yet water allocations, but rather the loss WAE are in the form of IWA and thus subject to DNRM's pending finalisation; and

(c) DNRM's intention to introduce permanently tradeable water allocations by 30 June 2015 for the Lower Lockyer Valley. As this involves amendment of the Moreton ROP, the assessment to determine the efficient levels of loss WAE (in these cases IWA) can take place concurrently and DNRM should do so.

Further, the Authority notes the outcome of the SunWater review which identified that the original volumes of loss WAE were conferred by DNRM. As part of that review, SunWater was found to be holding loss WAE well in excess of requirements. A recommendation of the SunWater review (endorsed by Government) was that (the then) Department of Environment and Resource Management (DERM) immediately review loss WAE.

The Draft Report (Volume 1) identified three possible means for reviewing loss WAEs under the Water Act, with the most effective being an amendment to the ROP.

Accordingly, the Authority remains of the view that the efficient level of loss IWA/WAE needs to be reviewed and determined by DNRM according to the same timeframes established for ROP amendments.

Timing

The Authority notes that Seqwater supports the Draft Report recommendations on the timing of loss WAE reviews, on the proviso that any review to determine the efficient level of loss WAE, apply only to those tariff groups currently included in a ROP. Given the Lower Lockyer Valley WSS is yet to be included in the Moreton ROP, the review to determine

efficient loss WAE should, therefore, be undertaken in conjunction with the proposed ROP amendment.

The Authority notes DNRM's (2013) submission which states that DNRM can meet the Draft Report's deadline of 30 June 2015 to amend the Moreton ROP to include the Lower Lockyer Valley WSS.

Accordingly, the Authority remains of the view that the efficient level of bulk loss WAE associated with the Lower Lockyer Valley WSS be reviewed and determined by 30 June 2015.

Cost of Inefficient Loss WAE

The Authority notes submissions from Seqwater and QFF that costs associated with (any) inefficient loss WAE be identified subsequent to DNRM's review with these costs be borne by Seqwater. QFF also submitted that it may be necessary to adjust prices from 1 July 2015 as a result of this review.

The Authority endorses these views and notes that stakeholder submissions are consistent with Draft Report recommendations. The Authority notes, however, that unless the change in costs is material, an end-of-period adjustment would be preferred.

Accordingly, the Authority proposes no change to its Draft Report recommendations regarding the Lower Lockyer Valley WSS.

4. RENEWALS ANNUITY

4.1 Introduction

Ministerial Direction

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

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

Previous Review

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

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

(a) a detailed asset management plan, based on asset condition, that defined the timing and magnitude of renewals expenditure; and

(b) an asset restoration reserve (ARR) to manage the balance of the unspent (or overspent) renewals annuity (including interest).

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

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

Issues

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

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

(a) the establishment of the opening ARR balance (at 1 July 2013), which requires reviewing whether renewals expenditure in 2006-13 was prudent and efficient. This affects the opening ARR balance for the 2013-17 regulatory period:

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

(c) the methodology to calculate the renewals annuity.

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

Seqwater estimated that it has under management about 74 bulk water storage assets relevant to entitlement holders in South East Queensland (SEQ), including irrigators, local governments, industrial users and the former SEQ Water Grid Manager (WGM). Seqwater

(2012am) 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 (WTPs), although preliminary condition and criticality data for Irrigation Meter fleets in the Lower Lockyer Valley WSS have been collected. This information will form a substantial part of asset management plans for these assets.

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 renewal.

The Authority 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 Authority also reviewed meter replacement costs. These are set out in more detail in this and other scheme reports.

The findings of these detailed reviews were applied where possible 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 (Seqwater 2012ao) submitted that the opening balance for the Lower Lockyer Valley WSS was negative $148,605.

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

Draft Report

Stakeholder Submissions

Seqwater

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

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

(b) calculating balances based on 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% for 2000-06 and 9.69% for 2006-13.

Past Renewals Expenditure 2006-13

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

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

Tariff Group	*Forecast 2006-11*	*Actual 2006-11*	*Variance*
Lower Lockyer Valley	571,820	618,271	46,451

Source: Indec (2012).

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

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

	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*
Direct	141,507	89,991	0	136,386	250,387
Non-direct	16,984	16,733	0	41,541	(128,896)
Total	**158,491**	**106,724**	**0**	**177,927**	**121,491**

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 $)

Tariff Group	*Actual 2011-12*	*Forecast 2012-13*	*Total*
Lower Lockyer Valley	103,858	401,512	505,370

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, and compared to the 1 July 2006 opening balance.

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

Tariff Group	*Seqwater ARR Balance 1 July 2006*	*Seqwater Proposed ARR Balance 1 July 2013*
Lower Lockyer Valley	(148,605)	(533,707)

Source: Indec (2012).

Other Stakeholders

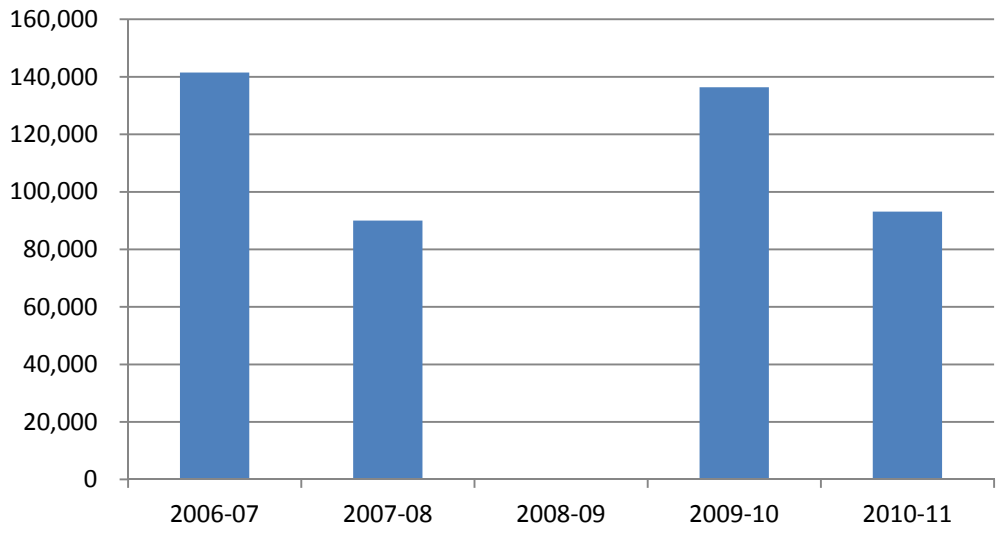
QFF (2012) noted that the negative ARR balance in this scheme has not been adequately explained in the NSP and this needs to be rectified.

Authority's Analysis

Renewals Expenditure 2006-13

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

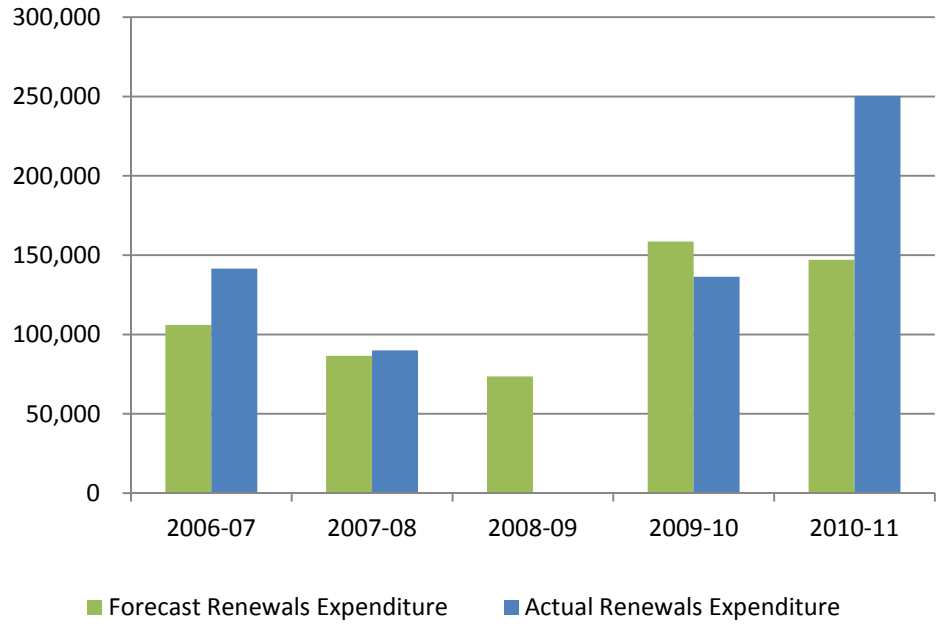
Figure 4.1: Past Direct Renewals Expenditure 2006-11 (Nominal $)



Source: Seqwater (2012ao).

A comparison of forecast and actual direct renewals expenditure in the Lower Lockyer Valley 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 noted that for the first two years of the 2006-11 price paths SunWater managed the renewals expenditure program. SEQ 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 WSSs.

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

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

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

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

For 2009-10 and beyond, however, Seqwater recorded renewal expenditure in a more detailed and verifiable way. As part of the SKM review, two past renewals items were selected in the Mary Valley WSS with the findings considered for application to other renewals items.

Expenditure in 2009-11 was considered to be prudent and efficient.

Conclusion

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

(a) a cost saving of 4% is to apply to past renewals, consistent with the Authority's approach to SunWater, for the period 2006-08 when SunWater operated the now Seqwater assets;

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

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

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

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

	2006-07	***2007-08***	***2008-09***	***2009-10***	***2010-11***	***2011-12***	***2012-13 (Forecast)***
Seqwater Proposed	141,507	89,991	0	136,386	93,126	103,858	401,512
Authority Recommended	136,453	86,956	0	136,386	93,126	103,858	401,512

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 Lower Lockyer Valley WSS is negative $518,133, compared to Seqwater's proposed negative $533,707.

The Authority noted QFF's submission that Seqwater had not adequately explained the ARR balance. The Authority considered the explanation outlined in the NSP to be deficient and, in response to QFF's submission, outlined (above) the process adopted in calculating a revised ARR balance.

In addition, the Authority noted that an amount of $157,261 for flood damage repair costs at Atkinson Dam have been removed from the calculation of the ARR balance (as at 1 July 2013), as these costs were found to relate to a flood damage insurance claim.

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

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

4.3 Forecast Renewals Expenditure

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

Draft Report

Stakeholder Submissions

Seqwater

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

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

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

Seqwater submitted a summary of the significant proposed renewals expenditure items for the Lower Lockyer Valley WSS as presented in Table 4.6.

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

Facility	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seven Mile Lagoon Diversion Channel Fencing	7	0	0	0
Atkinson Dam Fencing	10	0	0	0
Atkinson Dam Spillway Control Structure – Gate #1	15	0	0	0
Atkinson Dam Spillway Control Structure – Gate #2	15	0	0	0
Atkinson Dam Spillway Control Structure	0	20	0	0
Brightview Channel Fencing	47	0	0	0
Potters Weir Structure	60	0	0	0
Sippels Weir – 23.8km	72	0	0	0
Seven Mile Lagoon Diversion Channel 1,568m	20	0	0	0
Brightview Channel Earthworks	0	0	0	66
Water Meters Replacement	158	158	22	22
Total	**404**	**178**	**22**	**88**

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

The major expenditure items incorporated in the above estimates are:

(a) 2013-14 and 2014-15: refurbishment of water meters ($158,000 each);

(b) 2013-14: rehabilitation to repair scour bypass of Potters Weir ($60,000); rehabilitation to repair scour bypass of Sippels Weir ($72,000); and replacement of fencing of Brightview Channel (50% shared with adjacent landowners) ($47,000); and

(c) 2016-17: desilting of Brightview Channel ($66,000).

The major expenditure items from 2016-17 onwards are:

(a) refurbishment of 43 observation bores for $86,000 each to be incurred in 2018-19, 2023-24, 2028-29 and 2033-34; and

(b) refurbishment (desilting) of Brightview Channel Earthworks for $66,000 each to be incurred in 2012-22, 2026-27, and 2031-32.

As part of its renewals program, Seqwater also sought to recover the cost associated with water meters. Specifically, Seqwater's business case in this regard outlined 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 Lower Lockyer Valley WSS, the proposed metering costs are as detailed in Table 4.7.

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

Tariff Group	*Phase 1: 2012-13 to 2014-15*	*Phase 2: 2015-16 to 2021-22*	*Phase 3: 2022-23 to 2035-36*	*Total*
Lower Lockyer Valley	316	154	224	694

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 2013-14 to 2035-36 are provided in Appendix A.

Other Stakeholders

QFF (2012) queried why there was a negative ARR balance of $0.5 million for this scheme.

QFF (2012) queried whether flood related costs (such as the repair of scour bypass of both Potters and Sippels weirs and the replacement of fencing of Brightview Channel) should be off-set through insurance.

During consultations in June 2012 (QCA 2012c), it was stated that the major renewal expenditure items presented in the NSP all relate to flood repair. Therefore the Authority should consider whether any insurance revenue has been received for these items. If so, the flood damage costs should be excluded.

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.

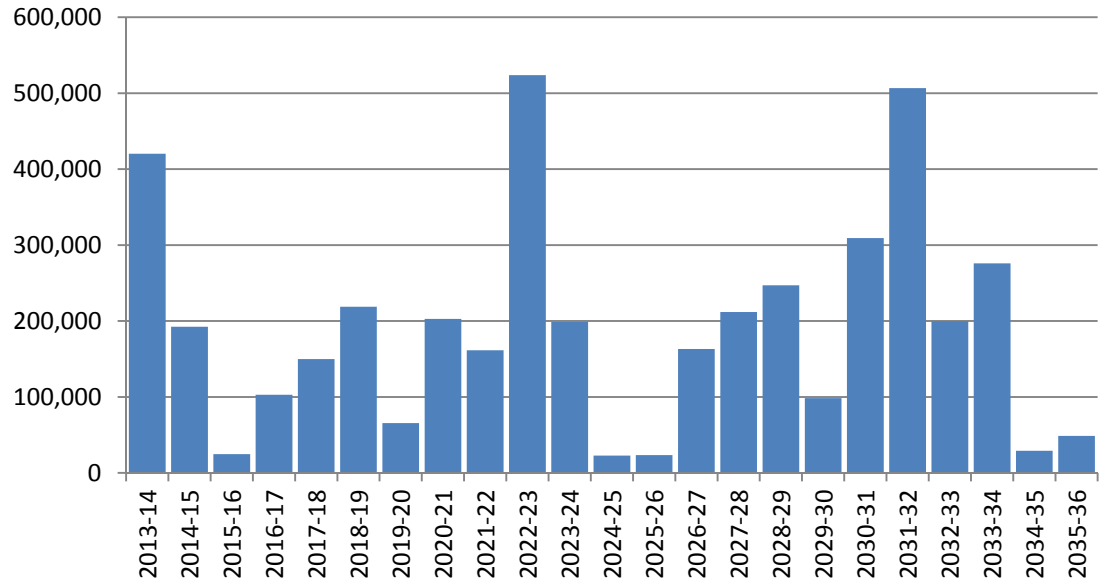
SKM concluded that although Seqwater may not currently have good asset condition information due to the lack of condition information transferred from previous operators, the policies and procedures Seqwater adopted to assess the condition of its assets will rectify this situation over time. Accordingly,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

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

Total Costs

Seqwater's proposed total renewals expenditure for 2013-36 for the Lower Lockyer Valley WSS is shown in Figure 4.3 and is reviewed below. This expenditure represents the direct cost component of renewals expenditure only as Seqwater has advised that all non-direct costs (indirect costs and overheads) were allocated to operating expenditure only as data was not sufficiently disaggregated at the project level to allocate non-direct costs to renewals outlays.

Figure 4.3: Forecast Renewals Expenditure, Lower Lockyer Valley WSS, 2013-36 (Nominal $)



Source: Seqwater (2012av).

In response to comments made by QFF and irrigators during Round 1 consultation, Seqwater confirmed that insurance is applicable to flood related damage. Accordingly, for the purpose of pricing, no flood related costs have been included when forecasting renewals expenditure on the expectation that insurance revenue will account for all flood related damage costs.

In addition, Seqwater submitted that there have been some minor piping concerns at Potter's and Sippel's weirs for some years which have been exacerbated due to recent excessive wet weather. However, Seqwater maintained that associated renewals expenditure cannot be attributed to flood damage.

However, there are two types of Brightview Channel fencing costs – those associated with flood damage (which have been claimed against insurance and not included as renewals expenditure) and the renewal of fencing due to asset condition deteriorating over time.

Item Reviews

SKM reviewed the prudency and efficiency for a sample of items across all Seqwater WSSs. Those of relevance to Lower Lockyer Valley WSS are discussed below.

Items reviewed included:

(a) specific items sampled in the Lower Lockyer Valley WSS (Item 1); and

(b) items reviewed in other WSSs where the conclusions were considered by SKM to be appropriate for application to Lower Lockyer Valley WSS (Items 2 to 9).

Each of the assessed future renewals items are discussed below.

Item 1: L1 Distribution Observation Bores

Seqwater

This renewals item is scheduled to occur in 2018-19, 2023-24, 2028-29, 2033-34 at a cost of $86,000 in each year (total $344,000). It involves the renewal of a total of 43 observation bores, 11 bores every five years (with 10 in the last year) commencing in 2018-19. The bores are located throughout the geographical area of the Lower Lockyer Valley WSS.

The bores are used to monitor water levels in the aquifers and model the ground water within the Lower Lockyer Valley WSS area. There is significant interaction between ground water and surface water in the area and forward planning regarding ground water entitlements is required to consider the impact on established surface water entitlements. DNRM's Ground Water Model is the means by which these impacts are assessed. The bores are read and the resulting data managed by DNRM.

Other Stakeholders

No other stakeholders have commented on this item.

Consultant's Review

Seqwater stated that the project is not to commence until 2018-19 and that the project is to be classified as in the 'Concept and Feasibility' phase of the Seqwater Asset Delivery Framework. SKM considered the current position in the Seqwater Asset Delivery Framework as appropriate given the value and timing of this renewal project.

SKM found the available information on this project is consistent with the current status of the project but noted that at this stage, no detailed options analysis has been undertaken.

Seqwater advised that detailed options analysis is scheduled to be completed in the Validation and Planning phase of Seqwater's Asset Delivery Framework.

SKM understood that this analysis is due to occur prior and closer to the Implementation phase when the project is due to be delivered and commissioned. SKM considered this approach to be in line with good industry practice as it is appropriate to undertake a more detailed assessment closer to the planned date of delivery, some six years hence, when the condition of the existing infrastructure can be reassessed.

Prudency

Seqwater identified this project as being necessary to operate the Lower Lockyer Valley WSS although it is not supported by any specific or particular documentation or legislative requirement. Seqwater stated that the ongoing operation of the bores is directly relevant to the ongoing planning activities of DNRM and its Ground Water Model. Seqwater, therefore, considered that there is an implied government direction or arrangement requiring Seqwater to continue to maintain the operation of these bores.

When the IROL for Lower Lockyer Valley WSS was originally issued in 2004 it contained the following monitoring obligation:

> *underground water levels in monitored bores within regulated underground water areas on a quarterly basis and coordinated with measurements for metered use in those bores.*

SKM noted that the IROL was subsequently amended and the condition removed as "there are no groundwater aspects to the scheme" (DNRW, 2008).

As such, SKM noted that Seqwater is under no legislative requirement to monitor the groundwater levels within the Lower Lockyer Valley WSS. Additionally, surface water users within the scheme currently pay for the upkeep of the bores but receive no direct benefit.

In response to SKM's request for information, regarding the ownership of the bore and use of data, Seqwater stated that it agrees that DNRM may be the appropriate owner of the bores, ground water extractions do impact surface water availability in the water supply scheme and that the information is not used operationally by Seqwater in the Lower Lockyer Valley WSS.

In summary, the renewal of the observation bores is not necessary to operate the Lower Lockyer Valley WSS.

Policies and Procedures

The project has been identified as part of the Irrigation Infrastructure Renewal Projections 2013-14 to 2046-47 for the Lower Lockyer Valley Tariff Group. Seqwater indicated that a formal condition assessment and detailed options analysis is scheduled to be completed more contemporaneously with the expected end of the asset life in the Validation and Planning phase of Seqwater's Asset Delivery Framework. SKM believed that the replacement of an asset based on the results of an adequate condition assessment and options analysis represents good industry practice.

SKM recommended that Seqwater undertakes a condition assessment and options analysis, prior to the implementation of the project as proposed by Seqwater. SKM also recommended that the planned approach and justification of the timing of renewal be suitably documented.

Timing of Asset Replacement or Refurbishment

The observation bores in the Lower Lockyer Valley WSS were installed over a period of time. The renewal of the bores is based on a standard useful asset life of 50 years. The age profile of the observation bores varies as outlined below in Table 4.8.

Table 4.8: Age Profile of Observation Bores

Year installed	*Number of bores*	*Current age (years)*	*Current remaining life (years)*
1945	2	67	(17)
1960	6	52	(2)
1963	1	49	1
1964	4	48	2
1969	3	43	7
1973	2	39	11
1974	1	38	12
1990	20	22	28
1991	4	21	29

Note: Based on a standard useful asset life of 50 years.

SKM found that while Seqwater has allocated a standard useful asset life for bores of 50 years, it has not yet determined a standard refurbishment period for the bores.

Based on industry experience, SKM considered that a useful life of 50 to 60 years is appropriate for observation bores and that a refurbishment period of 20 years would be appropriate. SKM considered that the useful asset life applied by Seqwater for this asset is reasonable and in keeping with industry practice. As such, SKM considered that the timing for renewal of these assets is appropriate and adequate for the intended purpose.

SKM did not find detailed condition assessments have been undertaken for the L1 Distribution observation bores. Seqwater stated that condition information provided by operational staff indicated that, for the bores past their standard asset life, they were not yet in need of renewal.

The planned renewal programme, together with details of the age of the bores is provided in Table 4.9. From this, SKM noted that four of the bores are scheduled to be renewed prior to reaching the end of their standard asset life of 50 years whilst some are scheduled to be replaced significantly beyond the date of their standard serviceable asset life.

SKM considered that account should be taken of condition, as well as age of asset compared to standard asset life when determining the refurbishment and or renewal timing of an asset. Although a standard asset life of 50 to 60 years for a water bore is in keeping with industry practice, the condition information provided to SKM indicated that the bores that are currently 67 years old are still serviceable.

Therefore, SKM considered that the timing of the proposed renewals should be reconsidered. The renewals period should be extended to at least coincide with the end of serviceable asset life and, for those bores whose condition is known, the serviceable asset life should be adjusted to take account of the condition of the bore.

Table 4.9: Age Profile at Scheduled Renewal

Year Installed	*Number of Bores*	*Current age (years)*	*Year Renewal Scheduled*	*Age when Renewal Scheduled (years)*
1945	2	67	2019	74
1960	6	52	2019	59
1963	1	49	2019	56
1964	2	48	2019	55
1964	2	48	2024	60
1969	3	43	2024	55
1973	2	39	2024	51
1974	1	38	2024	50
1990	3	22	2024	34
1990	11	22	2029	39
1990	6	22	2030	40
1991	4	21	2030	39

Note: Distribution based on number of bores proposed to be renewed at each interval.

Scope of Works

Seqwater stated that the scope of works, for each observation bore, is to drill a new 75 mm diameter observation bore to a maximum depth of 30 m and encase with PVC pipe with a lid. SKM considered this scope of work to be acceptable if the bore has reached the end of its serviceable life and condition assessment indicates that it needs replacement.

However, SKM noted that without an options analysis having been completed it is not possible to determine if the replacement of the observation bores is the best means of achieving the desired outcome.

On the basis that the observation bores are not required to operate the Lower Lockyer Valley WSS, the project to replace the bores was assessed as not prudent.

Efficiency

Seqwater did not provide sufficient information to determine the standards of works relevant to the project. Given the nature of the asset the replacement of the existing bores with equivalent sized bores was considered appropriate.

Seqwater provided an indicative budget for the replacement of an observation bore. This budget breakdown is outlined below in Table 4.10.

Table 4.10: Budget Breakdown

Item	*Sub-Item*	*Costs ($)*
Design	Civil	600
	Mechanical	-
	Electrical	-
	Control	-
Procurement	Preparation of scope of work & RFQ	1,500
Supply and install	Site set-up & establishment	1,500
	Drilling of typical 30m bore at $65/m (Rawlinson's 2012) including PVC casing	1,950
	Bores testing & calibration	950
Sub-total		**6,500**
Seqwater Internal Costs		
Work Supervision		1,500
PM Costs (15% of Contract Costs)		-
Sub-total		**1,500**
Total		**8,000**

Source: SM Project Outline: Lower Lockyer Valley Distribution Observation Bores, Seqwater, undated.

Seqwater indicated that the budget is accurate to ± 30%. This level of accuracy is appropriate for a project in the 'Concept and Feasibility' phase.

Seqwater stated that:

> *the indicative budget was estimated based on an assumed scope of work. This was necessary as the deterioration in condition and / or failure event has yet to occur. Costs other than for drilling new bores were derived from expectations of what would be required to deliver a small programme of low cost projects spatially distributed across a wide area on land not controlled by Seqwater.*

SKM undertook a cost estimate for the supply and installation costs per observation bore, based on recently completed projects and industry experience. SKM's cost estimate was provided and contrasted with Seqwater's cost estimate in Table 4.11. As Seqwater's cost estimate was within 16% of SKM's estimate SKM considered that the proposed cost is efficient.

Table 4.11: Cost Estimate Comparison

Component	*Seqwater Estimate ($)*	*SKM Estimate ($)*	*Difference (%)*
Design	600	312	(48%)
Procurement	1,500	468	(69%)
Sire setup and establishment	1,500	500	(67%)
Drilling of 30m bore including PVC casing	1,950	n/a	n/a
Bores testing and calibration	950	4,699	395%
Seqwater Internal costs	1,500	780	(48%)
Total	**8,000**	**6,759**	**(16%)**

SKM's estimate was based on recent and relevant project experience for bores completed in the region. While some cost elements of Seqwater's forecast are considered high compared to other Seqwater projects and good industry practice, overall costs were within 30% of SKM's estimate.

On the basis that the standards of works are appropriate and the revised project costs are considered accurate, the project was assessed by SKM as efficient.

Authority's Analysis

SKM assessed the project as not prudent as the observation bores are not required to operate the Lower Lockyer Valley WSS. From an efficiency perspective, SKM assessed the project to be efficient as the scope of works is appropriate, the standards of works are consistent with industry practice and the revised project costs are consistent with SKM's estimate for such works.

On the basis of SKM's advice, the Authority excluded the expenditure related to the renewal of 43 observation bores.

Item 2: Meter Replacements

Seqwater

Seqwater submitted that expenditure of $316,000 in 2013-14 to 2014-15, $154,000 in 2015-16 to 2021-22 and $224,000 in later years is required to replace water meters in the Lower Lockyer Valley 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 Lower Lockyer Valley WSS. Metering is required for management of water supplies, reporting and billing purposes. Seqwater advised that it has two types of meters: river meters and groundwater meters. Most meters are river meters with groundwater meters only in the Central Lockyer WSS.

Prudency

SKM's conclusions in regard to the prudency of meter replacement costs across the two reviewed schemes (and inferred for Lower Lockyer Valley 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 supported 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 supported 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 programme. SKM speculated this discrepancy may be due to an allowance for the number of meters to increase over time as part of a re-uptake of water licences. However, this was not specifically stated by Seqwater and no justification was provided for this assumption. Accordingly, the additional 75 meters were considered not to be prudent.

In summary, SKM found that:

(a) for the first 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 partially prudent (i.e. meter replacement was not required for all years). As 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 4.12.

Table 4.12: 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 Lower Lockyer Valley WSS are outlined below in Table 4.13.

Table 4.13: 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	316	154	224	694
SKM revised costs	316	134	144	595

Source: SKM (2012).

Authority's Analysis

The Authority noted the outcome of the SKM review that expenditure associated with Item 2: Metering is efficient in terms of the costs per meter and expenditure incurred in 2013-14 and 2014-15. However, SKM noted issues associated with the proposed timing of replacement and the number of meters to be replaced in later years. The expenditure is therefore partially prudent in these later years.

The Authority, based on the SKM analysis, concluded that the expenditure associated with metering in the Lower Lockyer Valley WSS be adopted as in Table 4.13.

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013e) submitted that it is undertaking meter replacements due to safety considerations and to ensure meters meet manufacturer specifications. In certain

circumstances Seqwater will replace meters that are five years old if they are non-compliant for safety, accuracy or other reasons.

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

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

Authority's Response to Submissions Received on the Draft Report

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

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

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

Item 3: Atkinson Dam – Observation Bores

Seqwater

This renewals item (that is, the replacement of 15 observation bores) is scheduled for 2020-21 at a cost of $75,000.

Other Stakeholders

No other stakeholders have commented on this item.

Consultant's Review

SKM has reviewed the proposed project costs based on the limited information available without visual inspection of the assets.

SKM concluded that given the Atkinson Dam observation bores are also within the Lower Lockyer Valley WSS, the findings from Item 1 [L1 Distribution Observation Bores] review can be applied to Item 3.

Therefore, given SKM considered that the Atkinson Dam observation bores are required for the operation of the Lower Lockyer Valley WSS, the proposed expenditure associated with Item 3 is prudent.

SKM also concluded that proposed expenditure associated with Item 1 to be efficient. Therefore, on the proviso that Seqwater adopt the same method to estimate costs, the proposed expenditure associated with Item 3 is efficient.

Authority's Analysis

On the basis of SKM's advice on Item 1 and the applicability of Item 1's review findings, the Authority concluded that expenditure related to the renewal of 15 observation bores at Atkinson Dam to be both prudent and efficient.

Item 4: Control Equipment

Seqwater

Seqwater proposed various renewals of control equipment in the Lower Lockyer Valley WSS including:

(a) refurbishment of Atkinson Dam spillway control structure at a cost of $30,000 in 2014 and $20,000 in 2015; and

(b) replacement of Buaraba Creek Diversion Channel gate control equipment at a cost of $12,000 in 2015.

Other Stakeholders

No other stakeholders have commented on this item.

Consultant's Review

SKM reviewed a similar item for Clarendon Diversion involving expenditure of $174,000 in 2029. SKM noted that control equipment is necessary for the operation of the scheme. While considered prudent, SKM indicated that the timing of the replacement in the case of Clarendon Diversion works may need to be brought forward.

In the case of the Clarendon example, SKM estimated a cost of $164,000 compared to Seqwater's $174,000 estimate. SKM considered that given Seqwater's forecast was within a 30% range, the proposed expenditure was considered efficient.

SKM noted that the conclusions for Clarendon Diversion can be applied to other projects including those in the Lower Lockyer Valley WSS. SKM, therefore, considered the various renewals of control equipment to be prudent and efficient.

Authority's Analysis

The Authority accepted SKM's recommendation that Item 4 (that is, the refurbishment of control equipment at Atkinson Dam and the replacement of Buaraba Creek Diversion Channel gate control equipment) to be prudent and efficient.

Item 5: Atkinson Dam - Telemetry

Seqwater

Seqwater proposed replacement of telemetry equipment at Atkinson Dam in 2018 and again in 2028 at a cost of $35,000 in each year (total of $70,000).

Other Stakeholders

No other stakeholders have commented on this item.

Consultant's Review

SKM reviewed similar proposed expenditure in the Logan River WSS for the Bromelton Weir. This project also involved a total expenditure of $70,000 in 2022 and in 2032.

The need for this project at Bromelton Weir was determined as required to fulfil the regulatory obligations as specified in the IROL.

Seqwater's standard useful asset life for telemetry components and level measurement equipment is 10 years. In the absence of any determination for this SKM believed the standard asset life, which is in keeping with industry standards and hence appropriate, should be used.

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.

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.

The proposed works will be a relatively straightforward process involving like-for-like direct replacement of existing equipment with a system of similar capability.

SKM estimated a cost of $39,700 compared to Seqwater's estimate of $35,000, for each installation at Bromelton Weir. Overall, SKM considered the expenditure prudent and efficient.

In considering the application of the Bromelton Weir results to Atkinson Dam, SKM recommended that, on the proviso that Seqwater follow the same process for other like projects, the findings may be applied.

Authority's Analysis

The Authority noted that the telemetry project for Atkinson Dam had the same cost and timing as for Bromelton Weir. Based on the SKM analysis, the Authority accepted that the proposed expenditure associated with Item 5 is prudent and efficient.

Item 6: L1 Distribution – Gauging Stations

Seqwater

Seqwater proposed replacement of gauging stations at the L1 distribution system in 2023 and again in 2033 at a cost of $40,000 in each year (total of $80,000).

Other Stakeholders

No other stakeholders have commented on 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. This represents 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 Lower Lockyer Valley gauging stations.

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 a 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 indicated that there are a number of methods of gauging available, but the method adopted by Seqwater involves a bubbler tube through which low pressure air is supplied. This is a simple method, appropriate for the required level of accuracy, has minimal moving parts and no electronic sensors, and should prove reliable. 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 Lower Lockyer Valley 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 was unable to establish whether the cost estimates are efficient.

Authority's Analysis

The Authority noted 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 considered that there was sufficient basis to conclude that the proposed expenditure on gauging stations in the Lower Lockyer Valley WSS is also efficient.

Item 7: Access Roads

Seqwater

Seqwater's proposed road projects are as follows:

(a) refurbishment of Atkinson Dam main wall access road, in 2022-23 and 2023-24 at a cost of $42,000;

(b) refurbishment of Atkinson Dam access road and car park in 2017-18 at a cost of $10,000; and

(c) replacement of access road to the right bank of O'Reilly's Weir in the L1 distribution system in 2028-29 at a cost of $30,000.

The total cost for all road projects is $82,000.

Other Stakeholders

No other stakeholders have commented on this item.

Consultant's Review

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

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 Clarendon Division Access Road can be applied to the low value periodic refurbishment projects at Atkinson Dam.

SKM also considered that the findings on prudency can be applied to the proposed replacement of the access road at O'Reilly's Weir. SKM considered that the findings on efficiency could not be applied and, as a consequence, SKM reviewed the specific costs being proposed by Seqwater. Accordingly, SKM concluded that these costs are the right order of magnitude and, as a result, were considered efficient.

SKM deemed Lower Lockyer Valley WSS road expenditures to be prudent and efficient.

Authority's Analysis

The Authority noted the outcome of the SKM review that the conclusions regarding Clarendon Diversion access road can be applied to the Lower Lockyer Valley WSS access road projects. The Authority also noted SKM's consideration to the specific costs being proposed by Seqwater for the replacement of the access road at O'Reilly's Weir.

The Authority concluded that expenditure on Item 7 is therefore prudent and efficient

Item 8: Buaraba Creek Supply Pipeline Air Valves

Seqwater

Seqwater's proposed air valve projects are as follows:

(a) replace pipeline air valve 1 at 24.4m, at a cost of $6,000 in 2018;

(b) replace pipeline air valve 2 at 1770.3m, at a cost of $6,000 in 2018; and

(c) replace pipeline air valve 1 at 1551.4m, at a cost of $1,000 in 2018.

The total cost for all valve replacement projects is $13,000.

Other Stakeholders

No other stakeholders have commented on this item.

Consultant's Review

SKM reviewed proposed replacement costs for air valves in the Calico Creek channel and Pie Creek main channel in the Mary Valley WSS. This involved replacement of 26 air valves along an asbestos cement pipe to assist in protecting the pipe against collapse and to facilitate efficient operation, at a total cost of $269,000 in 2022-23.

Given project similarities, the results of this review were considered for application to the forecast replacement of air valves of the Buaraba Creek supply pipeline.

Prudency and Efficiency

SKM assessed the project to be prudent on the basis that the use of air valves is necessary for irrigation systems to operate efficiently, manage pressure control, reduce water hammer problems and minimise damage to pumps and pipes. SKM considered Seqwater's standard asset life for air valves of 50 years to be reasonable. The proposed timing of replacement is consistent with this.

SKM noted that an options analysis is desirable to confirm that like-for-like replacement is appropriate, but at this stage the scope of works is reasonable, given the type of asset.

In terms of efficiency, SKM estimated a total cost of $201,600 compared to Seqwater's $269,000, although Seqwater's estimate included provision for asbestos removal which was not included in the SKM estimate. SKM concluded that given the preliminary nature of Seqwater's estimate, it was within the expected range for the total cost, and therefore deemed efficient.

SKM also concluded that on the proviso that Seqwater followed the same process in developing the projects to replace the valves (and associated costs) then the findings from the Calico Creek Channel and Pie Creek Main Channel review can be applied when considering replacing the air valves at the Buaraba Creek supply pipeline.

Authority's Analysis

In reviewing the Calico Creek Channel and Pie Creek Main Channel air valve assessment, the Authority noted that Seqwater's estimated cost was 33% higher than SKM's efficient cost estimate. As this was outside the 30% range, and in contrast to SKM's conclusions, the Authority determined that the proposed expenditure is not efficient.

The Authority therefore applied the same 33% reduction to the Buaraba Creek supply pipeline air valves, that is, the efficient cost is estimated at $9,750.

Item 9: Atkinson Dam – Inlet Screens and Trash Racks

Seqwater

These renewals items are for the replacement of inlet screens and trash racks at Atkinson Dam in 2030 at a cost of $45,000.

Other Stakeholders

No other stakeholders provided comment regarding these items.

Consultant's Review

SKM reviewed trash screen refurbishments for the Clarendon Diversion in the Central Lockyer WSS. 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 inlet screens and trash racks at Atkinson Dam.

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 estimated the cost of refurbishment at Clarendon Diversion to be $11,500 compared to Seqwater's proposed $10,000.

Accordingly, SKM considered Seqwater's cost to be prudent and efficient.

However, SKM noted that the ten trash screen projects throughout Seqwater's schemes range significantly in cost. As an example, cost of replacement of trash racks at Somerset Dam are $1,399,000 while for Upper Warrill Diversion the forecast cost for replacement of the inlet trash screen is $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. Therefore, SKM considered it impractical to apply the findings of the Clarendon Diversion trash screens review to determine the prudency and efficiency of other proposed trash screen expenditure.

Authority's Analysis

The Authority accepted that the conclusions regarding Item 9, Clarendon Diversion trash screens, cannot be considered for application to the Lower Lockyer Valley WSS.

The Authority therefore treated this as an unsampled item and applied a 13% generic saving.

Conclusion

Draft Report

Sampled Items

In summary, one item for the Lower Lockyer Valley WSS was directly sampled. This item, proposed expenditure associated with L1 Distribution Observation Bores, was considered not to be prudent. Consequently, the Authority recommended this proposed renewals expenditure not be included.

Eight other reviews undertaken by SKM in other schemes were considered to be applicable to forecast expenditure items in the Lower Lockyer Valley WSS.

Of these, six items were considered to represent prudent and efficient expenditure. These are: replacement of observation bores, refurbishment of control equipment and replacement of telemetry at Atkinson Dam; gauging stations and three road refurbishment/replacement projects. The replacement of air valves at Buaraba Creek supply pipeline was considered prudent but not efficient.

SKM considered whether conclusions regarding proposed expenditure associated with the Central Lockyer Valley WSS (Clarendon Diversion trash screens) could be applied to the Lower Lockyer Valley WSS. However, SKM concluded that results could not be translated, and this item was therefore categorised as a non-sampled item and subject to the appropriate implied cost saving (see below).

Meter replacement costs were considered to be partially prudent, on the basis of review of meter replacements in the Central Lockyer Valley and Mary Valley WSSs.

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 4.14.

Table 4.14: Summary of SKM Findings on Forecast (Non-Metering) Renewals

Number of Items Sampled	*Value Sampled (Real $'000)*	*Variance with SKM Estimate (Real $'000)*	*Average Saving Identified (%)*
11	5,079	(681)	13

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

The 11 (non-metering) forecast renewals items reviewed account for an average across the schemes of some 20% of the total forecast irrigation renewals expenditure with SKM's findings also applying to similar assets, taking the sample size to in excess of 30%.

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

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

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

Final Report

In total, the Authority recommends the sampled and unsampled direct renewals expenditure be adjusted as shown below in Table 4.15.

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

Table 4.15: Review of Forecast (Direct) Renewals Expenditure 2013-36 (Real $'000)

Item	*Year*	*Seqwater*	*Authority's Findings*	*Recommended*
Sampled Items				
1. L1 Distribution Observation Bores	2018-19, 2023-24, 2028-29 & 2033-34	344	Not prudent	0
2. Metering	2013-14 to 2014-15	316	Prudent and efficient	316
	2015-16 to 2021-22	154	Partially prudent	134
	2022-23 to 2035-36	224	Partially prudent	144
Results Applied from Other Reviews				
3. Atkinson Dam – Observation Bores	2020-21	75	Prudent and efficient	75
4. Atkinson Dam – Control Equipment Refurbishment	2013-14 & 2014-15	50	Prudent and efficient	50
Buaraba Creek Diversion Channel - Gate Control Equipment Replacement	2027-28	12	Prudent and efficient	12
5. Atkinson Dam - Telemetry	2017-18 & 2027-28	70	Prudent and efficient	70
6. L1 Distribution System – gauging stations	2023, 2033	80	Prudent and efficient	80
7. Access Roads	various	82	Prudent and efficient	82
8. Buaraba Creek Supply Pipeline Air Valves	various	13	Prudent but not efficient	10
9. Atkinson Dam – Inlet Screens and Trash Racks	2030	45	Prudent. Results could not be applied to assess efficiency – 13% saving applied	39
Non-Sampled Items				13% saving applied

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

4.4 Seqwater's Consultation with Customers and Reporting

Draft Report

Stakeholder Submissions

Seqwater made no submission in regard to stakeholder consultation.

QFF (2012) noted that although Seqwater has evaluated potential projects against criticality and other criteria, conducted workshops with local staff, and inspected sites, they [Seqwater] have 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 considered 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 consultations in June 2012 (QCA 2012c), it was submitted that there has been very limited or no consultation in this scheme during the current price path and that irrigators would welcome more discussions with Seqwater.

M. Jendra (2012) submitted that for a full and open democratic process, a small amount of money should be put into the formation of an elected committee to meet and discuss problems as they occur and be openly solved.

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 expressed by irrigators of the Lower Lockyer Valley WSS and also generally by irrigators in other Seqwater WSSs.

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

In addition, Seqwater should also be required to 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 a stakeholder's comment on the formation of an elected committee, the Authority did not propose to prescribe a particular form of customer consultation (e.g. quarterly meetings) to be adopted. Instead, consistent with its recommendations for SunWater, the Authority considered the recommended information requirements (as outlined above) are a minimum. This minimum may be exceeded if irrigators seek increased consultation and are willing to pay the additional associated costs. However, this would need to be agreed by Seqwater as it has right to make operational decisions.

Submissions Received from Stakeholders on the Draft Report

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

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

QFF (2013b) submitted that Seqwater's estimated cost of $7,000 (per annum per scheme) for NSP reviews and scheme advisory committees is supported.

Authority's Response to Submissions Received on the Draft Report

Options Analysis

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

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

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

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

NSPs and Consultation

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

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

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

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

The total annual cost of NSP preparation and consultation committees is about $7,000 for Lower Lockyer Valley WSS and is treated as a fixed irrigation only direct bulk cost. The details of consultation for each WSS should be decided by Seqwater in consultation with irrigators. In general, the benefits of consultation will justify the relatively small costs.

4.5 Allocation of Headworks Renewals Costs

The Lower Lockyer Valley WSS has no high priority (HP) WAE and therefore all headworks renewals costs are allocated to MP customers.

4.6 Calculating the Renewals Annuity

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

For the Lower Lockyer Valley WSS, the Draft and Final recommended renewals annuity for 2013-17 is shown in Table 4.16. The renewals annuity for 2006-13 and Seqwater's proposed annuity for 2013-17 is also presented for comparison.

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

Table 4.16: Lower Lockyer Valley WSS Renewals Annuity (Nominal $'000)

	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater (April NSP)	**711,885**	**741,521**	**968,310**	**877,383**	**836,589**	**869,454**	**958,128**	**185,866**	**193,070**	**195,656**	**198,709**
Seqwater (November NSP)	**105,011**	**107,897**	**112,649**	**123,909**	**117,914**	**122,541**	**135,002**	**217,406**	**221,645**	**222,212**	**223,069**
Authority (Draft)											
HP		-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
MP		-	-	-	-	-	-	167,552	168,030	166,661	165,693
Losses		-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Total-Authority		-	-	-	-	-	-	**167,552**	**168,030**	**166,661**	**165,693**
Irrigation Only		-	-	-	-	-	-	**167,552**	**168,030**	**166,661**	**165,693**
Authority (Final)		-	-	-	-	-	-				
HP		-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
MP		-	-	-	-	-	-	169,043	169,629	168,429	167,614
Losses		-	-	-	-	-	-	n.a.	n.a.	n.a.	n.a.
Total-Authority		-	-	-	-	-	-	**169,043**	**169,629**	**168,429**	**167,614**
Irrigation Only		-	-	-	-	-	-	**169,043**	**169,629**	**168,429**	**167,614**

Source: Seqwater (2012f), Seqwater (2012ao), QCA (2012) and QCA (2013). Note: Includes indirect and overhead costs relating to renewals expenditure, which is discussed in Chapter 5.

5. OPERATING COSTS

5.1 Background

Ministerial Direction

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

Issues

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

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

(b) the 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).

Draft Report

Stakeholder Submissions

Seqwater

Seqwater (2012a) 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 submitted that, while comparisons with the 2006 benchmarks may be of interest where data is disaggregated, there is little value in attempting to explain departures from the 2006 data since Seqwater provided no input to these forecasts and did not have the financial systems to gather and report this data due to the circumstances surrounding its formation.

Other Stakeholders

M. Jendra (2012) submitted that the rate of return to farmers has decreased over the last 10 years, and thus as they have needed to be more efficient to compete, Seqwater should also be looking for operating expenditure efficiencies.

Authority's Analysis

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

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

In response to M. Jendra, the Authority acknowledged that one of the objectives of this investigation is to establish, as far as practicable, the efficient cost base for pricing purposes as well as potential future productivity gains.

Final Report

No submissions were received in regard to historical costs for the scheme.

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

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

	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*
Forecast	843,982	823,447	1,053,655	820,358	806,559
Actual	633,522	852,946	n.a.	n.a.	n.a.
Variance	(210,460)	29,499	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 non-direct or 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 Operating Costs

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

(a) operations relating to the day-to-day costs of delivering water and meeting compliance obligations. Operations activities include:

  (i) dam operations, which relate to managing dams and weirs. It is the largest direct cost category and activities include providing information and services to customers, monitoring water flows, meeting regulatory requirements for

compliance, safety, and flood management, and developing system operating plans for infrastructure; and

(ii) group support and catchment management, which include delivering catchment maintenance services (including recreation areas) for operational assets. Activities include implementation of asset management plans and meeting compliance obligations (recreation services, public safety, catchment conservation);

(b) repairs and maintenance, which relate to maintaining assets that support irrigation water supply including:

(i) scheduled maintenance generated by the corporate information system (CIS);

(ii) planned maintenance, which comprises scheduled inspections and strategic maintenance; and

(iii) reactive maintenance, which results from unplanned breakdowns.

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

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

(c) other (direct) costs including:

(i) local government rates payable on Seqwater's land including storages; and

(ii) detailed dam safety inspections conducted every five years, in addition to the costs of routine (annual) dam safety inspections (included in operations expenditure).

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

(a) labour costs are the direct labour costs arising from budgeted operations activities for 2012-13 (base year). Total irrigation direct labour (for Seqwater employees) has been submitted under the category 'direct operations costs'; however, in practice a small proportion of this 'operations' labour will be used for maintenance activities[1];

(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.

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

Non-Direct Operating Costs

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 Creek Street 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

(c) a working capital allowance to provide for the economic cost arising from the timing difference between accounts receivable and accounts payable.

Forecast Operating Costs

Draft Report

Stakeholder Submissions

Seqwater

Seqwater (2012aj) submitted forecast total operating expenditure for 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 GSCs submission to the Authority.

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

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

(a) materials and contractors' costs and repairs and maintenance were escalated at 4% 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 Lower Lockyer Valley WSS NSP that described both direct and non-direct budgeted operating costs for 2012-13. Specifically, Seqwater provided:

(a) an original version in April 2012 (Seqwater 2012f); and

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

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

This comparison shows that the total costs for the scheme are about 1% 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	216,800	249,605	32,805
Contractors	0	0	0
Materials	35,519	35,261	(258)
Electricity	35,000	35,588	588
Other	159,612	159,282	(330)
Sub-Total	**446,931**	**479,735**	**32,804**
Repairs and Maintenance			
Planned	141,980	141,980	0
Unplanned	57,992	57,992	0
Sub-Total	**199,972**	**199,972**	**0**
Dam Safety	0	0	0
Rates	46,795	46,795	0
Total Direct Operating Costs	**693,697**	**726,502**	**32,805**
Non Direct Operating Costs			
Operations			
Water Delivery	69,291	69,944	653
Asset Delivery	30,935	34,453	3,518
Corporate	247,563	215,979	(31,584)
Other	21,101	5,951	(15,150)
Sub-Total	368,889	326,327	(42,562)
Non-Infrastructure Asset	30,824	33,489	2,665
Insurance	72,465	64,133	(8,332)
Working Capital	10,486	10,486	0
Total Non-Direct Operating Costs	**482,664**	**434,435**	**(48,229)**
Total Operating Costs	**1,176,362**	**1,160,938**	**(15,425)**

Source: Seqwater (2012f) and Seqwater (2012ao).

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

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

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Direct					
Operations	479,736	496,002	512,846	530,289	548,353
Repairs and Maintenance	199,972	207,971	216,290	224,941	233,939
Dam Safety	0	25,625	0	0	0
Rates	46,795	47,965	49,164	50,393	51,653
Non-Direct					
Operations	326,327	334,485	342,847	351,418	360,204
Non-Infrastructure	33,489	34,326	35,184	36,064	36,966
Insurance	64,133	65,736	67,380	69,064	70,791
Working Capital	10,486	10,748	11,017	11,292	11,575
Total	**1,160,938**	**1,222,859**	**1,234,728**	**1,273,463**	**1,313,480**

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

The total operating costs by type are detailed in Table 5.4 for the Lower Lockyer Valley WSS.

Table 5.4: Seqwater's Operating Costs by Type ($ Nominal)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Labour	249,605	259,589	269,973	280,772	292,003
Contractors and maintenance	35,261	36,671	38,138	39,664	41,250
Electricity	35,588	36,478	37,390	38,324	39,282
Others	159,282	163,264	167,346	171,529	175,818
Planned repairs and maintenance	141,980	147,659	153,566	159,708	166,097
Unplanned repairs and maintenance	57,992	60,312	62,724	65,233	67,842
Dam Safety	0	25,625	0	0	0
Rates	46,795	47,965	49,164	50,393	51,653
Non-direct	434,435	445,296	456,428	467,839	479,535
Total	**1,160,938**	**1,222,859**	**1,234,728**	**1,273,463**	**1,313,480**

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

Other Stakeholders

During Round 1 consultations in June 2012 (QCA 2012c), irrigators indicated that there has been very limited or no consultation during the current price path.

Authority's Analysis

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

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

In response to issues raised concerning consultation, the Authority recommended that Seqwater improve its consultation processes with irrigation customers in relation to the forecasting of operating costs, and submit its proposals in regard to consultation procedures to the Authority by 30 June 2014. Details are in Volume 1.

Final Report

No submissions were received in relation to total forecast operating costs.

5.4 Prudency and Efficiency of Direct Operating Costs

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 cost and the method of cost escalation.

Draft Report

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

Stakeholder Submissions

Seqwater

Seqwater'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 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. Group support ensures that asset management plans, processes, systems and practices are implemented in accordance with relevant regulatory requirements.

Seqwater has responsibility for the ongoing management and maintenance of recreation sites transferred from SunWater. The use of Seqwater assets for recreational purposes is

secondary to Seqwater's main function of water supply and treatment. However, recreation facilities must be managed in a sustainable and environmentally responsible manner to ensure that Seqwater's core responsibilities and accountabilities are not adversely impacted.

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

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

(a) labour costs are derived on the basis of budgeted work in the scheme for 2012-13 and the related salary costs for routine activities. The costs represent all costs budgeted as employee costs for the scheme. In practice, a small proportion of this labour will be used for maintenance activities. Consistent with the current Enterprise Bargaining Agreement for Seqwater and the recommendation of the Authority in its draft SunWater report, Seqwater has escalated internal labour costs at 4% per annum for the regulatory period 2013-14 to 2016-17;

(b) contractor and materials costs for 2012-13 are based on the quantities required in the work instructions for the scheme. As per the Authority's draft SunWater report, contractor and material costs have been escalated at 4% per annum for the regulatory period; and

(c) "other" direct operating costs incorporate a range of expenses including plant and fleet hire, water quality monitoring expenses and fixed energy costs. These costs have been escalated at forecast CPI for the regulatory period.

Seqwater submitted that repairs and maintenance is performed at the scheme in accordance with Seqwater's maintenance system. This system identifies the maintenance requirements for each asset, and then sets out a schedule for maintenance over the year(s) for that asset. In addition, maintenance requirements are developed through 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 five- yearly basis. Costs associated with these inspections have been added to forecast direct operating expenditure in the year in which the expenditure is expected to be incurred. In the Lower Lockyer Valley WSS, Seqwater allowed for inspection of Atkinson Dam in 2013-14.

Seqwater incurs rates in relation to its land portfolio, including storages. Seqwater forecast rates expenses for the Lower Lockyer Valley WSS 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 (November 2012 NSP) are detailed in Table 5.5.

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

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Operations	479,736	496,002	512,846	530,289	548,353
Repairs and maintenance	199,972	207,971	216,290	224,941	233,939
Dam Safety	0	25,625	0	0	0
Rates	46,795	47,965	49,164	50,393	51,653
Total	**726,503**	**777,563**	**778,300**	**805,624**	**833,945**

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

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

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

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Labour	249,605	259,589	269,973	280,772	292,003
Contractors and materials	35,261	36,671	38,138	39,664	41,250
Electricity	35,588	36,478	37,390	38,324	39,282
Other	159,282	163,264	167,346	171,529	175,818
Planned Repairs and Maintenance	141,980	147,659	153,566	159,708	166,097
Unplanned Repairs and Maintenance	57,992	60,312	62,724	65,233	67,842
Dam Safety	0	25,625	0	0	0
Rates	46,795	47,965	49,164	50,393	51,653
Total	**726,503**	**777,563**	**778,300**	**805,624**	**833,945**

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

Other Stakeholders

QFF (2012) submitted that labour costs and other direct costs in the Lower Lockyer Valley WSS are high and need to be further reviewed for prudency and efficiency.

During consultations in June 2012 (QCA 2012c), it was submitted that the Authority review direct operational costs, particularly as $729,000 is a very large amount to spend when irrigators consider the required tasks of the scheme. However, while irrigators were concerned that these costs appear excessive, it was acknowledged that the scheme is a complex system with a number of delivery channels.

It was also raised during consultations in June 2012 (QCA 2012c) that a number of water meters have been washed away during the 2010-11 floods and yet Seqwater staff are still reading the remaining meters in the scheme. The cost of this appears to be inefficient and should be reduced.

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.

Item 1: Direct Labour Costs

Stakeholder Submissions

Seqwater

Seqwater submitted initially that direct labour costs in the Lower Lockyer Valley WSS are forecast to be $226,000 for 2013-14. This estimate was derived by escalating from the budgeted 2012-13 base forecast of $216,000 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. Actual costs were $282,300 in 2011-12.

After SKM's review, Seqwater submitted a revised 2012-13 direct labour cost estimate of $249,600 as part of its re-submitted November 2012 NSPs.

Other Stakeholders

As noted above, QFF (2012) submitted that labour costs in the Lower Lockyer Valley WSS are high (as are other direct costs) and considered these costs need further analysis for need and efficiency.

Authority's Analysis

Consultant's Review

SKM was provided with additional information indicating that Seqwater has provided a revised submission that increased the original forecast from $226,000 to $260,000 (2013-14). No further information was provided to support this increase in labour cost forecast. Seqwater further informed SKM that the additional amount relates to maintenance staff labour costs. These were not included in the data submitted to SKM because the Authority's sample referred to "Operations" which did not include maintenance in the Seqwater model.

SKM's analysis was on the basis of the original submitted cost amount ($226,000).

The labour resources required to operate the Lower Lockyer Valley WSS mainly relate to the operation of assets such as Atkinson Dam (including the catchment and the recreation areas associated with the dam) and the Atkinson (Recreation) WTP. The proposed 2013-14 costs (totalling $226,000) for these operating expenditure items include:

(a) Atkinson Dam – Operations - $168,000;

(b) Atkinson Dam – Catchment Services - $40,000; and

(c) Atkinson (Rec) WTP Ops (Nth) - $18,000.

Documentation Provided

The documents used for this review are:

(a) Seqwater, 2013-14 Irrigation Pricing, Submission to the Queensland Competition Authority, April 2012;

(b) Seqwater, Lower Lockyer Valley Water Supply Scheme, Network Supply Scheme;

(c) Seqwater, Information Request Response – QCA Irrigation Price Review 2013-17, RFI 018, Lower Lockyer Valley 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;

(f) Seqwater, Opex – Irrigation Updated YTD.xlsx; and

(g) Seqwater Enterprise Bargaining Certified Agreement 2009 – 2012.

SKM also requested evidence of historical costs for contracted recreational area maintenance including the cost of mowing services. While some information was provided for this for 2008-09 to 2011-12, SKM indicated that a change in classification in mowing services (possibly leading it to be included in the General Maintenance Contracts) resulted in the non-identification of costs for this aspect of operating expenditure budget for subsequent years.

Prudency

SKM noted that Atkinson Dam is a referable dam under the *Water Supply (Safety and Reliability) Act 2008*. To adequately satisfy Seqwater's regulatory obligations at Atkinson Dam, labour resources are needed to undertake:

(a) Dam Operations: to meet Market Rules requirements, water ownership and water use legislation, water information reporting requirements, dam safety and reliability legislation;

(b) Catchment Services: to meet environmental protection legislation, recreation responsibilities, catchment management responsibilities, land ownership legislation; and

(c) Water Treatment Operations: to meet recreation requirements.

Consequently the operating expenditure item is prudent.

Efficiency

SKM noted that Seqwater's operating cost projections of labour are not based on any water demand cost drivers but are rather based on the 2012-13 budget. Seqwater does not view demand as a driver of labour costs. In SKM's view, basing the labour forecast cost on a previous budget is not satisfactory as actual costs may vary significantly from budget. SKM recommended that forecast costs be based on actual incurred costs taking into account trends exhibited by recent actual expenditure, changes in working practices and changes in assets being operated. Accordingly, additional information relating to actual historical expenditure was sought by SKM.

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

In response to SKM's request for information, Seqwater provided historical and budgeted costs between 2009-10 and 2012-13 (Table 5.7).

Table 5.7: Historical and Budgeted Employee Costs ($)

	2009-10 Actual	***2010-11 Actual***	***2011-12 Actual***	***2012-13 Budget (Revised)***
Employee Costs	216,899	293,489	282,340	255,540

Source: SKM (2012).

SKM also sought from Seqwater information regarding the estimated quantity of FTEs assigned to the assets. The information provided by Seqwater included details of all staff positions, including:

(a) Group support – Maintenance Ranger, Lead Ranger, Senior Field Ranger, (10% time allocation, totalling $38,300);

(b) Dam operations – Operator x 2, Scheme Supervisor (40% time allocation), plus overtime and allowances, totalling $161,400; and

(c) Water Treatment Operations – Operator x 4 (5% time allocation for each) plus overtime, totalling $17,100.

Detailed cost data was provided to the Authority but is not published for confidentiality reasons. Overall, the budget of $216,000 for labour cost for 2012-13 was consistent with the historical expenditure of $216,900.

Seqwater advised SKM that the estimated costs include reductions applied to Dam Operator and Scheme Supervisor costs for time spent on other schemes/activities not part of the Lower Lockyer Valley WSS. Information from Seqwater indicates that these costs have been transferred to the Morton Vale system. In addition to the base salary, dam operators and rangers are paid an allowance to compensate the staff for being on-call when not on duty. This allowance can be fairly substantial given the remoteness of many of these assets.

Delivery of Service

SKM observed that dam operations are the largest contributor to direct operating costs. Dam operations are responsible for operating, maintaining and monitoring its water source infrastructure.

Dam operations must meet the regulatory requirements under various Acts including those relating to Dam Safety, Flood Management, Resource Operating Plans, and providing sufficient water to meet standards of service. Dam operations are relatively labour intensive, as noted in Seqwater's submission.

Group support (and catchment management) has responsibility 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 recreation sites associated with the dams. While the use of Seqwater assets for recreational purposes is not a core Seqwater function, these facilities, which are a planning and operating licence condition of the assets, must be managed in a sustainable and environmentally responsible manner to ensure that Seqwater's core responsibilities and accountabilities are not adversely impacted.

When SunWater managed these recreation facilities prior to the transfer of the infrastructure to Seqwater, the dam operators were also responsible for daily maintenance activities like mowing and minor repairs. Under Seqwater's operating model, these maintenance activities were separated from dam operations and Group Support made responsible for provision of these services. Seqwater informed SKM that grounds maintenance activities such as slashing and mowing are now managed by the rangers and much of this activity is contracted out to third parties from their panel of contractors. In addition, Seqwater endeavoured to separate operations and maintenance activities between the operations and maintenance teams such that the minor asset maintenance previously undertaken by the operators is now only undertaken by the maintenance teams or their contractors.

The services provided by the operators of the dam, WTP and irrigation scheme are likely to be difficult to contract to third party operators given that they are small and the operators are required to know their assets intimately. These operators also do not allocate all their time to the Lower Lockyer Valley WSS but also provide services to other dams and water supply schemes within the Seqwater region including assets belonging to the Central Lockyer Valley Water Supply Scheme such as the Morton Vale Pipeline.

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

As a result, these rangers are often not able to undertake the maintenance work themselves but rather have to contract for third party contractors to undertake the grounds maintenance work (mainly mowing of the lawn associated with the recreational facilities and slashing of verges and access routes). Information from Seqwater provided to SKM regarding the cost of mowing service allocated to the Lower Lockyer Valley WSS indicates that about $7,500 was paid to the mowing contractor in 2010-11. 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 operators, reduce the work load of the rangers in managing the mowing contractor and save on the contract cost. 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.

Benchmarking

SKM noted that the staff pay rates are consistent with other operators and rangers employed by Seqwater and are considered to be reasonable for such employees. They are also consistent with the Seqwater EBA. In the 2012-13 budget Seqwater allocated 1.2 FTEs to operating the Atkinson Dam. SKM considered this to be reasonable although it is likely, based on discussions with various dam operators, that better use of this resource is possible if Seqwater brought back in-house the mowing contract and allowed the dam operators to undertake minor maintenance work in the facility.

About 0.5 FTE rangers have been allocated to Lower Lockyer Valley WSS. SKM indicated that rangers are fully utilised and they are also trained to supplement dam operators during peak events as would occur during a flood.

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

An overtime allocation of almost $47,000 for dam operations has been provided in Seqwater's submission. With the current under utilisation of dam operators, SKM questioned the need for such a large amount of overtime. While SKM acknowledged that there may be a requirement for dam operators to respond to incidences that occur outside of normal working hours, allocating the equivalent of more than an extra FTE to such events is in SKM's opinion excessive. As such, SKM initially recommended that overtime allowance be reduced to about 15% of normal time labour cost.

In addition, allowances of $39,800 have been fully allocated to the Lower Lockyer Valley WSS. Given that the dam operators have only 40% of their time allocated to this scheme, SKM initially recommended that a similar proportion of allowances be allocated to Lower Lockyer Valley WSS.

In contrast, the overtime of $2,400 that has been budgeted for the WTP operator at Atkinson Dam is reasonable. The WTP operators are only expected to spend 5% of their time at this facility with a normal time cost of about $15,000. Overtime is thus expected to account for another $2,400 or about 16% of normal time cost.

The major issue in this review of Lower Lockyer Valley WSS was the apparent high overtime budgeted for Dam Operations at Atkinson Dam. This cost may be reduced by setting overtime at a lower level to reflect the current low utilisation of dam operating staff. Unless additional information was provided, SKM recommended it be reduced to 20% of normal time cost. The resulting operations labour cost 2012-13 forecast for Lower Lockyer Valley WSS was initially reduced to $107,900 and total direct labour cost to around $160,300.

However, as a result of the further information identified by Seqwater just prior to finalising the Draft Report, the Authority subsequently commissioned SKM to undertake further analysis on the direct labour cost at the Lower Lockyer WSS. Further discussions were held with Seqwater to review this additional information. The main issue raised by Seqwater was

in relation to overtime and allowances estimated for dam operations. Seqwater provided a list of activities that relate to the scheme's overtime. These included:

(a) recording dam levels and weather data at Atkinson Dam;

(b) security check of Atkinson Dam wall, pump station, office, recreation area and workshop;

(c) checking distribution channels and clean weeds from trash racks and gates;

(d) checking Brightview Weir and Sippels Weir to ensure sufficient water flowing in the channels as no water ordering is in place;

(e) checking O'Reilly's Weir to monitor releases to minimise wastage; and

(f) checking some strategic release gates in channels to ensure the gates are not operated by unauthorised persons.

In particular, evidence was presented that indicated that the overtime estimated for dam operators at Maroon Dam is required. This was due to the requirement for seven days a week monitoring for dam safety requirements as well as minimum time provisions in the EBA that stipulates that a minimum of three hours of overtime on Saturdays at time and a half and at two times normal wages on Sunday. This results in 10.5 hours of overtime a week and based on a 38-hour week, it accounts for 0.28FTE.

Seqwater also indicated that the cost of supervising asset maintenance was not provided to SKM for the initial analysis as this was not captured in the financial system as a labour expense. Seqwater has provided costs for 2012-13 that are similar to the level of costs in 2011-12 for the work required to supervise maintenance contractors for its infrastructure.

Based on these estimates, SKM considered that the appropriate allocation for overtime at Lower Lockyer Valley WSS would amount to approximately 30% of the operator's salary and oncost. This is shown in the revised cost budget in Table 5.8.

Table 5.8: Direct Labour Costs, Budget Comparisons

Service Activity	***Salaries & Wages Applied ($)***
Group Support	38,380
Dam Operations	153,881
Water Treatment	55,836
Total - 2012-13	**248,097**

Source: SKM (2012).

Seqwater provided a revised budget for dam operators' allowances of $14,000 for the Lower Lockyer Valley WSS, an estimate similar to SKM's estimate. SKM thus did not make any further adjustments for the recommended allowance budget.

SKM Conclusion

The operating expenditure item was assessed as prudent as the need for the expenditure was demonstrated.

The operating expenditure was assessed as not efficient as the operating expenditure in support of regulated service delivery was not consistent with industry practice and the costs did not represent the least-cost means of providing the requisite level of service within the relevant regulatory framework. SKM's revised 2012-13 estimate was $248,097 (compared to $255,000 proposed by Seqwater).

Authority's Analysis

The Authority noted that in its initial review, SKM assessed Seqwater's proposed April 2012 estimate of 2012-13 direct labour costs of $217,000 and considered them not efficient. SKM recommended an amount of $160,000.

However, in its November 2012 revised NSP, Seqwater revised its direct labour cost for 2012-13 to $249,600. SKM's revised analysis considered a slightly lower value of $248,000 to be appropriate.

The Authority accepted SKM's conclusion that the direct labour expenditure is prudent but not efficient based on Seqwater's revised proposed amount.

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) submitted that SKM subsequently accepted Seqwater's explanations of the supposed underutilisation.

Authority's Response to Submissions Received on the Draft Report

In the Draft Report, the issue of potential underutilisation of operations staff was addressed in a subsequent review by SKM following the provision of new information by Seqwater. The Authority accepted the revised labour costs proposed by SKM.

Item 2: Operations - Materials and Other Costs

Stakeholder Submissions

Seqwater

In its November NSP, Seqwater submitted that materials and other costs of $230,000 are estimated for 2012-13, escalated to $236,400 for 2013-14. The latter forecast comprised $36,900 for contractors and materials and $199,500 for other costs.

Actual materials and other costs were $391,900 in 2011-12.

Other Stakeholders

QFF (2012) submitted that direct costs in general appear high in the Lower Lockyer Valley WSS and require review.

Authority Analysis

Consultant's Review

SKM noted that there were inconsistencies between submitted costs in the NSP and costs provided in information returns. The 2013-14 costs provided to SKM were $35,300 for materials and contractors only and $194,500 for materials and contractors plus 'other'.

Materials and other expenses are required for dam operations, recreational WTP operation, group support and catchment services in addition to water quality monitoring.

Documentation Provided

The documents used for this review are:

(a) Information Request Response, RFI019,Materials and Other Lower Lockyer Valley WSS, Seqwater, 14/08/2012;

(b) Operational Cost Report for 2012-13, Seqwater;

(c) Opex – Irrigation Updated YTD.xls, Seqwater;

(d) RFI019 Attachment Lower Lockyer Schedule of Info;

(e) RFI019 Attachment Lower Lockyer Fleet;

(f) Opex – Irrigation Queries;

(g) Seqwater Irrigation Opex Methodology – Brief, Seqwater, 04/09/2012; and

(h) Opex summary (461146_1).xlsx, Seqwater, 04/09/2012.

Initial information provided by Seqwater outlined costs associated with materials and other, and the method for budget calculation. Discussions with Seqwater staff during project interviews provided further information, and resulted in identification of a number of additional information sources that were subsequently requested.

Additional information requested from Seqwater for this review included:

(a) Breakdown of water quality monitoring costs, including a breakdown of contractor sampling charges and monitoring program;

(b) DERM water quality sampling and reporting guidelines;

(c) Business Case for returning water quality sampling in-house;

(d) HACCP Plan for a recreational WTP; and

(e) Method for calculating the fleet allocation budget.

All requested information was provided by Seqwater and utilised in this review.

Prudency

Operating the water supply scheme or tariff group, and achieving compliance in practice with legislation and the Resource Operating Plan for the water supply scheme, requires Seqwater to consume materials and supplies.

The materials and supplies required to operate the Lower Lockyer Valley WSS or tariff group predominantly relate to the operation of assets such as Atkinson Dam (including the catchment and the recreation areas associated with the dam) and the Atkinson Dam (Recreation) WTP.

Seqwater is subject to numerous regulatory obligations, including under legislation and the relevant Resource Operating Plan. For example, Atkinson Dam is a referable dam under the *Water Supply (Safety and Reliability) Act 2008*. The precise regulatory obligations providing a requirement for labour resources vary according to the operational team in question. Compliance requirements driving expenditure on materials and other for the Lower Lockyer Valley WSS include:

(a) Dam Operations: Market Rules requirements, water ownership and water use legislation, water information reporting requirements, dam safety and reliability legislation;

(b) Catchment Services: environmental protection legislation, recreation responsibilities, catchment management responsibilities, land ownership legislation;

(c) Water Treatment Operations: Market Rules requirements, recreation responsibilities. Materials and Consumables are required to operate Atkinson Dam in the Lower Lockyer Valley WSS; and

(d) Water Quality – WQ Monitoring Expenses: There is no requirement under the Water Act for Seqwater to provide water of a certain quality or monitor the quality of irrigation water. However under the resource operating plans and licences subordinate to the Water Act, Seqwater is required to monitor water quality in storages, releases and recreational areas. At recreation sites Seqwater incurs expenses for fulfilling water quality monitoring requirements. At the Atkinson recreational WTP water quality monitoring requirements are defined in the Hazard Analysis and Critical Control Point (HACCP) Plan for the plant. The HACCP plan is subordinate to the Drinking Water Quality Management Plan (DWQMP) which is a requirement under the *Water Supply (Safety and Reliability) Act*.

SKM noted that Seqwater is not required, under legislation or under the Resource Operating Plan to provide potable water at the recreation facilities, including to camp sites. However, following a risk assessment, Seqwater has determined that all water that it provides for human consumption should be to potable water standards. SKM considered that Seqwater's policy in this area is reasonable taking into account the impact on reputation arising from not adopting this policy.

Consequently the operating expenditure item has been assessed as prudent.

Efficiency

The 2013-14 forecast costs were determined by escalating 2012-13 forecast costs by a factor of 4%, with the exception of fixed energy costs, which were escalated at 2.5%. The application of a 4% escalation factor to previous budgets was considered by SKM to be potentially on the high side, considering the Reserve Bank of Australia's inflation target of 2-3%. SKM considered the 2.5% escalation factor for energy to be reasonable.

The breakdown of costs provided in response to SKM's request for further information total to $221,982 for 2013-14, which is 6% less than the $236,400 listed in the terms of reference (Table 5.9).

Table 5.9: Materials and Other Costs Breakdown

Expense	*Breakdown*	*2012-13 forecast costs*	*2013-14 forecast costs*
Dam operations – materials & consumables – Atkinson Dam	Nil	$15,000	$15,600
Dam operations – energy fixed – Atkinson Dam	Nil	$35,000	$35,875
Group support – plant & fleet hire internal –Atkinson Dam		$52,089	$54,173
Group support – materials & consumables -Atkinson Dam		$10,000	$10,400
		$5,000	$5,200
Water quality – WQ monitoring expenses – Atkinson Dam	Water sampling	$24,560	$25,542
	Routine testing	$20,800	$21,632
	Unscheduled sampling	$1,680	$1,747
	Event testing	$8,320	$8,653
Water quality – WQ monitoring expenses – Atkinson Rec WTP	Nil	$41,500	$43,160
Total		**$213,949**	**$221,982**

Source: SKM (2012).

The difference between the two cost estimates is acknowledged in Seqwater's response to SKM's request for information (RFI019). Seqwater stated that all cost types have been explained, except where a type of cost (by natural account description) did not exceed $10,000 at any asset location in the relevant WSS. This was on the grounds of materiality and for the purposes of fast-tracking the response, given that these costs are yet to be apportioned between irrigation services and urban water supply purposes. Given that approximately 94% of the budget for materials and other are accounted for, SKM considered that the breakdown of costs included in the terms of reference is appropriate.

The breakdown of costs provided by Seqwater identifies costs for dam operations including materials and consumables, fixed energy in addition to plant and fleet hire. During interviews Seqwater personnel identified expenses associated with equipment and consumables as including oils, fuels, equipment and cleaning products, which are purchased on an as needed basis. No further breakdown of expenditure on equipment and consumables was provided, however budgets were calculated based on historical expenditure from 2010-11.

Electricity Costs

The Seqwater Irrigation Opex Methodology, states that 'for the purposes of forecasting electricity for its 2012-13 dam operations budget, 2010-11 actual costs were used as 2011-12 actuals were incomplete at the time the budget was prepared. The electricity budgets for recreation facilities were based on 2010-11 actual expenditure and year to date trends in 2011-12 actual expenditure'. No further breakdown of electricity budgets was provided.

During the 2012-13 GSCs review SKM assessed electricity costs as prudent and efficient. Providing that the method of obtaining electricity has not changed since the 2012-13 GSCs review, SKM considered electricity costs efficient. It is noted that the electricity prices may be underestimated in the 2013-14 budget, given the circa 10% increase in energy costs arising from the implementation of the Carbon Energy Pricing Mechanism.

SKM noted that on 25 May 2012, Seqwater received advice from the Queensland Government confirming its decision to discontinue all existing state-based carbon reduction schemes to ensure agencies were not subject to overlapping of State and Federal obligations when the Clean Energy Pricing Mechanism was introduced on 1 July 2012. Seqwater therefore concluded that costs associated with the purchase of green energy should be removed from the recommended 2012-13 GSCs. SKM sought confirmation from Seqwater that the forecast budgets for electricity take into consideration removal of the additional premium incurred in purchasing green energy.

SKM consequently found the energy costs for Lower Lockyer Valley WSS to be efficient.

Plant and Fleet Hire

Costs for the fleet and plant aspects of materials and other for the Lower Lockyer Valley WSS have been calculated by the Seqwater Fleet Manager.

Plant and fleet hire internal costs were further broken down. The fleet allocation budget is determined by calculating a representative annual "lease" charge, which is calculated on whole of life costs excluding fuel, oil and tyres, assuming an average vehicle life of 120,000km or five years. The budget for fuel is calculated based on historical expenditure.

Table 5.10: Dam Operations Plant and Fleet Costs

Fleet / Plant Type	*Description*	*Fleet Allocation Budget*	*Fuel Allocation Budget*
Vehicle	Toyota Hilux SR 4x4 Space Cab	$9,300	$5,057
Watercraft	Quintrex Explorer	$7,680	$80
Vehicle	Ford Ranger 4x4 utility	$8,400	$4,354
Vehicle	Ford Ranger XL 4x2 Dual Cab	$9,720	$4,313
Tractor / Mower	Kubota Front Deck 3060 Mower	$2,400	$640

Source: SKM (2012).

There is a minor difference between both Dam Operations plant and fleet hire costs listed in Seqwater's response to SKM's request for further information (RFI019) and associated attachments. However this difference is approximately 0.27% of the fleet cost, and SKM considered that the difference is not significant.

The Lower Lockyer Valley WSS has approximately 2.5 FTEs operational staff assigned to it. When considering the number of personnel assigned to the water supply scheme, SKM considered the number of vehicles allocated to be reasonable.

With regards to fuel allocation, utilising a fuel efficiency of 10km/L for all vehicles and fuel cost of 159.981 cents per litre (cpl), the fuel allocation budget provides for between approximately 28,000 km and 33,000 km per annum. During site visits, Seqwater

operational personnel confirmed that they drove approximately 30,000 km per year. SKM considered the fuel allocation budget for vehicles to be reasonable.

While the Seqwater unit fuel cost is higher than retail costs for both unleaded and diesel, this is not unreasonable and may potentially be a result of an applied safety factor or inefficiencies of supply of the small volume of fuel required by Seqwater. In calculating the fleet allocation budget, Seqwater adopted an average vehicle life of 120,000 km or five years. This adopted life is similar to that utilised by the South East Queensland Distribution Entities, and was therefore considered to be reasonable.

Group Support – Materials and Consumables

Costs for Group Support identified in the breakdown of costs are for minor materials and consumables for repairs and maintenance. Group support costs are broken into two items, with 2013-14 budgets of $10,400 and $5,200 for work order A-0007364 and A-0007363 respectively. No further information is provided on these work orders, except a statement that the budgets were based on 2011-12 expenditure. Equipment and consumables are also purchased on an as needed basis for operational repairs and emergency works. The budget for equipment and consumables was calculated by escalating historical expenditure at 4%.

No information was provided to allow assessment of the equipment and consumables. However, future costs were calculated by escalating past expenditure. SKM therefore considered them to be efficient.

Water Quality Monitoring

Water quality monitoring costs for the Lower Lockyer Valley WSS are associated with water quality monitoring of Atkinson Dam in addition to the Atkinson Dam recreational WTP.

Cost breakdowns for water quality monitoring are provided for Atkinson Dam in Table 5.11 and for the Atkinson Dam recreational WTP in Table 5.12. Supporting documentation demonstrating the base costs and requirements for sampling at both the dam and WTP were provided. These documents included rates for contractor water sampling and analysis and an example HACCP Plan.

Table 5.11: Atkinson Dam Water Quality Monitoring Costs

Item	*2012-13 data*	*2013-14 (2012-13 escalated)*
Water sampling	$24,560	$25,542
Routine testing	$20,800	$21,632
Unscheduled testing	$1,680	$1,747
Event testing	$8,320	$8,653

Source: SKM (2012).

Table 5.12: Atkinson Dam Recreational Water Treatment Plant Water Quality Monitoring Costs

Item	*2012-13 data*	*2013-14 (2012-13 escalated)*
Routine testing	$35,000	$36,400
Unscheduled testing	$3,500	$3,640

Source: SKM (2012).

While under the Water Act there is no requirement for Seqwater to provide water of a certain quality to irrigation users, under the resource operating plans and licenses subordinate to the Act Seqwater is required to monitor water quality in storages, releases and recreational areas according to the state government procedures.

Costs associated with water treatment operations are incurred from the routine verification and monitoring plan. This plan outlines the 'monitoring requirements defined in the HACCP Plan for the Atkinson recreational WTP', which is 'subordinate to the Drinking Water Quality Management Plan required under the Water Supply (Safety and Security) Act'. The water quality monitoring budget is derived by a bottom up calculation method, utilising the water quality monitoring requirements defined under the HACCP and set contract prices.

Water quality sampling comprises collection and analysis of water samples. Currently routine sampling and analysis for both the Atkinson Dam and Atkinson recreational WTP is undertaken by an external contractor selected by public tender.

The contract for water quality sampling was awarded in accordance with the State Procurement Policy by an open tender process. Further, the water sampling program has been developed in accordance with resource operating plans, licenses and for the recreational WTP, in accordance with the plant's HACCP Plan. SKM therefore considered the costs associated with the water sampling programs as reasonable. The contract is for a five year term beginning in 2011.

SKM assessed the budget for costs associated with materials and other for the Lower Lockyer Valley WSS to be efficient.

SKM's Conclusions

The operating expenditure item was assessed as prudent as the need for the expenditure was demonstrated.

The operating expenditure was assessed efficient as the scope was appropriate, the operating expenditure in support of regulated service delivery was consistent with industry practice and the costs were consistent with prevailing market conditions.

Authority's Analysis

The Authority noted that the materials and other cost category comprises materials ($36,900) and other ($199,500), based on its November 2012 NSPs. The total cost is $236,400 in 2013-14 or $230,000 in 2012-13.

The Authority therefore accepted SKM's recommendation that operations materials and other costs in the Lower Lockyer Valley WSS are prudent and efficient. The amount of $230,000 for 2012-13 was accepted.

Conclusion

Draft Report

Sampled Operating Cost Items

For the Lower Lockyer Valley WSS, the Authority sampled two direct operating cost items. The Authority proposes to accept the recommended efficient cost estimates developed by SKM. SKM found one item to be prudent and efficient (materials and other), but identified savings in direct labour costs. These are shown in Table 5.13 for 2012-13.

Unsampled Operating Cost Items

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

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

Final Report

Based on the above methodology, the Authority's recommended direct operating expenditure is outlined below in Table 5.13.

The findings in regard to sampled items are unchanged since the Draft Report.

Table 5.13: Review of Budgeted 2012-13 Direct Operating Expenditure (Real $'000)

	Seqwater (April NSP)	***Seqwater (November NSP)***	***Authority's Recommended***
Sampled Item			
Direct Labour	217	250	248
Materials and Other	230	230	230
Unsampled Items			5% saving to apply

Source: SKM (2012), Seqwater (2012f), Seqwater (2012ao) and QCA (2012).

In addition to the efficiency adjustments for the 2012-13 year, the Authority also considered 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 four years of the regulatory period (2013-14 to 2016-17). Details are provided in Volume 1.

Summary of Direct Operating Costs

Draft Report

A comparison of Seqwater's and the Authority's direct operating costs for the Lower Lockyer Valley WSS for 2013-17 is set out in Table 5.14.

In response to stakeholder concerns that Seqwater's proposed $729,000 [revised to $726,000] operating costs for 2012-13 appear excessive (as indicated in initial NSPs), the Authority noted that it proposed that costs be reduced by around 10% overall from 2013-14 onwards.

In regard to the potential inefficient cost of meter-reading, the Authority did not specifically review this cost as it is a relatively small component of total operations costs. It remains subject to the Authority's 5% reduction factor.

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

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013g) submitted that electricity costs were based on expenditure patterns of the 2009-10 and 2010-11 years. Previous use patterns do not provide useful trend information due to prolonged drought. The assumptions made by Seqwater's experienced scheme operators were considered to be the best guide to forecast costs. Electricity charges are based on Tariff 22.

Authority's Response to Submissions Received on the Draft Report

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

While the Authority's draft electricity tariffs may change, this is the most current and public source of regulated electricity tariff forecasts for 2013-14. This is a tariff specific adjustment (for example, it is typically Tariff 22), where the approximate increase is 15% above 2012-13 and draft report costs.

The Authority accepted Seqwater's 2012-13 electricity costs in this WSS, but applied a 15% increase to the Tariff 22 costs to estimate 2013-14 costs, as noted above. Escalation of electricity costs beyond 2013-14 is detailed below.

The Authority's final recommended operating costs are compared in Table 5.14.

Since the Draft Report, total direct operating costs are higher due to higher electricity costs (in the operations cost item) and the inclusion of consultation costs.

Table 5.14: Direct Operating Costs (Nominal $)

Costs	*Seqwater*				*Authority*			
	2013-14	*2014-15*	*2015-16*	*2016-17*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
					Draft			
Operations	496,002	512,846	530,289	548,353	486,581	494,991	503,450	511,954
Repairs and Maintenance - Planned	147,659	153,566	159,708	166,097	153,741	157,455	161,221	165,037
Repairs and Maintenance - Unplanned	60,312	62,724	65,233	67,842	40,868	41,855	42,856	43,870
Dam Safety	25,625	0	0	0	23,979	0	0	0
Rates	47,965	49,164	50,393	51,653	47,965	49,164	50,393	51,653
Total	**777,563**	**778,300**	**805,624**	**833,945**	**753,133**	**743,466**	**757,921**	**772,514**
					Final			
Operations					490,956	499,475	508,046	516,665
Repairs and Maintenance - Planned					153,741	157,455	161,221	165,037
Repairs and Maintenance - Unplanned					40,868	41,855	42,856	43,870
Dam Safety					23,979	0	0	0
Rates					47,965	49,164	50,393	51,653
Consultation					7,175	7,354	7,538	7,727
Total					**764,683**	**755,304**	**770,056**	**784,952**

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

5.5 Prudency and Efficiency of Non-Direct Operating Costs

Introduction

Seqwater (2012a) 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 GSCs 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 SunWater's non-direct costs for 2006-11. Non-direct costs were allocated to schemes on the basis of total direct costs.

Draft Report

Stakeholder Submissions

Seqwater

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

Total forecast non-direct costs and those allocated to the Lower Lockyer Valley WSS are in Table 5.15.

Table 5.15: Seqwater's Budget and Forecast Non-Direct Costs (Nominal $'000)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater	9,524	9,762	10,006	10,256	10,512
Lower Lockyer Valley WSS	434	445	456	468	480

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

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

A comparison of the alternative estimates for the Lower Lockyer Valley WSS is provided in Table 5.16 for non-direct operations costs.

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.

Table 5.16: Non-Direct Operations Costs 2012-13 Forecasts (Nominal $'000)

Costs	*April NSP*	*November NSP*	*Variance ($)*	*Variance (%)*
Water Delivery	69,291	69,944	653	1%
Asset Delivery	30,935	34,453	3,518	11%
Business Services	171,013	139,797	(31,216)	(18%)
Organisational Development	69,688	65,813	(3,873)	(6%)
Executive	6,862	10,367	3,505	51%
Other	21,101	5,951	(15,150)	(72%)
Total Operations Non-Direct	**368,889**	**326,327**	**(42,562)**	**(12%)**

Source: Seqwater (2012aj and 2012ao).

Seqwater's submitted non-direct operating costs for the Lower Lockyer Valley WSS are detailed in Table 5.17 below (November 2012 NSP).

Table 5.17: Seqwater's Forecast Non-Direct Costs (Nominal $)

Costs	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Operations					
Water delivery	69,944	71,693	73,485	75,322	77,205
Asset Delivery	34,453	35,314	36,197	37,102	38,030
Business Services	139,797	143,291	146,874	150,546	154,309
Organisational Development	65,815	67,461	69,147	70,876	72,648
Executive	10,367	10,626	10,892	11,164	11,443
Other	5,951	6,100	6,253	6,409	6,569
Sub Total	**326,327**	**334,485**	**342,848**	**351,419**	**360,204**
Non-Infrastructure Assets	33,489	34,326	35,184	36,064	36,966
Insurance	64,133	65,736	67,380	69,064	70,791
Working Capital	10,486	10,748	11,017	11,292	11,575
Total	**434,435**	**445,296**	**456,429**	**467,839**	**479,535**

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

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

The Lower Lockyer Valley WSS utilises a range of non-infrastructure assets (buildings and plant and equipment). These assets are not included in the renewals expenditure forecasts. However, it is necessary for costs associated with the use of these assets to be attributed to

the Scheme. Seqwater 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 was allocated to facilities on the basis of direct costs and escalated forward over the forecast period.

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

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

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

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

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

Other Stakeholders

During Round 1 consultations in June 2012 (QCA 2012c), it was submitted that non-direct costs are very high for a scheme of this nature. Therefore, as the Lower Lockyer Valley WSS is an irrigation only scheme and should only be allocated non-direct costs that relate only to irrigation. Additionally, irrigators also questioned why insurance costs were so high, and whether Lower Lockyer Valley WSS costs have increased due to the 2010-11 floods.

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

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

In addition to the above adjustments for the 2012-13 year, the Authority also considered 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 recommended a reduction in forecast non-direct operating costs by a further 1.5% per annum in real terms as a general productivity gain, applied cumulatively for each of the four years of the regulatory period (2013-14 to 2016-17).

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

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

In response to stakeholder comments, the Authority endeavoured to ensure that costs applicable to non-irrigation activities are excluded from the irrigation share of costs.

In regard to concerns about insurance costs, the Authority noted that it has applied the efficiency gain to these costs over the 4-year period. Insurance costs are allocated between schemes according to asset replacement value. This resulted in insurance comprising about 15% of total non-direct costs in the Lower Lockyer Valley WSS. Depending on asset values, the proportion varies across the schemes, from less than 10% to 30%. The Authority considered the method of apportioning insurance costs and the resulting cost share in the Lockyer scheme to be reasonable.

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

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

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

The Authority's recommended level of non-direct costs to be recovered from the Lower Lockyer Valley WSS (from all customers) is set out in Table 5.18. The allocation of these costs between HP and MP customers is discussed below.

Table 5.18: Non-Direct Costs (Nominal $)

	Seqwater				*Authority*			
	2013-14	***2014-15***	***2015-16***	***2016-17***	***2013-14***	***2014-15***	***2015-16***	***2016-17***
					Draft			
Non-Direct Operations	334,485	342,847	351,418	360,204	327,570	332,421	337,262	342,090
Non-Infrastructure	34,326	35,184	36,064	36,966	33,384	33,698	34,006	34,309
Insurance	65,736	67,380	69,064	70,791	64,750	65,358	65,956	66,543
Working Capital	10,748	11,017	11,292	11,575	0	0	0	0
Total	**445,296**	**456,428**	**467,839**	**479,535**	**425,705**	**431,477**	**437,225**	**442,942**
					Final			
Non-Direct Operations	-	-	-	-	331,630	336,541	341,442	346,330
Non-Infrastructure	-	-	-	-	33,780	34,097	34,409	34,716
Insurance	-	-	-	-	65,736	67,380	69,064	70,791
Working Capital	-	-	-	-	0	0	0	0
Total	-	-	-	-	**431,146**	**438,018**	**444,915**	**451,836**

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

5.6 Allocation of Non-Direct Operating Costs

Draft Report

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

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

(a) Stage 1 – Seqwater attributes its direct costs to the tariff groups in which they are incurred, and allocates its non-direct costs to tariff groups using the preferred cost allocation methodology for this stage; and

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

Stage 1 - Allocation of Costs to Tariff Groups

Stakeholder Submissions

Seqwater

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

(a) TDC represents a reasonable driver of the non-direct operating costs of Seqwater's irrigation activities;

(b) it is relatively simple to administer, identify and extract from the reporting system;

(c) it allows regular comparison between forecast and actual outcomes, and to update allocations where appropriate; and

(d) it results in cost allocations consistent with expectations about non-direct cost incurrence.

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

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

(a) insurance premium costs to tariff groups on the basis of the replacement value of insured assets; and

(b) working capital allowance to tariff groups according to forecast revenue.

Other Stakeholders

In Round 1 consultations, irrigators questioned how insurance costs are allocated and whether the method is appropriate given the scheme is irrigation only.

Authority's Analysis

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

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

In regard to comment on insurance costs, the Authority considered that an insurance premium allocated by the value of insured assets was also appropriate.

Stage 2 - Allocation of Costs Between Priority Groups

Previous Review

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

Stakeholder Submissions

Seqwater

Seqwater (2012ao) submitted that for Lower Lockyer Valley WSS, no stage 2 cost allocations are required as all water allocations in these tariff groups are MP.

As the Lower Lockyer Valley WSS consists of MP customers only, Seqwater (2012f) has proposed to assign all operating costs to these users on the basis of their current nominal WAEs.

Authority's Analysis

The Authority recommended that as all customers are effectively allocated MP WAE, all fixed operating costs should be allocated on the basis of current nominal WAEs as this reflects the relative share of costs for users of water of the same reliability.

The effect for the Lower Lockyer Valley WSS is detailed in the following section (as it takes into account other factors relevant to establishing total costs).

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

The Authority proposes no change to Draft Report recommendations.

5.7 Cost Escalation

Draft Report

Seqwater

Seqwater proposed that where its costs rise in line with inflation, it has adopted the mid-point of the RBA's target range for 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 five to 10 years.

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

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

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

Seqwater proposed that other direct operating cost categories (that is, other than direct labour and contractors and materials) and all non-direct costs, be escalated at CPI.

Authority's Analysis

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

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

(a) the costs of direct and non-direct labour and contractors should be escalated by 3.6% per annum, rather than 4% as proposed by Seqwater;

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

(c) the costs of repairs and maintenance should be escalated by 4% per annum;

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

(e) electricity should be escalated by 2.5% per annum in nominal terms. 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.

Submissions Received from Stakeholders on the Draft Report

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

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

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

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

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

Authority's Response to Submissions Received on the Draft Report

Labour Costs

The Authority notes that while Seqwater's submission argues for a possible 5.2% increase in labour costs from 2012-13 to 2013-14, Seqwater recommends that the annual nominal escalation factor for total labour costs should be 4% for 2012-17. However, Seqwater

provides limited support for this recommendation, except that it acknowledges the uncertainty of future enterprise agreements and salary increments.

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

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

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

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

Electricity

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

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

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

5.8 Summary of Operating Costs

Seqwater's proposed operating costs by activity and type are set out in Table 5.19**.** The Authority's draft recommended operating costs are set out in Table 5.20 and final recommended operating costs in Table 5.21.

Table 5.19: Seqwater's Proposed Operating Costs (Nominal $)

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
Labour	259,589	269,973	280,772	292,003
Contractors and Materials	36,671	38,138	39,664	41,250
Electricity	36,478	37,390	38,324	39,282
Other	163,264	167,346	171,529	175,818
Repairs and Maintenance				
Planned	147,659	153,566	159,708	166,097
Unplanned	60,312	62,724	65,233	67,842
Dam Safety	25,625	0	0	0
Rates	47,965	49,164	50,393	51,653
Non-Direct Costs				
Non-Direct Operations	334,485	342,847	351,418	360,204
Non-Infrastructure	34,326	35,184	36,064	36,966
Insurance	65,736	67,380	69,064	70,791
Working Capital	10,748	11,017	11,292	11,575
Total	**1,222,859**	**1,234,727**	**1,273,461**	**1,313,480**

Source: Seqwater (2012ao).

Table 5.20: Authority's Draft Operating Costs (Nominal $)

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
Labour	253,173	258,293	263,453	268,651
Contractors, Materials	36,386	37,265	38,156	39,059
Electricity	35,875	36,772	37,691	38,633
Other	161,148	162,661	164,149	165,610
Repairs and Maintenance				
Planned	153,741	157,455	161,221	165,037
Unplanned	40,868	41,855	42,856	43,870
Dam Safety	23,979	0	0	0
Rates	47,965	49,164	50,393	51,653
Non-Direct Costs				
Non-Direct Operations	327,570	332,421	337,262	342,090
Non-Infrastructure	33,384	33,698	34,006	34,309
Insurance	64,750	65,358	65,956	66,543
Working Capital	0	0	0	0
Total	**1,178,838**	**1,174,942**	**1,195,146**	**1,215,456**

Source: QCA (2012).

The Authority's Draft Report recommended operating costs for 2013-14 were 3.6% lower than Seqwater's proposed amount, as defined in its November 2012 NSP.

The Authority's final total operating cost estimate represents a modest (1.4%) increase since the Draft Report as shown in Table 5.21.

Since the Draft Report, the main changes primarily relate to inclusion of scheme consultation costs, higher insurance costs and increased electricity costs.

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

	2013-14	***2014-15***	***2015-16***	***2016-17***
Direct Operations				
Labour	253,173	258,293	263,453	268,651
Contractors, Materials	36,386	37,265	38,156	39,059
Electricity	40,250	41,256	42,288	43,345
Other	161,148	162,661	164,149	165,610
Repairs and Maintenance				
Planned	153,741	157,455	161,221	165,037
Unplanned	40,868	41,855	42,856	43,870
Dam Safety	23,979	0	0	0
Rates	47,965	49,164	50,393	51,653
Consultation	7,175	7,354	7,538	7,727
Non-Direct Costs				
Non-Direct Operations	331,630	336,541	341,442	346,330
Non-Infrastructure	33,780	34,097	34,409	34,716
Insurance	65,736	67,380	69,064	70,791
Working Capital	0	0	0	0
Total	**1,195,830**	**1,193,322**	**1,214,971**	**1,236,788**

Source: QCA (2013).

6. TOTAL COSTS AND FINAL PRICES

6.1 Background

Ministerial Direction

The Ministerial Direction requires the Authority to recommend irrigation prices to apply to Seqwater WSSs. 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 network service plans 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 (including the Lower Lockyer Valley WSS). 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 Lower Lockyer Valley WSS, prices over 2006-11 increased by an average of $2/ML per annum in real terms (plus CPI), without reaching lower bound costs.[2] In 2011-12, prices in this scheme were increased by CPI.

[2] The average annual increase of $2/ML in real terms was comprised of a $0.25 increase in the first year, a $2.50 increase in each of the next three years, and a $2.25 increase in the last year.

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 associated with each tariff group;

(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.

For the Lower Lockyer Valley WSS, Seqwater's revenues primarily are associated with leasing buildings and land.

Draft Report

Stakeholder Submissions

In the Lower Lockyer Valley WSS, Seqwater included a revenue offset of $13,800, based on the 2012-13 expected amount of such revenue. This compared to an average over 2009-12 of $7,400.

Authority's Analysis

As Seqwater's revised revenue offsets are consistent with the historical averages (in real terms), the Authority accepted the amount of $13,800 as a revenue offset for Lower Lockyer Valley WSS.

Final Report

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

Summary of Total Costs

The Authority's Draft and Final Report estimate of prudent and efficient total costs for the Lower Lockyer Valley WSS for the 2013-17 regulatory period is outlined in Table 6.1. Total costs for 2012-13 are also provided including a renewals annuity deflated from 2013-14 (not actual).

Total costs reflect the costs for the scheme (all sectors) and do not include any adjustments for the Queensland Government's pricing policies.

Table 6.1: Comparison of Total Costs Lower Lockyer Valley WSS (Nominal $)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater (April NSP)					
Renewals Annuity	181,333	185,866	193,070	195,656	198,709
Direct Operating	693,698	743,449	742,826	768,734	795,584
Non-Direct Operating	472,178	483,983	496,082	508,484	521,197
Less Revenue Offsets	(13,787)	(14,131)	(14,485)	(14,847)	(15,218)
Return on Working Capital	10,486	10,748	11,017	11,292	11,575
Total	**1,343,908**	**1,409,915**	**1,428,510**	**1,469,320**	**1,511,847**
Seqwater (November NSP)					
Renewals Annuity	212,104	217,406	221,645	222,212	223,069
Direct Operating	726,503	777,563	778,300	805,624	833,945
Non-Direct Operating	423,949	434,548	445,411	456,547	467,960
Less Revenue Offsets	(13,787)	(14,131)	(14,485)	(14,847)	(15,218)
Return on Working Capital	10,486	10,748	11,017	11,292	11,575
Total	**1,359,255**	**1,426,134**	**1,441,889**	**1,480,828**	**1,521,331**
Authority (Draft)					
Renewals Annuity	-	167,552	168,030	166,661	165,693
Direct Operating	-	753,133	743,466	757,921	772,514
Non-Direct Operating	-	425,705	431,477	437,225	442,942
Less Revenue Offsets	-	(14,131)	(14,485)	(14,847)	(15,218)
Return on Working Capital	-	0	0	0	0
Total	**-**	**1,332,259**	**1,328,488**	**1,346,960**	**1,365,931**
Authority (Final)					
Renewals Annuity	-	169,043	169,629	168,429	167,614
Direct Operating	-	764,683	755,304	770,056	784,952
Non-Direct Operating	-	431,146	438,018	444,916	451,836
Less Revenue Offsets	-	(14,131)	(14,485)	(14,847)	(15,218)
Return on Working Capital	-	0	0	0	0
Total	-	**1,350,742**	**1,348,466**	**1,368,554**	**1,389,184**

Source: Seqwater (2012f), Seqwater (2012ao), QCA (2012) and QCA (2013).

6.4 Fixed and Variable Costs

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

Previous Review 2006-11

In the 2006-11 price path, for the Lower Lockyer Valley WSS, fixed charges were set to recover 70% of revenue and variable charges were set to recover 30% of revenue, given the agreed forecast water use.

Draft Report

Stakeholder Submissions

Seqwater

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

Other Stakeholders

M. Jendra (2012) submitted that tariffs should be set at 50% fixed and 50% variable.

In Round 1 consultations in June 2012 (QCA 2012c), irrigators stated that it is not appropriate to have a 100% fixed charge when there is no permanent trading.

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, where appropriate, applied the Indec findings to Seqwater schemes.

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

Table 6.2: Variable Costs

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%
Renewal Annuity	0%

Source: QCA (2012).

In responding to stakeholder comments, the Authority noted that a 50% variable charge would not be reflective of the level of variable costs in the scheme. Scheme operating costs are largely fixed in nature and do not vary with water use levels. However, it was agreed that a 100% fixed charge is inappropriate as a proportion of costs would be variable.

The Ministerial Direction required 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.

Final Report

No changes are proposed for the Final Report.

6.5 Allocation of Costs According to WAE Priority

Draft Report

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

The Lower Lockyer Valley WSS has no HP allocation, and therefore the entire fixed revenue requirement was applied to MP allocation.

The resulting total fixed revenue requirements for HP and MP WAE and the irrigation share is also shown in Table 6.3.

Final Report

The revised fixed revenue requirements are shown in Table 6.3 compared to the Draft Report estimates.

Table 6.3: Allocation of Fixed Revenue Requirement between HP and MP WAE 2013-14 Nominal ($'000)

Tariff Group	*HP Fixed Revenue Requirement*	*MP Fixed Revenue Requirement*	*HP Irrigation Share of Fixed Revenue Requirement*	*MP Irrigation Share of Fixed Revenue Requirement*
Lower Lockyer Valley - Draft	0	1,203	0	1,187
Lower Lockyer Valley - Final	0	1,222	0	1,205

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

6.6 Volumetric Charges

Draft Report

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

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

Moreover, the Authority noted that water use in the Lower Lockyer Valley 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 water use 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 related to management practices which seek to ensure services are made available when required, the Authority adopted a water use estimate based on the average of those years that exceed the ten year average for each tariff group. A longer term estimate (say the past 15 years) 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.

Submissions Received from Stakeholders on the Draft Report

In consultations (January 2013), irrigators considered that the recommended increase in the Part B charge to $43.77/ML was not justified and needed to be moderated.

Irrigators noted that:

(a) the high Part B charge is based on water use over the past ten years which has been very low due to drought then flood. A longer period than ten years is required to determine a typical year. Typical conditions are considered to be returning and water use will be far higher over the regulatory period than over the past ten years; and

(b) the introduction of permanent water trading is likely to move water to active water users and contribute to an increase in water use.

B. Reck (2013) submitted that during recent years of prolonged drought when Atkinson Dam had no water, farmers installed infrastructure to harvest run-off water and underground water into turkey nest dams. Irrigation pumps are now located on these dams rather than in the creek. Farmers will not pump from the creek unless the cost is not prohibitive. Bore water and farm dam water can be used with only a marginal pumping cost.

B. Reck further indicated that the cost of pumping from the bore is $110/ML compared to $80/ML from the creek. The additional Part B charge of $43.77/ML makes the cost of pumping from the creek more expensive. B. Reck proposed the Part B charge be reduced by 50% to encourage farmers to use creek water (WAE) rather than bore water. This could increase use from 10% to 20% of allocation. In Round 2 consultation, it was also noted that if the Part B charge for supplemented water is too high, irrigators will not use supplemented water, and the scheme will not be used. This is not considered efficient.

Authority's Response to Submissions Received on the Draft Report

The Authority acknowledges that its estimate of typical water use in the Draft Report has been potentially underestimated as the data set included a series of drought years followed by floods which have resulted in abnormally low water use.

In the Draft Report, the all sectors water use estimate of 2,923ML was derived by taking the 10-year average, then selecting the average of use years that exceeded this average. This gave a water use average of only 23% of total WAE.

The average was limited to 10 years due to concerns about the impacts of long-term structural adjustment on water use. However, the Authority noted that industry adjustment has been ongoing including over recent years. In the dairy industry for example, most structural adjustment occurred since 1999-00 and the Draft Report 10-year average approach has not avoided the impact of ongoing dairy structural adjustment.

The Authority therefore considered a 15-year data set to remove the effect of drought and excessively wet conditions on typical water use. By taking the 15-year average, and the average of years that exceeded this amount, the estimate of typical water use was increased to 5,750 ML or 45% of nominal WAE.

This estimate was considered more realistic, and resulted in a lower Part B charge as detailed in Table 6.4, compared to the Draft Report estimate. At a subsequent meeting with irrigators in March 2013, there was support for this change.

The Authority also accepts that many irrigators can now by-pass Seqwater services by using on-farm dams and bores, particularly if the marginal cost of using these sources, including electricity costs, is lower than Seqwater's Part B charge. The Authority does not have sufficient information to determine a relevant by-pass charge. However, the revised approach using a more typical water use estimate should enable Seqwater to be more competitive with on-farm sources.

Total variable costs (all sectors), the typical all sectors' average water use and the resulting volumetric charge for the Lower Lockyer Valley WSS are in Table 6.4. The table compares the draft and final estimates.

Table 6.4: Derivation of Cost Reflective Volumetric Tariffs (2013-14 Nominal $)

Tariff Group	*Total Variable Costs ($'000)*	*Authority Estimate of Typical Water Use (ML)*	*Volumetric Tariff ($/ML)*
Lower Lockyer Valley - Draft	129	2,923	43.77
Lower Lockyer Valley - Final	129	5,750	22.25

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

6.7 Cost Reflective Fixed and Volumetric Tariffs

Draft Report

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.

Submissions Received from Stakeholders on the Draft Report

QFF (2013b) was concerned that cost-reflective tariffs are high compared to recommended prices and there has been limited time for customers to discuss their implications.

Authority's Response to Submissions Received on the Draft Report

The cost reflective tariffs are significantly higher than current levels. However, the Authority recommends a price path that moderates the impact on irrigators, based on the requirements of the Ministerial Direction. Over the 4-year regulatory period, the price path will move closer to cost recovery but will remain well below cost reflective levels. While future price paths cannot be predicted, the Authority notes that historically, Governments have applied only modest increases to irrigation prices.

The recommended 2013-17 price path is discussed in the next section.

Table 6.5 presents current tariffs, Seqwater's (April and November 2012) proposed tariffs and the Authority's draft and final cost-reflective tariffs.

Table 6.5: Cost-Reflective Tariffs by Tariff Group (Nominal $/ML)

Tariff Group	*Actual*	*Seqwater (April 2012)*	*Seqwater (November 2012)*	*Cost Reflective (Draft)*	*Cost Reflective (Final)*
	2012-13	*2013-14*	*2013-14*	*2013-14*	*2013-14*
Lower Lockyer Valley					
Fixed (Part A)	24.49	124.28	125.39	103.57	105.35
Variable (Part B)	29.99	0.00	0.00	43.77	22.25

Source: Seqwater (2012aj),Seqwater (2012f), Seqwater (2012ao), QCA (2012) and QCA (2013).

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

6.8 Queensland Government Pricing Policies and Final Prices

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

Where prices are below efficient cost recovery, (such as in the Lower 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.

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

(a) the Authority must consider phasing in the price increase in order to moderate price impacts on irrigators but at the same time have regard for Seqwater's legitimate commercial interests;

(b) the price path may be longer than one price path period provided the Authority gives its reason for the longer timeframe; and

(c) the Authority must give its reasons if the recommendation is not to phase in prices.

Revenue Target

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

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

Table 6.6 compares the current revenue with the revenue that would be required to achieve efficient cost recovery.

Table 6.6: 2013-14 Irrigation Revenues (Nominal $'000)

Tariff Group	*Current Revenue*	*Revenue Based on QCA Cost Reflective Prices*	*Revenue Difference*	*Current Cost Recovery %*
Lower Lockyer Valley - Draft	323.8	1,215.1	891.3	27%
Lower Lockyer Valley - Final	323.8	1,203.6	879.8	27%

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

Current revenue is calculated using variable charge revenues based on average water use during 2006-11. Current cost recovery is 27% of final cost reflective revenues in the Lower Lockyer Valley WSS.

Table 6.7 summarises the revenue maintenance target consistent with the Government's requirements (that is, it includes provision for an initial $2/ML increase in fixed charges for 2013-14).

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 6.7: Revenue Maintenance Target (Nominal $'000)

Tariff Group	*Total Revenue Requirement*	*Fixed Revenue*	*Variable Revenue*
Lower Lockyer Valley - Draft	346.0	286.0	60.0
Lower Lockyer Valley - Final	346.0	322.2	23.7

Source: QCA (2012) and QCA (2013). Note: The revenue maintenance target includes an increase in the fixed charge of $2/ML for 2013-14.

Irrigation Water Prices

Draft Report

Stakeholders Submissions

Stakeholders during consultations (QCA 2012c) indicated that a starting price in the vicinity of $25/ML and an annual increase of $2/ML plus 2.5% CPI may be bearable for some irrigators but not necessarily all who are holding onto water allocations for the purpose of 'insurance' but are not earning (much) income from the water.

Irrigators cited that the decline, for example, of dairy production in the region has made agriculture very difficult for some farmers to earn a living. One more cost increase, particularly in the form of higher fixed (Part A) water charges, may not be generally welcome, but could result in increased trading of water allocations to higher value uses.

Authority's Analysis

Given current revenues for Lower Lockyer Valley WSS were below the assessed level of efficient cost reflective revenue requirement, the Authority was required to recommend a price path for the four-year regulatory period (from 1 July 2013 to 30 June 2017).

The Authority proposed a price path set at an average pace similar to that applied over 2006-11, that is, an average of $2/ML per year. This level of increase was previously considered as being reasonable.

The Authority also escalated all such charges at CPI (2.5% per annum from July 2013) in accordance with past practice.

The $2/ML increase was applied to the fixed charges (Part A).

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

On the basis of the previously described analysis and principles, and the Minister's Direction to at least maintain real (2006-11) revenues, the Authority recommended prices as outlined below in Table 6.8.

Submissions Received from Stakeholders on the Draft Report

B Reck (2013) objected to the Authority's Draft Report proposal to increase water prices. Reck accepted the increase in the Part A charge but disagreed with the Part B price increase.

L Hayes (2013) and M Jendra (2013) also indicated a preference for a lower Part B charge, combined with a higher Part A charge. M Jendra submitted that it is in the scheme's interest to use water when it is needed by irrigators.

QFF (2013b) and stakeholders during Round 2 consultation accepted that the Part B charge should decrease and accepted that the Part A charge would need to increase in order to maintain current revenues. Irrigators commented that the draft recommended prices provided a disincentive to use water. It is not appropriate for high percentage water users to have a greater increase in their bill than low percentage water users. High water users should be encouraged to use water and to create economic activity.

In Round 2 consultations, it was also suggested that a declining block tariff should be investigated, so that irrigators pay less Part B as the amount of water they use (as a percentage of their nominal WAE) increases. Alternatively, to encourage use, irrigators could be charged for 30% of their nominal WAE, irrespective of use, to encourage irrigators to use at least 30% of their nominal WAE.

Authority's Response to Submissions Received on the Draft Report

The Authority's Draft Report recommended prices included a substantial increase in Part B charges as well as an increase in Part A fixed charges. As noted in submissions, this was mainly due to the estimate of typical water use being affected by drought and flood over the 10-years of water use observations used. The Authority accepts that the Draft Report recommended prices would not encourage water use and may lead to declining water use.

In response to submissions and issues raised in consultations, the Authority revised the approach taken to estimate the volumetric charge, by taking a longer (15 year) water use data series as noted above.

The revised approach to assessing typical water use has, in the Authority's view, largely addressed concerns about the magnitude of Part B volumetric charge increases. However, the Part A fixed charge is slightly higher as a result of the revised approach.

QFF (2013b) advised, subsequent to a further round of consultation at the scheme, that irrigators accepted the proposed tariff changes but noted that small entitlement holders were concerned about the increase in fixed charges from around $25/ML to about $29/ML

The Authority considers that the fixed charge increase is relatively small, but notes that the price path will see this rise over the 4-year period. Inactive users will have greater incentive to trade away their entitlements (once tradeable WAE are in place). It is also noted that minimum charges will no longer apply.

The Authority does not favour a declining block tariff in the Lower Lockyer Valley WSS as there is little evidence that marginal costs of supply would decrease in any significant way as an irrigator's volume increases. Variable costs are a small proportion of total costs and declining block tariffs are complex and more costly to administer. Further, the Authority's revised Part B charge obviates the need to consider a declining block variable tariff.

The Authority is also not supportive of a minimum usage charge set at 30% of nominal allocation. Such a charge implies some variable costs are fixed. The Authority has already determined on the basis of available information, a split between fixed and variable costs.

The Authority's final recommended price paths for Lower Lockyer Valley WSS during 2013-17 are shown in Table 6.8.

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

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

Table 6.8: 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*
Lower Lockyer Valley								**Draft**			
Fixed (Part A)	15.88	17.52	19.60	21.50	23.33	24.17	24.49	25.72	28.41	31.23	34.16
Variable (Part B)	19.41	21.43	24.00	26.32	28.57	29.60	29.99	43.77	44.87	45.99	47.14
Lower Lockyer Valley								**Final**			
Fixed (Part A)	-	-	-	-	-	-	-	28.98	31.76	34.65	37.67
Variable (Part B)	-	-	-	-	-	-	-	22.25	22.80	23.37	23.96

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

The Lower Lockyer Valley WSS does not reach the cost reflective revenue requirement during the 2013-17 period.

6.9 Impact of Recommended Prices

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

Draft Report

Stakeholder Submissions

Irrigators, during consultations in June 2012 (QCA 2012c), noted that although the Ministerial Direction focuses only on Seqwater's costs, the Authority should consider irrigators' costs and industry viability. Increasing prices will mean that the Community Service Obligation (CSO) will be decreasing over time.

Authority's Analysis

In response to stakeholders concerns regarding the impact of recommended prices, the Authority noted that the Ministerial Direction requires prices to increase in real terms at a pace consistent with 2006-11 prices until such time as the Lower Lockyer Valley WSS reaches efficient costs.

The Authority also noted 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 was considered to apply to the Seqwater irrigation review.

Final Report

Irrigators' concerns largely related to the impact of the change in tariffs proposed by the Authority in the Draft Report. These have been addressed in the Final Report, as noted above.

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APPENDIX A: FUTURE RENEWALS LIST

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

Asset	*Year*	*Description*	*Total ($,000*
Atkinson Dam	2013/14	Refurbish Spillway Control Structure	30
		Replace Fencing	10
	2014/15	Refurbish Spillway Control Structure	20
	2017/18	Refurbish Access Roads And Carpark	10
	2017/18	Refurbish Valve, 914Mm Butf	10
	2027/28	Refurbish Valve, 914Mm Butf	10
	2017/18	Replace Telemetry	35
	2027/28	Replace Telemetry	36
	2017/18	Replace Bulkhead Gate	5
	2032/33	Replace Bulkhead Gate	5
	2018/19	Replace Outlet Works Switchboard	15
	2019/20	Replace Main Building Switchboard	30
	2020/21	Replace Observation Bores (15)	75
		Replace Piezometer Huts	20
		Replace Pressure Relief Wells (19)	20
	2020/21	Refurbish Outlet Works To Pstn	10
	2035/36	Refurbish Outlet Works To Pstn	10
	2021/22	Refurbish Valve, 914Mm Butf	22
	2022/23	Refurbish Main Wall Embankment	21
	2023/24	Refurbish Main Wall Embankment	21
	2029/30	Replace Trash Screens	45
	2030/31	Replace Hydraulic Piezometer System	112
	2031/32	Replace Core Shed/Storage	30
		Replace General Storage	47
		Replace Office Building	110
		Replace Project Storage	30
Ll Distribution	2013/14	Refurbish Brightview Channel Fencing	47
		Refurbish Potters Weir Structure	60
		Refurbish Seven Mile Lagoon Diversion Channel Fencing	7
		Refurbish Sippels Weir - 23.8Km	72
	2013/14	Refurbish Seven Mile Lagoon Diversion Channel 1568M	20
	2018/19	Refurbish Seven Mile Lagoon Diversion Channel 1568M	20
	2023/24	Refurbish Seven Mile Lagoon Diversion Channel 1568M	20
	2028/29	Refurbish Seven Mile Lagoon Diversion Channel 1568M	20
	2033/34	Refurbish Seven Mile Lagoon Diversion Channel 1568M	20
	2016/17	Refurbish Brightview Channel Earthworks	66
	2021/22	Refurbish Brightview Channel Earthworks	66
	2026/27	Refurbish Brightview Channel Earthworks	66
	2031/32	Refurbish Brightview Channel Earthworks	66

Asset	*Year*	*Description*	*Total ($,000*
	2017/18	Replace Buaraba Creek Supply Pipeline Air Valve 1 At 24.40M	6
		Replace Buaraba Creek Supply Pipeline Air Valve 2 At 1770.30M	6
		Replace Buaraba Creek Supply Pipeline Double Air Valve 1 At 1551.40M	1
	2017/18	Refurbish Buaraba Ck Diversion Channel Earthworks	30
	2022/23	Refurbish Buaraba Ck Diversion Channel Earthworks	30
	2027/28	Refurbish Buaraba Ck Diversion Channel Earthworks	30
	2032/33	Refurbish Buaraba Ck Diversion Channel Earthworks	30
	2018/19	Refurbish Atkinson Pump Station Pump Unit 2	30
	2018/19	Refurbish Observation Bores	86
	2023/24	Refurbish Observation Bores	86
	2028/29	Refurbish Observation Bores	86
	2033/34	Refurbish Observation Bores	86
	2018/19	Refurbish Sippels Weir Outlet Valve	5
	2028/29	Refurbish Sippels Weir Outlet Valve	5
	2020/21	Replace Brightview Channel Grids And Gates	7
		Replace Seven Mile Lagoon Diversion Channel Grids And Gates	3
	2021/22	Replace Brightview Channel Rising Main Flow Meter At 207.30M	12
	2022/23	Replace Brightview Weir Protection Works	267
	2022/23	Refurbish Buaraba Creek Channel	12
	2032/33	Refurbish Buaraba Creek Channel	12
		Replace Gauging Stations-Lower Lockyer	40
	2026/27	Replace Seven Mile Lagoon Diversion Channel Regulating Structure	27
	2027/28	Refurbish Atkinson Pump Station Pump Unit 1	30
		Replace Buaraba Ck Diversion Channel Gate Control Equipment	12
		Replace Buaraba Ck Diversion Channel Solar Panel	5
	2028/29	Replace O'Reilly Weir R/Bank Access Road	30
	2030/31	Replace Atkinson Pump Station Control Building	36
		Replace Brightview Channel Scour Valve At 2263.1M	23
	2032/33	Replace Atkinson Pump Station Actuator, Elec Rotork	12
	2033/34	Replace Buaraba Creek Supply Pipeline Sluice Valve 1 At 259.10M	22
		Replace Buaraba Creek Supply Pipeline Valve At 1237.50M	11
Water Flow Meters	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

Asset	*Year*	*Description*	*Total ($,000*
	2034/35	Replace Water Meters	32
	2035/36	Replace Water Meters	32
Total			**2,808**