QUEENSLAND COMPETITION AUTHORITY

Final Report

Seqwater Irrigation Price Review 2013-17

Volume 2

Warrill Valley Water Supply Scheme

April 2013

Level 19, 12 Creek Street Brisbane Queensland 4000
GPO Box 2257 Brisbane Qld 4001
Telephone (07) 3222 0555
Facsimile (07) 3222 0599

general.enquiries@qca.org.au
www.qca.org.au

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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 Warrill Valley WSS for 2013-17 are outlined in Table 1 together with actual prices since 1 July 2006.

Table 1: Prices for Warrill Valley WSS (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*
Fixed (Part A)	5.20	16.42	17.00	17.54	18.06	18.71	18.96	21.91	22.46	23.02	23.59
Volumetric (Part B)	18.60	19.14	20.06	20.69	21.31	22.08	22.37	7.31	7.50	7.68	7.88

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

In the Warrill 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 key issues relevant to the regulatory and pricing frameworks, renewals and operating expenditures 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. WARRILL VALLEY WATER SUPPLY SCHEME

1.1 Scheme Description

The Warrill Valley WSS is located near the town of Aratula. An overview of the key characteristics of this WSS is provided in Table 1.1.

Table 1.1: Key Scheme Information

	Warrill Valley WSS
Business Centre	Aratula
Irrigation Uses	fodder crops, grain, horticulture
Urban Water Supplies	South East Queensland Water Grid Manager (SEQ WGM)

Source: Seqwater (2012aq).

The Warrill Valley WSS has 396 bulk customers. Of these, there are 387 irrigators holding 20,484.5ML of medium priority (MP) allocation (a further 50.5ML surrendered or unallocated). A total of 3,714ML of MP allocation is held by Seqwater for distribution losses. Seqwater proposes to exclude this loss volume for pricing purposes. Seqwater also holds 1ML of MP (MP) allocation. Total MP allocation is 24,250ML including 20,535ML of irrigation WAE.

The scheme includes a total of 9,450ML of high priority (HP) allocation, including 56ML of amenities water held by Seqwater.

While Seqwater's network service plan (NSP) describes the allocation volumes as Water Access Entitlements (WAE), the allocations are in fact a type of interim WAE, termed Interim Water Allocations (IWAs). Medium and HP volumes are outlined in Table 1.2.

Table 1.2: Water Access Entitlements

Customer Group	***Irrigation IWA (ML)***	***Total IWA (ML)***
Medium Priority	20,535	24,250
High Priority	0	9,450
Total	**20,535**	**33,700**

Source: Seqwater (2012aq).

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.

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 Warrill Valley WSS

Storage Infrastructure	*Capacity (ML)*
Moogerah Dam	83,700
Upper Warrill Diversion Weir	3
Kents Lagoon Diversion Weir	5
Aratula Weir*	54
Warrill Creek Diversion Weir	110
Warroolaba Creek Diversion Weir	8
West Branch Warrill Diversion Weir	2
Churchbank Weir	170
Railway Weir	20

*Source: Seqwater (2012aq). *Note: Existing storage is silted up and has negligible capacity.*

The characteristics of the bulk water assets are that:

(a) Moogerah Dam on Reynolds Creek is a mass concrete double curvature dam with two outlet pipes of 760mm in diameter. The spillway has an excavated rock sill approach channel with an ogee crest;

(b) Upper Warrill Diversion Weir is a rockfill weir with concrete cap;

(c) Kents Lagoon Diversion Weir is a clay core with concrete cap;

(d) Aratula Weir on Warrill Creek is a concrete mass weir;

(e) Warrill Creek Diversion Weir consists of a stepped steel sheet piling structure with concrete slabs placed over draining fill. The weir is just downstream of the confluence of the Reynolds and Warrill Creeks;

(f) Warroolaba Creek Diversion Weir is a rockfill weir;

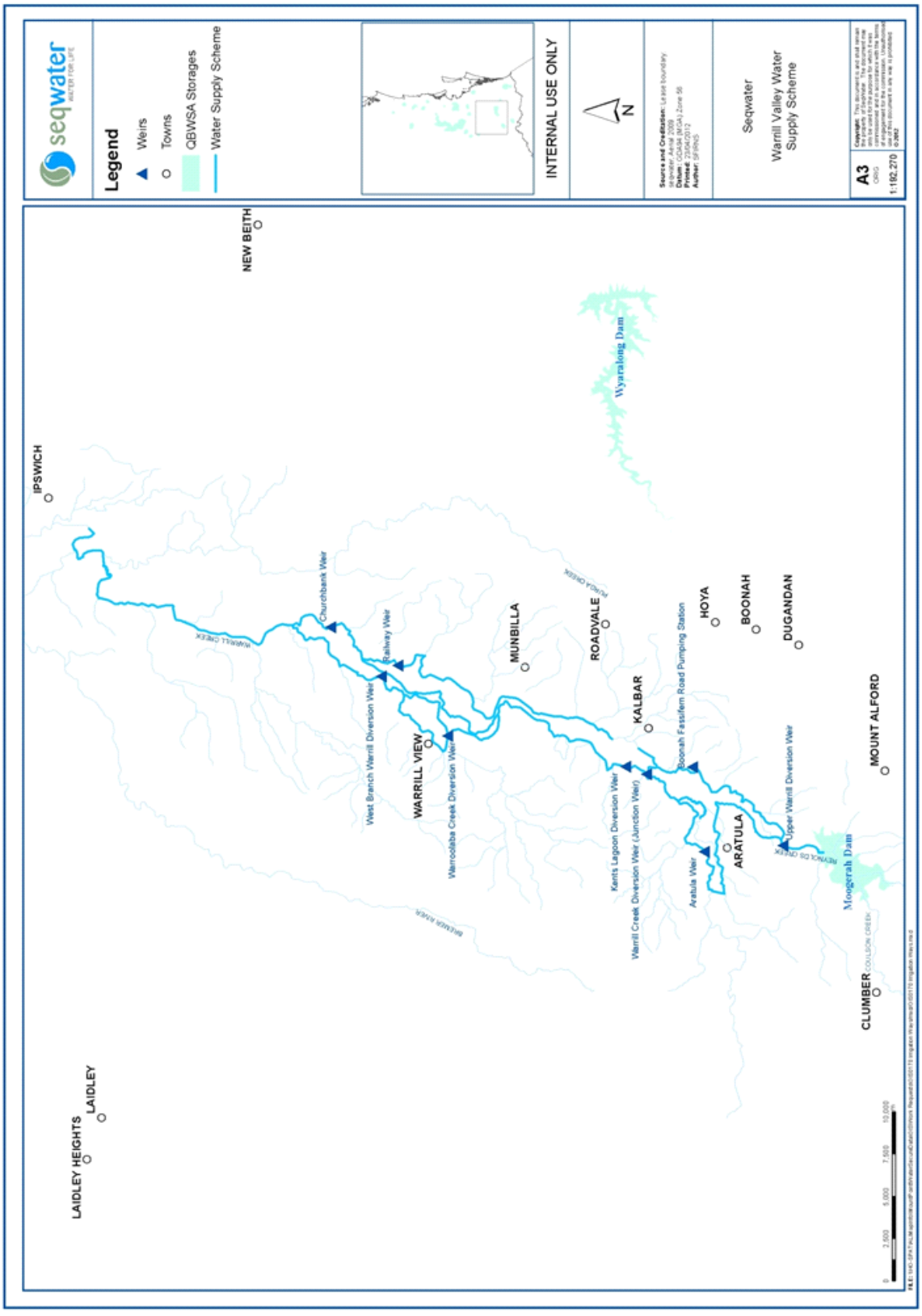
(g) West Branch Warrill Diversion Weir consists of left bank and right bank components with diversion off take from left bank part of the structure to the West Branch of the Warrill Creek. It consists of a reinforced concrete base with two rows of block-work on the weir crest;

(h) Churchbank Weir is a concrete mass weir; and

(i) Railway Weir is a concrete mass weir.

The location of the Warrill Valley WSS and key infrastructure are shown in Figure 1.1.

Figure 1.1: Warrill Valley WSS Locality Map



Source: Seqwater (2012aq).

1.3 Network Service Plans

The Warrill Valley WSS NSP presents Seqwater's:

(a) existing service standards (where relevant);

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

(c) risks relevant to the NSP; and

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

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

1.4 Consultation

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

(a) invited submissions from interested parties;

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

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

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

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

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

The Ministerial Direction forms Appendix A to Volume 1.

2. REGULATORY FRAMEWORK

2.1 Introduction

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

During the negotiations that preceded the 2006-11 price path, the Warrill Valley WSS Tier 2 group indicated that they were in favour of retaining the existing price cap regulatory arrangement. In the 2011-13 interim price period, the price cap arrangement was continued.

2.2 Regulatory Framework and Risk Allocation

Draft Report

Stakeholder Submissions

Seqwater

Seqwater submitted that it owns and operates the infrastructure in the scheme under the authority of an Interim Resource Operations Licence (IROL), as amended August 2008 and originally issued 10 November 2000.

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

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

Other Stakeholders

The Queensland Farmers' Federation (QFF 2012) noted that the Warrill Valley WSS places some reliance on tributary flows to meet MP supply.

During Round 1 consultation in June 2012 (QCA 2012c), irrigators asked what would happen to prices if a material number of irrigators surrendered their IWAs. Irrigators noted there is currently an over-supply of water available for temporary trading. The imposition of a 100% fixed tariff will increase the risk of irrigators surrendering IWAs and potentially increasing prices to other irrigators (if the same costs are shared across a small and diminishing number of IWAs).

Irrigators also submitted that the Authority must take into account that irrigators cannot respond to a price signal by trading their IWAs. The lack of permanent trading prevents current and future on-farm and other agricultural investment.

Irrigators also questioned the process for new infrastructure development to improve irrigation standards of service such as flow and reliability. If irrigators are to face a high fixed charge component, they need to be confident that the scheme is able to deliver reliable water supply. Irrigators sought more detail on the framework for augmentation options for the scheme.

Irrigators submitted that it is unfair that the proposed tariff structure shifts all volume risk to irrigators, who face rising costs and declining commodity prices.

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.

Submissions Received from Stakeholders on the Draft Report

During Round 2 consultations in January 2013 (QCA 2013a), irrigators stated that the Authority had not shown any consideration of the risks and pressures faced by farmers.

R. Hinrichsen (2013) raised a concern that given the proposed tariff structure to recover scheme specific fixed and variable costs, financial risk, in its entirety, is borne by irrigators. Seqwater will recover all its costs even when no water is provided and this in no way reflects the commercial realities irrigators face.

Authority's Response to Submissions Received on the Draft Report

The Authority's approach recognises that Seqwater is not able to manage short-term volume related risks and allocates these risks to customers (see Volume 1). Seqwater does, however, bear the risks relating to controllable costs.

2.3 Tributary Flows

Draft Report

In response to the QFF, the Authority noted that tributary flows downstream of storages are typically part of the assessed system supply and are in effect taken into account in defining WAE as part of the water planning process. Supplies taken from tributary flows can offset the impact on storages and because of irrigation customers' locations, may be more relevant for MP than for HP.

The Authority considered that the risk implications of low flow periods will be reflected in the allocation of fixed costs such as renewals costs and fixed operating costs between MP and HP users.

In the case of the Warrill Valley WSS, the allocation of these costs using the headworks utilisation factor (HUF) methodology was based on removing stream flows, that is, it is assumed that irrigators use more of the stream flows and less of the storage. By removing stream flows from the model, the MP cut-off is reached more often and a smaller proportion of the storage cost is attributed to MP holders. This issue is further reviewed in Chapter 4.

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No further submissions were received in relation to tributary flows.

2.4 Trading

Draft Report

The Authority noted the particular circumstances of the scheme 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, can be surrendered. Under this framework, as noted in consultation, there is some risk that material volumes could be surrendered, but this could depend on the eventual tariffs recommended by the Authority.

In this respect, the Authority noted that this risk is borne by Seqwater (or its owner, the Government), as surrendered allocation is still allocated a share of costs. Surrendered allocation will therefore not on its own mean an increase in costs allocated to remaining irrigators.

This framework provides an incentive for Government to amend the resource operations plan (ROP) and lock in permanent WAE for customers. The Authority noted that the ability to permanently trade WAE may, in general, be preferred by irrigators as a basis for guiding on-farm investment. Permanent trading cannot occur until the ROP is amended.

Under current arrangements with IWAs in place, temporary transfers have been limited. Volumes of temporary water traded are identified in Table 2.2**.**

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

	2008-09	*2009-10*	*2010-11*	*2011-12**
Temporary	470	627	275	172

*Source: Seqwater (2012aq). Note * year to March 2012.*

To allow customers and Seqwater to better manage demand risk, the Authority considered that permanently tradeable water allocations should be in place for every Seqwater irrigation customer. For this purpose, the Authority also recommended that relevant ROPs (or sections of ROPs) be amended and water allocations be issued in the Warrill 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.

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. However, irrigators were uncertain about who would buy entitlements and at what price.

QFF (2013b) supports the Authority's draft recommendation.

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. The Authority is unable to comment on the depth of a trading market in the Warrill Valley WSS, but small volumes of temporary trades are noted in Table 2.2 above.

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

2.5 Other Matters

Regarding augmentation options, this is a matter for Seqwater in consultation with customers. However, the potential for over-supply problems to emerge and the risk that WAE may be surrendered, implies that the lowest-cost option for customers seeking improved reliability may be to purchase additional WAE once the ROP has been amended.

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.

3. PRICING FRAMEWORK

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

3.1 Tariff Groups

The Ministerial Direction specifically directs the Authority to adopt the tariff groups as proposed in Seqwater's NSPs. There is only one tariff group for the river segment of the Warrill Valley WSS.

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

3.2 Tariff Structure

Previous Review 2006-11

In the 2006-11 price path, fixed charges were set to recover 61% of revenue and variable charges were set to recover 39% of revenue, given the agreed forecast water use in the Warrill Valley WSS.

The Warrill Valley WSS chose a price cap approach with a drought tariff. The drought tariff involved a temporary reduction in the Part A charge during periods of low or no water availability (33% reduction in the Part A charge when announced allocations were less than 20%) and a corresponding higher Part A charge during periods of high water availability (20% higher Part A charge when announced allocations exceed 20%).

Draft Report

Stakeholder Submissions

Seqwater

Seqwater submitted that previous prices were set under the SunWater 2006 price review. In this scheme, the prices that existed at the time were found to recover the irrigation lower bound costs. As a result, no community service obligation (CSO) applied and prices were indexed at the consumer price index (CPI) annually.

The drought tariff was applied to the Warrill Valley WSS for a period of time during 2006-07, with the associated under-recovery of Part A charges recouped by SunWater over subsequent periods.

Seqwater considered that all costs in the scheme are fixed. Accordingly, Seqwater proposes to apply a single Part A tariff for the 2013-2017 period.

Other Stakeholders

QFF submitted that the Authority needs to consider the impact of shifting from a 61:39 fixed variable split to a high Part A charge, and consider how prices could be transitioned to mitigate their impacts.

QFF also submitted that as irrigators are not currently able to trade their entitlements, their ability to cope with the impact of new prices, particularly high fixed charges, is reduced. Seasonal transfers provide customers with sleeper or dozer licences only as a short term option to cope with the impact of high prices.

During consultation in June 2012 (QCA 2012c), stakeholders commented that recovering all costs through the fixed charge will lead to a very large increase in the fixed charge (from $19 to Seqwater's proposed cost-reflective tariff of $31). Stakeholders also suggested that some irrigators will not be able to pay this higher amount and any price increase needs to be introduced gradually.

Stakeholders also commented that a 100% Part A charge will not encourage Seqwater to deliver water efficiently as they will earn no revenue from increased water use.

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.

The Authority considered that, in general, aligning the tariff structure with fixed and variable costs will manage volume risk over the regulatory period and send efficient price signals to water users. 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 bear all the costs of water supply incurred by Seqwater, irrespective of whether it is made available (provided the costs of supply are efficient and prudent), and irrespective of whether there is a drought.

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

It is 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 Warrill Valley WSS customers (as recommended in the previous price review).

Submissions Received from Stakeholders on the Draft Report

During January 2013 consultations (QCA 2013a), irrigators did not support the Authority's principles if they lead to the significant price increases proposed.

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

The Authority has not changed its pricing principles, but has further reviewed how these principles are applied. The main factor in the higher (volumetric Part B) prices noted in the Draft Report was the impact of drought on the water use assumption. Details of the Authority's revised analysis are in Chapter 6: Total Costs and Final Prices (below).

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 Warrill Valley WSS, SunWater (2006b) assumed a water use forecast of 55% of MP WAE in the system.

Draft Report

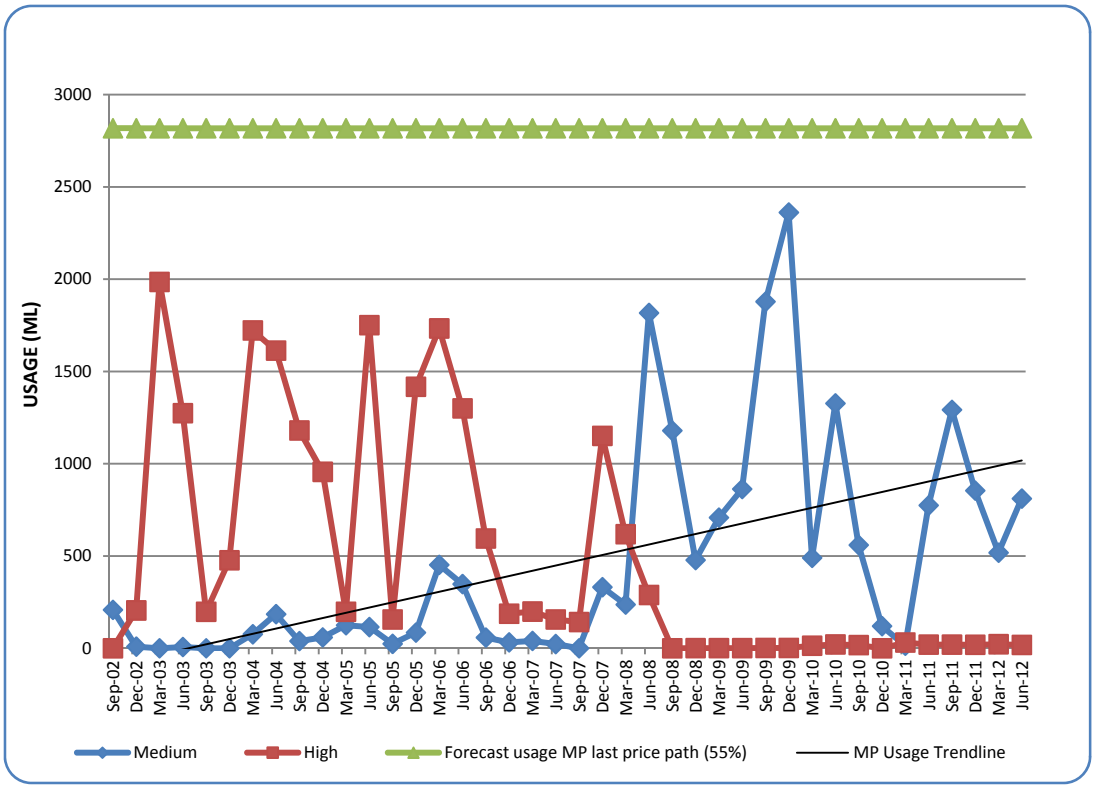
Stakeholder Submissions

Seqwater

Seqwater submitted that the previous price path adopted a use forecast at 55% of the nominal amount of WAE, equivalent to 11,272ML/annum or 2,818ML/quarter. Seqwater noted that drought conditions impacted the actual availability of water throughout the period from 2002 to 2007. Actual water use over the 2006-11 price path was therefore only 2,806ML per year. Over the nine years to December 2011, actual average water use was 1,807ML per year.

Figure 3.1 shows the historic use information for the Warrill Valley WSS submitted by Seqwater (Seqwater 2012aq). The reduction in HP use from July 2008 resulted from the transfer of Boonah Shire Council IWA to the South East Queensland (SEQ) WGM under the SEQ water reforms.

Figure 3.1: Water Use for the Warrill Valley WSS



Source: Seqwater (2012aq).

Authority's Analysis

The Authority noted that water use forecasting is problematic due to the changes that occur over time in cropping types and the significant variability associated with in-flow events. Average water use over the last nine years was only 9% of total allocation compared to the expected 55% average.

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.

Submissions Received from Stakeholders on the Draft Report

During consultations in January 2013 (QCA 2013a), irrigators commented that water use is very low in the scheme even when announced allocations are 100%. Irrigators also commented on the water-use assumptions made by the Authority. Comments are detailed in Chapter 6: Total Costs and Final Prices (below).

Authority's Response to Submissions Received on the Draft Report

The Authority is aware that Warrill Valley WSS has a naturally low level of water-use. Details of the Authority's approach to water use assumptions are given in Chapter 6: Total Costs and Final Prices (below).

3.4 Bulk Losses

Introduction

Seqwater holds 3,714ML of MP IWA under the IROL as an allowance for losses in the Warrill Valley WSS. Seqwater excluded these from the base WAE used to calculate prices for the scheme, resulting in higher prices for scheme customers.

Draft Report

Stakeholder Submissions

Seqwater

Seqwater (2012aj) submitted that the losses associated within the Warrill 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. A single tariff group has been nominated, and there is no need to calculate a discrete cost for losses and include this in a cost base for a separate tariff group (as occurs for distribution systems).

Specifically, Seqwater (2012s) highlighted that the interim loss set by DNRM under the current IROL should be accepted as efficient. Seqwater noted that these distribution loss WAEs should be removed from the WAE base used to calculate tariffs, including the calculation of the sharing of costs between priority groups. This will have the effect of assigning the costs for the WSS among WAE held by users, and spreading the costs of the distribution loss WAEs held by Seqwater proportional to each users' WAE.

Further, Seqwater (2012s) submitted that losses in Warrill Valley WSS are volatile according to climatic factors and pattern of demand and/or condition of the streams supplemented, and that measurement of actual losses has been problematic since they were set in 2000 under the IROL. Seqwater submitted that there was little information upon which to conclude that the original assessment of losses is not an efficient allowance.

Seqwater (2012s) also noted that DNRM will review losses in Warrill Valley WSS when amending the Moreton ROP, and that they will be attentive to the pricing implications arising from setting losses. In the interim, no bulk loss adjustment by the Authority should be made.

Authority's Analysis

The Authority noted that the volume of MP loss WAE (3,714ML) represented 15% of total bulk WAE.

However, not all MP loss WAEs 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.

The Authority noted Seqwater's submission 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 WAE is excessive in each of its WSSs.

The Authority recommended that prudent and efficient bulk costs associated with loss WAEs should be paid for by customers, but these should exclude the costs associated with loss WAEs held by Seqwater in excess of that needed to meet required actual loss releases.

Seqwater should bear the costs of holding loss WAE 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 WAE and actual losses, the loss WAE should be reviewed by DNRM (and Seqwater) by 30 June 2015.

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. The Authority noted that HP WAE constitutes 28% of total WAE and that loss WAE represents 11% of total WAE. The Authority also notes that both MP and HP customers benefit from losses and this benefit is disproportionate given the restrictions that apply. Accordingly, the Authority considered that costs associated with loss WAE be allocated accordingly to the proposed HUF methodology as opposed to WAE (refer Chapter 4: Renewals Annuity (below)).

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 recommendation that DNRM review and determine the efficient levels of bulk loss WAE. DNRM argue that the volume of WAE needed to cover losses is essentially a function of operation, asset maintenance and contractual arrangements between the scheme operator and customers. 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 (2013a) and QFF (2013b) supported the draft recommendation that DNRM determine efficient bulk loss WAE by 30 June 2015.

Cost of Inefficient Loss WAE

Seqwater (2013a) supports the Draft Report recommendation that costs of (any) inefficient loss WAE, as identified by DNRM, be borne by Seqwater. Seqwater submit 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 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 in the Warrill Valley WSS where there are not yet water allocations, but rather 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 Warrill Valley WSSs. 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 Warrill 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.

DNRM (2013a) can meet the Draft Report's deadline of 30 June 2015 to amend the Moreton ROP to include the Warrill Valley WSS. Accordingly, the Authority remains of the view that the efficient level of bulk loss WAE associated with the Warrill Valley WSS be reviewed and determined by 30 June 2015.

Cost of Inefficient Loss WAE

Seqwater and QFF submitted that costs associated with (any) inefficient loss WAE be identified subsequent to DNRM's review with these costs to 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 Warrill 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;

(c) the methodology for apportioning renewals between MP and HP WAEs; and

(d) the methodology to calculate the renewals annuity.

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

Seqwater estimated that it has under management about 74 bulk water storage assets relevant to entitlement holders in SEQ, including irrigators, local government authorities, industrial users and the SEQ WGM. Seqwater (2012c) 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 HP water treatment plants, although preliminary condition and criticality data for Irrigation Meter fleets in the Warrill 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.

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 forecast items included meter replacement costs.

The findings of these detailed reviews were applied where possible to other similar renewals 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 (2012aq) submitted that the opening balance for the Warrill Valley WSS was negative $298,133.

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 substantially below 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*
Warrill Valley	475,223	217,922	(257,301)

Source: Indec (2012).

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

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

	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*
Direct	42,137	55,434	29,990	20,801	69,560
Non-direct	14,944	21,968	9,134	6,336	21,187
Total	**57,081**	**77,402**	**39,124**	**27,137**	**90,747**

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*
Warrill Valley	44,298	150,315	194,613

Source: Indec (2012).

Opening ARR Balances 1 July 2013

Based on the steps noted above, Seqwater's submitted opening balance for 1 July 2013 is as shown in Table 4.4, compared to the 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*
Warrill Valley	(298,133)	(575,422)

Source: Indec (2012).

Other Stakeholders

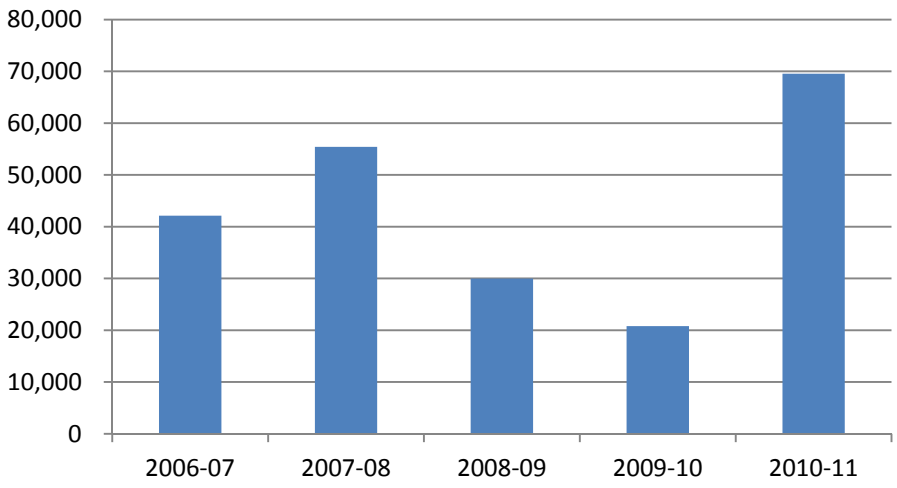
No other stakeholders have provided submissions on this topic.

Authority's Analysis

Renewals Expenditure 2006-13

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

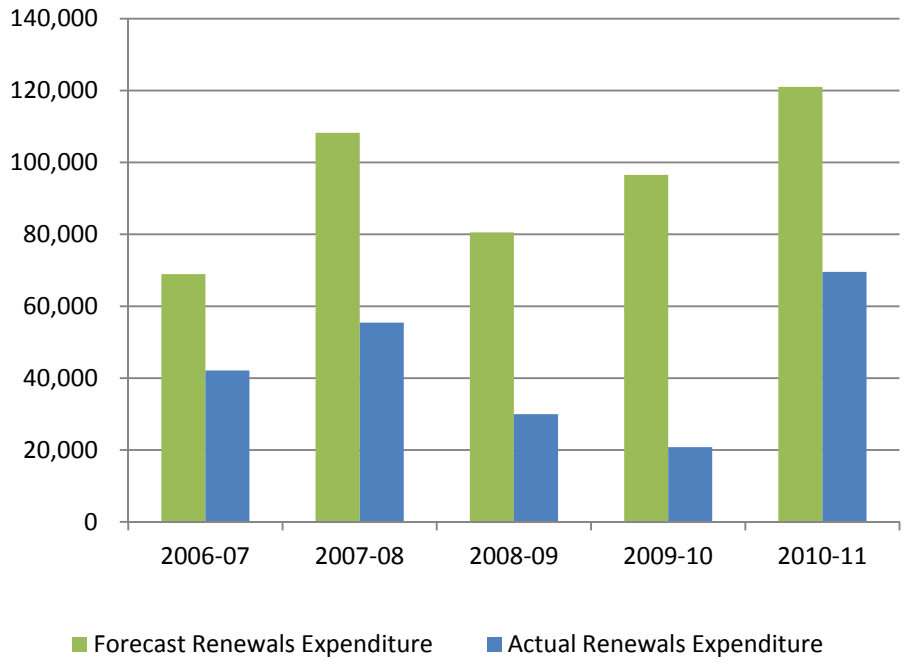
Figure 4.1: Past (Actual) Direct Renewals Expenditure 2006-11 (Nominal $)



Source: Indec (2012).

A comparison of forecast and actual direct renewals expenditure in the Warrill 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. Relevant WSSs were transferred to Seqwater on 1 July 2008.

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

If the seven (now Seqwater and former SunWater) WSSs had been part of the SunWater review, the 4% cost reduction would have applied, as the same (SunWater) approach applied to asset planning and expenditure in the (now) Seqwater 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 Warrill 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), expenditure incurred in this year (all WSSs) could not be considered prudent and efficient.

However, an amount of $29,070 in direct expenses for work on Moogerah Dam in 2008-09 was considered acceptable as it related to verifiable dam safety related requirements.

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

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

Conclusion

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

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

(b) as Seqwater has been unable to substantiate past renewals expenditure during its first year of operating the former SunWater schemes (2008-09), renewals expenditure in that year has been reduced to zero, with the exception of provision of $29,070 for Moogerah Dam expenditure; and

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

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	42,137	55,434	29,990	20,801	69,560	44,298	150,315
Authority Recommended	40,893	53,846	29,070	20,801	69,560	44,298	150,315

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 Warrill Valley WSS is negative $568,965 compared to Seqwater's proposed negative $575,422.

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

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

4.3 Forecast Renewals Expenditure

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

Draft Report

Stakeholder Submissions

Seqwater

Seqwater (2012aj) has 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 has not attempted to include minor renewals projects (under $10,000) or water treatment plants in recreation areas (regardless of cost) as part of its forecast costs.

Seqwater's approach was adopted to focus the renewals forecasting effort on major predictable items of renewals expenditure. Seqwater used the existing Facility Asset Management Plans (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 (higher than average value) proposed renewals expenditure items for the Warrill 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*
Moogerah Dam	120	0	0	0
Upper Warrill Diversion Channel	0	75	78	0
Normanby Gully Diversion	0	6	0	10
Meters	145	145	78	78
Total	**265**	**226**	**156**	**88**

Source: Seqwater (2012az). 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) Moogerah Dam – ladders. Replacement of wire rope access ladder on wall ($100,000 in 2013-14);

(a) Moogerah Dam – concrete structure. Repair of concrete wall ($20,000 in 2013-14);

(b) Meter refurbishment ($145,000 in 2013-14, $145,000 in 2014-15, $78,000 in 2015-16, and $78,000 in 2016-17); and

(c) Upper Warrill Diversion Channel. Scour valve replacement ($36,000 in 2014-15 and $24,000 in 2015-16).

As part of its renewals program, Seqwater is also seeking to recover the cost associated with water meters. Specifically, Seqwater's business case in this regard outlines costs for:

replacing existing meters; moving meter locations to comply with Workplace Health and Safety (WHS) requirements; and modifying existing meter works to comply with the meter manufacturers' specifications (to ensure accuracy).

For Warrill 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*
Warrill Valley	290	546	336	1,172

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) questioned whether insurance should be off-setting some forecast renewals costs, including those scheduled to occur from 2012-13 to 2013-14.

Stakeholders during the Round 1 consultations in June 2012 (QCA 2012c) questioned:

(a) why Warrill Valley WSS is being used as the pilot program as part of national metering policy implementation;

(b) whether the benefits associated with increased meter accuracy are greater than the costs of the new meters when irrigators' volumes are relatively modest; and

(c) given that the Warrill Valley pipeline diversion channel has collapsed, why the NSP is silent on expenditure being made available for this purpose.

Authority's Analysis

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

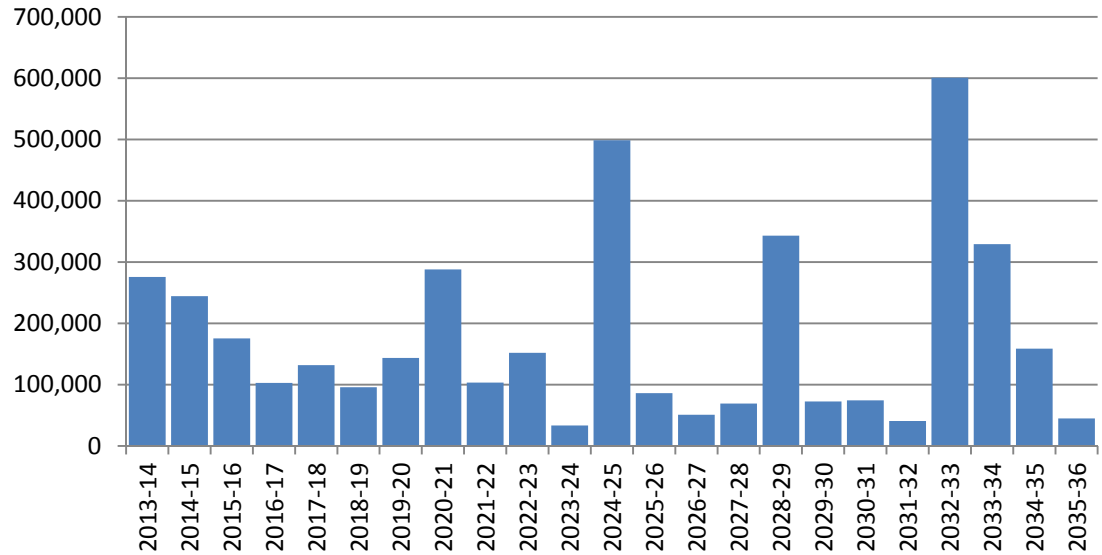
SKM concluded that although Seqwater may not currently have good asset condition information due to the lack of condition information transferred from previous operators, the policies and procedures Seqwater has adopted to assess the condition of its assets will rectify this situation over time. Accordingly,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

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

Total Costs

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

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



Source: Seqwater (2012az).

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

In response to stakeholder concerns that Warrill Valley WSS is being used as a pilot program to implement the national water metering policy, Seqwater submitted, and the Authority confirmed, that no costs associated with the National Framework for Non-urban Water Metering (Commonwealth of Australia 2009) were allocated to irrigators. This is consistent with the Ministerial Direction which does not allow Seqwater to recover any capital costs incurred in adopting a national metering standard. Seqwater submitted that the program of works includes addressing Seqwater's WHS obligations and ensuring meters have been installed in accordance with manufacturers' specifications. SKM's review of meter replacement costs is provided below.

In response to stakeholder concerns regarding the net-benefits associated with installing new meters to increase accuracy, the Authority noted that metering is required for reasons other than merely providing an irrigator with an indication of the volume of water being used. As noted by SKM (2012) metering is required for billing purposes and for the reporting of water use in the context of sustainable resource management. As an example, Schedule 3 of the IROL for Warrill Valley WSS requires the licensee (that is, Seqwater) to measure and record diversions of water by each of its customers on a quarterly basis. Therefore, not only are the benefits of increased accuracy not isolated to providing irrigators better information, but accurate metering is a condition of Seqwater's IROL.

In response to stakeholder concerns regarding the net-benefits associated with installing new meters when irrigators' volumes are relatively modest, the Authority noted that Queensland is signatory to the NWI, which seeks that metering be undertaken in circumstances that include: for entitlements identified in a water planning process as requiring metering and where WAE are traded.

However, as the Authority was also mindful of the need for expenditure to be warranted (prudent and efficient) the Authority considered that Seqwater should develop and provide for consultation a policy on which customers require new meters. This policy should include consideration of the relative costs and benefits (along with the practicalities of installing and reading meters), particularly where irrigators have modest nominal WAE and/or no pumping infrastructure.

In response to stakeholders' submission that the Warrill Valley pipeline diversion channel has collapsed, Seqwater indicated that they have been aware that structural concerns have developed over the last 8 to 10 months regarding the condition of the Warroolaba Diversion Pipeline. Although some repairs have recently been undertaken, ongoing monitoring will continue and if any substantial work is required, Seqwater propose that any costs will be addressed through an ex-post review prior to the commencement of the 2017-23 regulatory period.

Item Reviews

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

Items reviewed included:

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

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

Item 1: Warrill Creek Diversion Weir – Access Road and Hardstanding

Seqwater

Seqwater (2012aq) initially submitted that this renewals item is scheduled to occur in 2028-29 at a cost of $194,000. Seqwater subsequently revised the forecast cost to $69,300, based on a revised scope of works.

Other Stakeholders

No other stakeholders provided comment on this item.

Consultant's Review

Project Description

This project is for the renewal of the access road and hardstand at the Warrill Creek Diversion Weir. The project is to renew 700 metres of a 4 metre wide access road and 300 m^2 of hardstand. The project is a single project, scheduled to occur in 2028-29.

Project Status

The project is to be undertaken in 2028-29. In the Seqwater Asset Delivery Framework, the project is to be classified as pre-implementation, in the Concept and Feasibility phase, meaning prior to preliminary design. SKM considers that the available information on this project is consistent with the current status of the project.

Provided documentation

The documents used for this review are:

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

(b) Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47 – Report on Methodology, Seqwater, April 2012;

(c) Central Lockyer Valley WSS – Network Service Plan, Seqwater (undated);

(d) Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Report – Central Lockyer Tariff Group, Seqwater, April 2012;

(e) Information Request Response – QCA Irrigation Price Review 2013-17: RIF008 Warrill Creek Diversion Weir – Access Road and Hard Standing, Seqwater, 8 August 2012;

(f) SM Project Outline: Warrill Creek Diversion Weir – Access Road and Hard Standing, Seqwater (undated); and

(g) Asset Assessment Form: Clarendon Diversion Baulks and Trash Screens, Seqwater, 13 February 2012.

The provided documentation has been adequate to conduct an initial review of this project.

Prudency

This project has been identified as being necessary to operate the Warrill Valley WSS. The access road and hardstanding provides access to the Warrill Creek Diversion Weir. This asset provides water to the Kent's Lagoon which supplies over 200 irrigators. Currently the site is accessed approximately 10 times a week to review instrumentation and control equipment. Given access is required to the site in all weather conditions, the road must be of suitable standard. This Warrill Creek Diversion Weir site will continue to be in use indefinitely.

The construction of the access road and hard stand is such that periodic renewal and refurbishment is required and, as such, is required to operate the Warrill Valley WSS.

Policies and Procedures

The project is not due to be implemented until 2028-29 and is currently at the concept phase. Whilst the level of documentation available for this project is minimal, it is in line with the current status of the project. Seqwater indicated that a formal condition assessment and detailed options analysis is scheduled to be undertaken with the expected end of the asset life in the Validation and Planning phase. SKM considered 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. SKM also recommended that the above approach is suitably documented.

Timing of asset replacement or refurbishment

The Warrill Creek Diversion Weir access road and hardstanding were constructed in 1998. Renewal is based on Seqwater's standard useful asset life for roads and drainage of 30 years, which aligns to planned renewal in 2028-29.

SKM considered that whilst asset age is a useful indicator for renewal timing, the actual timing of replacement should be based on asset condition. SKM noted that corrective maintenance has occurred on the road since construction, but no further details were available.

Based on SKM's site visit on 16 August 2012, the road appears in a fair condition and is currently suitable for accessing the weir. 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.

However, the condition of the road should be monitored, particularly after significant wet periods. Minor potholes should be corrected as part of ongoing maintenance. If more significant potholes develop, it is recommended that the timing of the works be reviewed and, if required, brought forward.

Scope of works

The original scope of works for the project was to re-grade and reconstruct 700 metres of a four metre-wide access road and 300 metres^2 of hardstand. Following a desktop review, the project costs were reduced based on renewal of the gravel surface only. The scope of works was considered to be adequate for the project.

Efficiency

No formal standards have been used in the concept design of the access road. The minimum practical requirements include the capacity to allow access in all conditions. WHS compliance also requires access to be safe for workers and contractors.

The renewal of the existing gravel surface with a similar surface was considered adequate.

Project cost

The original project cost of the road replacement was based on *static asset data*. This was based on the replacement book value of the asset of $194,000 as provided by SunWater. Over July 2012, Seqwater undertook a further desktop review of the project and has revised the cost estimate to $69,300. The revised estimate is based on renewal of the gravel surface only and is based on Rawlinson's 2012 estimation rates.

The revised project scope is to undertake a renewal of the existing road, rather than a complete replacement which requires significantly less effort. For example, any ground works undertaken in the initial formation of the road are unlikely to be required to be undertaken again during a renewal.

Seqwater provided an indicative budget and this was compared to SKM's estimate as outlined below in Table 4.8.

Table 4.8: Seqwater's and SKM's Estimates Compared (Real $)

Component	*Seqwater Estimate*	*SKM Estimate*	*Difference*
Design	8,000	4,000	(50%)
Procurement	8,000	4,000	(50%)
Supply & Installation	40,300	63,925	59%
Seqwater Internal Costs	13,000	8,000	(38%)
Total	**69,300**	**79,925**	**15%**

Source: SKM (2012).

SKM assessed Seqwater's cost estimate for the project to be within 30% of the SKM's estimates and it was therefore considered efficient.

SKM recommended that Seqwater undertakes options analysis prior to the implementation of the project. Consideration of any ongoing maintenance costs (for example repair of potholes) versus the renewal costs, may impact the timing of the project.

Conclusion

The project was assessed as prudent as the access road and hardstand is required to operate the Warrill Valley WSS. The timing of the works was considered accurate and the scope of works is reasonable.

The project was assessed as efficient as the scope of works is appropriate, the standards of works were consistent with industry practice and the revised project costs were consistent with prevailing market conditions. The original estimate of $194,000 was considered to not be efficient.

Authority's Analysis

Based on the SKM analysis, the Authority concluded that the originally submitted expenditure of $194,000 on the access road and hardstandings (scheduled to occur in 2028-29) is prudent but not efficient. Seqwater's revised estimate of $69,300 was considered efficient.

Item 2: Meter Replacements

Seqwater

Seqwater submitted that expenditure of $290,000 in 2013-14 to 2014-15, $546,000 in the 2015-16 to 2021-22 period and $336,000 in later years is required to replace water meters in the Warrill Valley WSS.

Other Stakeholders

No other stakeholders made comment regarding this item.

Consultant's Review

SKM reviewed metering costs across all schemes with a particular focus on 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 Warrill Valley WSS. Metering is required for management of water supplies, reporting and billing purposes.

Prudency

SKM's conclusions in regard to the prudency of meter replacement costs across the two reviewed schemes (and inferred for Warrill 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 WHS requirements with installation modifications to meet manufacturer's guidelines. SKM supports this proposed high level scope of works with installation modifications to meet manufacturer'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 Mary Basin ROP; and

(d) the installation of lower cost mechanical meters was supported (rather than NWI compliant magnetic flow meters) on the grounds there are very few high use irrigators and use levels change frequently. SKM also supports Seqwater's decision to replace the existing meters with relatively low cost mechanical meters.

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

In summary, SKM found that:

(a) for the first three years, 2012-13 to 2014-15, the proposed replacements at 95 meters per year to meet WHS standards is prudent;

(b) for the seven years, 2015-16 to 2021-22, meter replacements at 70 per year were considered prudent for the first six years, but not the final year; and

(c) for 2022-23 onwards, ongoing renewal at 70 per year was considered only partially prudent, that is, meter replacement was not required for all years. On the basis that the fleet of at least 700 active water meters will have been replaced during the first 10 years of the program, and the useful asset life of the meters is 15 to 20 years, there should be no planned replacements until after these assets have passed their useful

lives. SKM considered the renewal of meters from 2022-23 to 2027-28 not to be prudent.

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

Efficiency

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

The comparison is shown in Table 4.9.

Table 4.9: Comparison of Meter Installation Costs

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

Source: SKM (2012).

SKM considered that the lower cost proposed by Seqwater could be explained by the bulk purchasing of meters and the cost savings from appointing a single contractor on the overall project. SKM considered Seqwater's proposed cost to be efficient.

A comparison of Seqwater's proposed costs and SKM's revised costs for Warrill Valley WSS is outlined below in Table 4.10.

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

	2013-14 to 2014-15	*2015-16 to 2021-22*	*2022-23 to 2035-36*	*Total*
Seqwater proposed costs	290	546	336	1,172
SKM revised costs	290	465	216	971

Source: SKM (2012).

Authority's Analysis

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

The Authority, based on the SKM analysis, concluded that the expenditure associated with metering associated with the Warrill Valley WSS be adopted as outlined, above, in Table 4.10.

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 5 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 5 to 6 years operating under these conditions, the accuracy of irrigation meters deteriorates.

In Round 2 consultations (January 2013), irrigators considered they should not pay for the cost of making access to meters safe as irrigators themselves have to go down the banks to access pumps in the same conditions.

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.

The costs associated with managing and minimising health and safety risks are considered to be a legitimate part of water service costs.

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: Replacement of Control Equipment

Seqwater

This renewals item represents the replacement of control equipment at Warrill Creek Diversion Weir, scheduled for 2033-34 at a cost of $98,000.

Other Stakeholders

No other stakeholders provided comment regarding this item.

Consultant's Review

SKM reviewed proposed capital expenditure on replacement of diversion control equipment at Clarendon Dam in the Central Lockyer Valley WSS. This project had a cost of $174,000 in 2028-29. Given similar characteristics, the results of this review were considered for application to the forecast renewals items at Warrill Creek Diversion Weir and Moogerah Dam.

Replacement of the control equipment involves a full control panel fitted with programmable logic controller (PLC), telemetry and SCADA equipment, and necessary water level sensing devices.

Prudency and Efficiency

SKM considered that replacement of the Clarendon Dam diversion control equipment is prudent noting that:

(a) the equipment is necessary to meet the requirements of Seqwater's operating plan, that is, the IROL;

(b) remote control of the equipment is necessary in the Central Lockyer Valley WSS case to maximise access to infrequent water harvesting opportunities. Remote start-up and shut-down capability comprises some $25,000 of the total cost; and

(c) while a 35-year life is proposed by Seqwater, this was considered to be at the outer end of expected life of such equipment. In SKM's experience, control equipment typically reaches obsolescence after 15-20 years. A condition assessment in August 2012 indicated that some automated components were not functional. SKM indicated that earlier replacement was likely to be necessary given the criticality of the equipment, which would mean bringing forward the proposed replacement to 2013-14. SKM recommended Seqwater review the timing of the project.

SKM's review of efficiency of proposed costs was based on market valuations and historic benchmark costs from similar projects. In the Central Lockyer Valley WSS, SKM's estimate of $164,000 compared to Seqwater's estimate of $174,000. SKM therefore considered Seqwater's estimated cost to be efficient.

SKM noted that, as for the Clarendon Dam example, the Warrill Valley project consists of replacing existing control equipment to meet the requirements of the operating plan. SKM concluded that on the proviso that Seqwater follows the same process for the development of the project (and associated costs) as applied in Central Lockyer Valley WSS, the results of this review can be applied to the proposed works at Warrill Creek Diversion Weir. On this basis, SKM concluded the expenditure to be prudent and efficient.

Authority's Analysis

Based on the SKM analysis, the Authority concluded that the proposed expenditure be adopted as prudent and efficient

Item 4: Gauging Stations

Seqwater

This renewals item is the replacement of the Warrill Creek gauging station scheduled for 2022-23 and in 2032-33 at a total cost of $140,000.

Other Stakeholders

No other stakeholders provided comment regarding this item.

Consultant's Review

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

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

Prudency and Efficiency

SKM considered the gauging stations associated with the storages in the Central Lockyer Valley WSS are prudent on the basis that they are 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 Valley WSS, 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 Warrill Valley WSS, SKM concluded that given the Warrill Creek gauging station is also a requirement of the Moreton ROP, the findings on prudency can be applied.

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

Authority's Analysis

The Authority accepted SKM's conclusion that the proposed expenditure is prudent. The Authority also noted SKM's recommendation that a conclusion on efficiency could not be considered for application to the Warrill Valley WSS.

However, given the similar nature of the assets, and the fact that SKM's estimate for the Central Lockyer Valley 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 Warrill Valley WSS is also efficient.

Item 5: Air Valves - Upper Warrill Diversion

Seqwater

The renewals item of the replacement of three double air valves at the Upper Warrill Diversion in 2025 at a total cost of $43,000.

Other Stakeholders

No other stakeholders provided comment regarding 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 Upper Warrill Diversion.

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 that 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 Upper Warrill Diversion.

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. Therefore the Authority determined that the proposed expenditure is not efficient.

The Authority therefore applied the same reduction to the Upper Warrill air valves, that is, the efficient cost is estimated at $32,200.

The Authority noted the outcome of the SKM review that expenditure associated with Item 4, the replacement of air valves at Upper Warrill Diversion can be considered to be both prudent and efficient.

Item 6: Trash Screens

Seqwater

These renewals items are for the replacement of trash screens at:

(a) Upper Warrill Diversion - $3,000 in 2025; and

(b) Kent's Lagoon Diversion Weir - $5,000 in 2035.

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

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

Prudency and Efficiency

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

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

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

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

In addition, there are a number of variables including design, size, location (that is, pump station, weir, dam), site specific conditions (such as flow of creek/river/dam) and whether the renewals expenditure is for replacement or refurbishment. 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 noted the outcome of the SKM review that the conclusions regarding Clarendon Diversion trash screens cannot be considered for application to Warrill Valley WSS.

Accordingly, the Authority recommended that a generic saving of 13% as determined by the Authority, be applied.

Conclusion

Draft Report

Sampled Items

In summary, one item was sampled (that is, Warrill Creek Diversion Weir – Access Road and Hardstanding) and was found to be prudent and efficient.

Proposed expenditure on meter replacements was found to be prudent and efficient in the case of installations made in 2013-14 and 2014-15 but not efficient in later years. SKM's revised cost estimates were adopted.

Four other reviews undertaken by SKM in other schemes were considered to be applicable to the Warrill Valley WSS.

Two items (the replacement of control equipment and replacement of air valves) were found by SKM to be prudent and efficient in other schemes, and the results were considered to be applicable to Warrill Valley WSS. However, the Authority considered that the air valves expenditure was not efficient as Seqwater's forecast cost was more than 30% higher than SKM's estimate.

While proposed expenditure on gauging stations in Central Lockyer Valley WSS was found to be prudent and efficient, only the conclusion on prudency was considered applicable to Warrill Valley WSS. Similarly, SKM's conclusions regarding the prudency and efficiency of Clarendon Diversion trash screens could not be translated to Warrill Valley WSS.

These two items, therefore, were categorised as non-sampled items and subject to the appropriate implied cost saving (see below).

Non-Sampled Forecast Renewals Expenditure

As discussed in Volume 1, the Authority did not review all past or forecast renewals expenditure for prudency and efficiency as Seqwater forecast total renewals expenditure of $56 million (about 500 forecast renewals projects), over the Authority's recommended 20-year planning period. It was therefore not practicable, nor desirable given the potential costs involved, to assess the prudency and efficiency of each planned expenditure item. The direct (non-metering) forecast renewals cost savings identified by SKM are summarised in Table 4.11.

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

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

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

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

The reviews identified systemic errors in Seqwater's renewals expenditure forecasting approach. Hence, the Authority considered it likely that the non-sampled renewals expenditure proposed by Seqwater would 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, results 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.

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

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

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

	Item	*Year*	*Seqwater*	*Authority's Findings*	*Recommended*
Sampled Items					
1.	Warrill Creek Diversion Weir – Access Road and Hardstanding	2028-29	194 (69.3)[1]	Prudent but not efficient	69.3
2.	Metering	2013-14 to 2014-15	290	Prudent and efficient	290
		2015-16 to 2021-22	546	Partially prudent	465
		2022-23 to 2035-36	336	Partially prudent	216
Results Applied from Other Reviews					
3.	Replacement of Control Equipment – Warrill Diversion	2033-34	98	Prudent and efficient	98
4.	Gauging Stations	2022-23 & 2032-33	140	Prudent and efficient	140
5.	Replacement of Air Valves – Upper Warrill Diversion	2025	43	Prudent but not efficient	32
6.	Trash Screens - Upper Warrill Diversion	2025	3	Results could not be applied to assess prudency or efficiency - 13% saving applied	2.6
	Trash Screens – Kent's Lagoon Diversion Weir	2035	5	Results could not be applied to assess prudency or efficiency – 13% saving applied	4.35
Non-Sampled Items					13% saving applied

Source: Seqwater (2012az) and QCA (2012) Note: Seqwater originally submitted an amount of $194,000 but later revised its estimate to $69,400.

4.4 Seqwater's Consultation with Customers and Reporting

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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.

Stakeholders during consultations in June 2012 (QCA 2012c) submitted that the communication and service provided to irrigators in this WSS, particularly by the operations team based at Moogerah Dam, was of a high standard and required no further improvement in terms of consultation. Instead of a full consultation program, as recommended for SunWater, a brief summary of actual costs against budget may be sufficient. Alternatively, if the Authority's review reveals cost details, irrigators may not need to consider costs further until the next price review for prices beyond 30 June 2017.

Other stakeholders suggested that there needs to be a standard consultation and communication process which includes a recognised and agreed group of irrigator representatives.

Authority's Analysis

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

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

In addition, Seqwater should also be required to 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.

The Authority also noted the specific comments made by the irrigators of Warrill Valley WSS that consultation with the operations team based at Moogerah Dam requires no substantive improvement. However, the Authority also noted that irrigators go on to make two suggestions regarding how improvements could be achieved.

The Authority considered that this approach is largely consistent with irrigators' views that no substantive improvement is required to current arrangements. However, the Authority considered that it is not sufficient for irrigators to merely view proposed renewals expenditures, but that explanations be provided by Seqwater regarding variations to budgeted and actual expenditure. Irrigators' views regarding these variations are also important and need to be considered.

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 accepted.

In consultation during January 2013, irrigators noted that it has been difficult to represent the views of scheme users since the irrigator committees were disbanded by SunWater and not re-established by Seqwater.

At a subsequent meeting with irrigators in March 2013, there was support for the annual cost of $7,000 for NSPs and scheme advisory committees.

Authority's Response to Submissions Received on the Draft Report

Options Analysis

No material renewals items are forecast for the Warrill 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 Authority would consider an application for an end-of-period adjustment to prices, to allow Seqwater to recover associated costs.

NSPs and Consultation

The Authority notes that Seqwater's Statement of Obligations explicitly requires Seqwater to consult with irrigation customers. It does not 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 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 Warrill Valley WSS and is treated as a fixed irrigation only direct bulk cost.

The precise 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

Previous Review

For the 2006-11 price path, the renewals costs for the Warrill Valley WSS bulk water infrastructure were apportioned between priority groups using converted nominal water allocations. The conversion to MP WAE for the Warrill Valley WSS was determined by a WPCF of 2.6:1; that is, 1 ML of HP WAE was considered equivalent to 2.6 ML of MP WAE.

Draft Report

Stakeholder Submissions

Seqwater

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

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

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

Step 1: Identify the water entitlement groupings for each scheme and establish which groups are to be considered as HP and MP.

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

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

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

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

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

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

Table 4.13: Summary of HUF Methodology

Drought Period	*Drought Period With Minimum Inflows*		*Drought Period Without Minimum Inflows*	
	Medium Priority (%)	*High Priority (%)*	*Medium Priority (%)*	*High Priority (%)*
10 year	14	86	11	89
15 year	15	85	11	89
20 year	15	85	11	89

Source: Parsons Brinckerhoff (2012).

Key findings as outlined above in Table 4.13 include:

(a) the exclusion of minimum inflows has not decreased HUF percentages as much as has occurred in other WSSs. The decrease in HUF is 27% for the 15 and 20 year drought periods (from 15% to 11%);

(b) HP WAE holders tend not to be impacted by drought conditions as they rely heavily on headworks; and

(c) MP WAE holders are impacted slightly by inflows provided by tributaries and the Upper Warrill Creek.

The HUFs for this scheme (Seqwater 2012) are 11% for MP and 89% for HP.

Other Stakeholders

No other stakeholders have provided comment regarding this topic.

Authority's Analysis

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

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

volumes are reached more often, resulting in a smaller proportion of costs being attributed to MP.

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

The Authority recommended that Seqwater's proposed HUF methodology be adopted for Warrill Valley WSS.

The Authority estimated that based on the HUF methodology, the conversion for MP to HP would be 20.8:1. This compared with the WPCF of 2.6:1 used for 2007-12 price path. Further, the Authority noted that under the HUF approach, MP irrigators will now pay 11% of the cost of renewals whereas previously MP irrigators paid 57%.

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

The Authority proposes no change to its Draft Report recommendation.

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 Warrill Valley WSS the draft and final recommended renewals annuities for 2013-17 are in Table 4.14. The renewals annuity for 2006-13 is also presented for comparison.

The slight change in renewals annuities is due to a change in the Weighted Average Cost of Capital (WACC) rate used to determine the annuity, from 5.86% to 6.2%. The WACC has increased due to an increase in the risk-free rate, leading to increased costs of equity and debt. Refer Volume 1 for further details.

Table 4.14: Warrill Valley WSS Renewals Annuity (Nominal $)

	2006-07	*2007-08*	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2016-16*	*2016-17*
Seqwater (April)	**359,355**	**396,848**	**434,344**	**478,075**	**419,718**	**482,443**	**536,308**	**161,952**	**169,888**	**174,684**	**177,357**
Seqwater (November)	**91,632**	**96,724**	**44,171**	**51,957**	**45,978**	**52,625**	**58,280**	**207,714**	**212,742**	**215,234**	**216,031**
Authority - Draft											
High Priority	-	-	-	-	-	-	-	94,145	98,486	99,311	98,111
Medium Priority	-	-	-	-	-	-	-	66,920	67,755	68,176	68,369
Total Authority	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**161,065**	**166,241**	**167,487**	**166,480**
Irrigation Only	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**66,920**	**67,755**	**68,176**	**68,369**
Authority - Final											
High Priority	-	-	-	-	-	-	-	96,807	101,142	102,025	100,919
Medium Priority	-	-	-	-	-	-	-	66,179	66,961	67,401	67,652
Total Authority	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**162,986**	**168,103**	**169,426**	**168,572**
Irrigation Only	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**66,179**	**66,961**	**67,401**	**67,652**

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

5. OPERATING COSTS

5.1 Background

Ministerial Direction

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

Issues

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

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

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

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

(a) does not disaggregate operating costs for each tariff group within schemes where relevant;

(b) provides aggregate operations, maintenance and administration data, with no break down between direct and non-direct costs; and

(c) applies a productivity adjustment to proposed lower bound costs, but does not identify the adjustment applicable to operating expenditure.

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

Authority's Analysis

The Authority acknowledged Seqwater's view that the lower bound cost benchmarks developed for the 2006 price review by SunWater are not directly comparable to Seqwater's forecasts for the current 2013-17 regulated price review. The Authority, nevertheless, considered that the relationship between the operating costs incurred by Seqwater in its irrigation schemes in more recent years and the derivation of its 2012-13 budgets should be explicitly analysed. In particular, the Authority noted the efficiency targets imposed by the Minister for Energy and Water Supply for the 2012-13 Grid Service Charges (GSCs).

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

Final Report

No submissions were received in regard to historical costs for 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	1,150,074	1,142,980	1,155,660	1,034,754	1,032,687
Actual	991,717	2,423,369	n.a.	n.a.	n.a.
Variance	(158,357)	1,280,389	n.a.	n.a.	n.a.

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

5.3 Forecast Total Operating Costs

Operating Cost Characteristics

Operating activities

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

(a) scheduling and releasing bulk water from storages, surveillance of water levels and flow rates in water courses and quarterly meter reading;

(b) customer service and account management;

(c) operating and maintaining recreational facilities; and

(d) complying with

(i) requirements set out in the relevant IROLs, ROLs and ROPs;

(ii) dam safety obligations including under the *Water Act 2000*;

(iii) the *Environmental Protection Act 1994*; and

(iv) land management, workplace health and safety and other reporting obligations.

Operating cost classifications

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

Direct 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. No rates are identified for Warrill Valley WSS; 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 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.

Non-Direct Operating Costs

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

(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); including the costs of IT services, 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 costs of 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;

[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).

(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 (2012aj) submitted forecast total operating costs by activity in Warrill Valley WSS (all sectors).

Seqwater (2012aj) submitted that it has adopted an approach to forecasting whereby operating expenditure 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 has developed its 2012-13 budget on the basis of a zero base build-up, taking into account costs which could be reasonably anticipated at the time of budget development. In addition, Seqwater noted that the 2012-13 operating expenditure forecasts provided in the GSCs submission have been previously 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) direct labour, 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 Warrill 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 2012h); and

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

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

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	337,326	354,542	17,216
Contractors	21,800	15,757	(6,043)
Materials	41,328	40,798	(530)
Electricity	10,156	10,156	0
Other	254,203	177,645	(76,558)
Sub-total	664,813	598,898	(65,915)
Repairs and Maintenance			
Planned	216,862	216,131	(731)
Unplanned	88,578	88,279	(299)
Sub-total	305,440	304,410	(1,030)
Dam Safety	0	0	0
Rates	43,850	43,850	0
Total Direct Operating Costs	**1,014,103**	**947,158**	**(66,945)**
Non-Direct Operating Costs			
Operations			
Water Delivery	103,925	92,953	(10,972)
Asset Delivery	46,397	45,787	(610)
Corporate	371,305	287,028	(84,277)
Other	31,648	7,909	(23,739)
Sub-total	553,276	433,678	(119,598)
Non-Infrastructure	46,232	44,506	(1,726)
Insurance	42,267	37,407	(4,860)
Working Capital	13,842	13,842	0
Total Non-Direct Operating Costs	655,617	529,433	(1**26,184)**
Total Operating Costs	**1,669,720**	**1,476,591**	**(193,129)**

Source: Seqwater (2012h) and Seqwater(2012aq).

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

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

Costs	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Direct					
Operations	598,898	620,037	641,951	664,669	688,223
Repairs and Maintenance	304,410	316,586	329,250	342,420	356,117
Dam Safety	0	0	0	0	27,595
Rates	43,850	44,946	46,070	47,222	48,402
Non-Direct					
Operations	433,678	444,520	455,633	467,024	478,699
Non-infrastructure	44,506	45,619	46,759	47,928	49,126
Insurance	37,407	38,342	39,301	40,283	41,290
Working Capital	13,842	14,188	14,543	14,906	15,279
Total	**1,476,591**	**1,524,238**	**1,573,506**	**1,624,452**	**1,704,731**

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

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

Table 5.4: Seqwater's Operating Costs by Type - Warrill Valley WSS ($ Nominal)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Labour	354,542	368,724	383,473	398,812	414,764
Contractors and Materials	56,555	58,817	61,170	63,617	66,161
Electricity	10,156	10,410	10,670	10,937	11,210
Others	177,645	182,086	186,638	191,304	196,087
Planned Repairs and Maintenance	216,131	224,776	233,767	243,118	252,843
Unplanned Repairs and Maintenance	88,279	91,810	95,483	99,302	103,274
Dam Safety	0	0	0	0	27,595
Rates	43,850	44,946	46,070	47,222	48,402
Non-direct	529,433	542,669	556,236	570,141	584,395
Total	**1,476,591**	**1,524,238**	**1,573,506**	**1,624,452**	**1,704,731**

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

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 needs to be improved.

The Authority also recommended that Seqwater improve its consultation and communication processes with irrigation customers in relation to the forecasting and incurrence of operating costs.

Final Report

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

5.4 Prudency and Efficiency of Direct Operating Expenditure

Introduction

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

Accordingly, the Authority focused its review on 2012-13 budgeted operating expenditure and the method of extrapolation.

Draft Report

For the purposes of the analysis of the prudency and efficiency of operating costs, the Authority has 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 our water sources is meeting regulatory and community standards; and

(f) developing system operating plans to ensure the efficiency and operation of dams, weirs, bores and other water sources.

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

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

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 QCA in its Draft SunWater report, Seqwater has escalated internal labour costs at 4% per annum for the regulatory period 2013-14 to 2016-17;

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

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

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

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

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

Repairs and maintenance for 2012-13 has been escalated at 4% per annum 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. For the Warrill Valley WSS, Seqwater allowed for inspection of Moogerah Dam in 2016-17.

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

Seqwater's proposed direct operating costs by activity (November 2012 NSP) are detailed below 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	598,898	620,037	641,951	664,669	688,223
Repairs and Maintenance	304,410	316,586	329,250	342,420	356,117
Dam Safety	0	0	0	0	27,595
Rates	43,850	44,946	46,070	47,222	48,402
Total	**947,158**	**981,570**	**1,017,271**	**1,054,311**	**1,120,336**

Source: Seqwater (2012aj and 2012aq).

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	354,542	368,724	383,473	398,812	414,764
Contractors and Materials	56,555	58,817	61,170	63,617	66,161
Electricity	10,156	10,410	10,670	10,937	11,210
Other	177,645	182,086	186,638	191,304	196,087
Planned Repairs & Maintenance	216,131	224,776	233,767	243,118	252,843
Unplanned Repairs & Maintenance	88,279	91,810	95,483	99,302	103,274
Dam Safety	0	0	0	0	27,595
Rates	43,850	44,946	46,070	47,222	48,402
Total	**947,158**	**981,570**	**1,017,271**	**1,054,311**	**1,120,336**

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

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 cost categories for this scheme.

Item 1: Materials and Other

Stakeholder Submissions

Seqwater

Forecast materials and other costs for 2013-14 are typically determined by Seqwater by escalating the 2012-13 budget by a factor of 4%.

Seqwater's April NSP's estimate for the 2012-13 budget is $305,700. Seqwater subsequently revised the budget for 2012-13 to $317,000. The forecast for 2013-14 was revised from $271,000 to $314,000. This was the estimate reviewed by SKM.

Actual costs in 2011-12 were $321,000.

Other Stakeholders

QFF (2012) submitted that materials and other costs in the Warrill Valley WSS appear high and should be reviewed.

Consultant's Review

Proposed Operating Expenditure

SKM reviewed the costs as submitted by Seqwater in initial submissions. Seqwater submitted the following associated with the 2013-14 forecast for the operating expenditure item, Materials and Other (Table 5.7 refers).

Table 5.7: Warrill Valley WSS – Materials and Other (Real $'000)

Item	*2012-13 Budget*	*2013-14 Forecast (Seqwater's initial submission)*	*2013-14 Forecast (Seqwater's revised submission)*
Materials and Other	317	271	314

Source: SKM (2012).

Item Description

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

Dam Operations

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. Key outputs are management of dams to ensure safe operation during normal water releases and flood releases, monitoring and ensuring dam safety compliance, maintaining releases from dams to meet demand, meeting resource operation plan compliance, delivering water to irrigation customers, and ensuring water related data is recorded and stored.

Recreational Water Treatment Plant Operation

With respect to irrigation services specifically, this activity is limited to managing the recreation water treatment plants which services visitors to the recreation sites located at the dams or water storages within the Warrill Valley WSS.

Group Support and Catchment Services

Group Support ensures that asset management plans, processes, systems and practices are implemented in accordance with relevant regulatory requirements. This team also contributes to the effective development, implementation and management of the management and reporting systems within Seqwater's Water Delivery Group, as well as the management of third party access and event approval at Seqwater sites and locations.

Water Quality Monitoring

This team manages Seqwater's risk in relation to water quality. The core functions and activities of the Water Quality Team are catchment and water treatment plant monitoring, laboratory and data management services and drinking water quality management.

Documentation Provided

The documents used for this review are:

(a) Information Request Response, RFI023, Materials and Other Warrill Valley WSS, Seqwater, 14/08/2012;

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

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

(d) RFI023 Attachment Warrill Valley Schedule of Info;

(e) RFI023 Attachment Warrill Valley Fleet;

(f) Opex – Irrigation Queries; and

(g) 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) Hazard Analysis and Critical Control Point Plan (HACCP) Plan for a recreational water treatment plant; and

(e) method for calculating the fleet allocation budget.

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

Prudency

Operating the WSS and achieving legislative and ROP compliance requires Seqwater to consume materials and supplies.

The materials and supplies required to operate the Warrill Valley WSS predominantly relate to the operation of assets such as Moogerah Dam (including the catchment and the recreation areas associated with the dam) and the Moogerah Dam (Recreation) WTP.

Seqwater is subject to numerous regulatory obligations. For example, Moogerah Dam is a referable dam under the *Water Supply (Safety and Reliability) Act 2008*. Compliance requirements driving expenditure on materials and other 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; and

(d) Water Quality – Monitoring Expenses: There is no requirement under the Water Act 2000 to monitor quality of irrigation water. However under the ROP, Seqwater is required to monitor water quality in storages, releases and recreational areas. At Moogerah recreational WTP, water quality monitoring requirements are defined in the HACCP Plan which (in effect) is a requirement of the Water Supply (Safety and Reliability) Act 2008.

SKM indicated that Seqwater is not required, under legislation or under the ROP to provide potable water at the recreation facilities. However, Seqwater has determined that all water that it provides for human consumption should be to potable standard. SKM considered that Seqwater's policy in this area is reasonable given the impact on reputation arising from not adopting this policy.

Consequently the operating expenditure item was assessed as prudent.

Efficiency

For expenditure to be efficient it must represent the least-cost means of providing the requisite level of service within the relevant regulatory framework.

Evaluation of costs

A breakdown in costs was provided in response to SKM's request for further information (Table 5.8 refers).

Table 5.8: Seqwater's Breakdown of Costs (Real $)

Sub-item	*2012-13 Budget ($)*	*2013-14 Forecast ($)*
Dam Operations – Materials & Consumables (Moogerah Dam)	25,000	26,000
Dam Operations – Plant & Fleet Hire, Internal (Moogerah Dam)	83,114	86,439
Group Support – Plant & Fleet Hire, Internal (Moogerah Dam)	84,688	88,076
Water Quality Monitoring	37,584	39,088
Water Quality Monitoring (Moogerah Recreation Water Treatment Plan)	41,500	43,160
Total	**271,886**	**282,763**

Source: SKM (2012).

The 2013-14 forecast costs have been determined by escalating 2012-13 actual costs by a factor of 4%.

The breakdown of costs provided by Seqwater identified costs for Dam Operations including materials and consumables in addition to plant and fleet hire. During interviews Seqwater personnel identified expenses associated with equipment and consumables 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 previous expenditure from 2010-11.

SKM noted that the total for 2013-14 of $282,763 is lower than the proposed forecast of $314,000. This was due to some small items not being included in the calculation.

SKM further reviewed the cost components.

Plant and fleet hire internal costs were further broken down as shown in Table 5.9. The fleet allocation budget was determined by calculating a representative annual lease charge, which was 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 was calculated based on historical expenditure.

Table 5.9: Plant and Fleet Costs (Dam Operations) – 2012-13 (Real $)

Fleet/Plant Type	*Description*	*Fleet Allocation Budget ($)*	*Fuel Allocation Budget ($)*
Vehicle	Ford Falcon RTV 4x2 Utility	7,440	4,861
Vehicle	Ford Ranger XL 4x4 Utility	8,400	3,819
Light Mobile Plant	Yamaha TW200 Trail Bike	2,400	400
Truck > 4.5 tonne	Izuzu PV2 1400	13,200	6,884
Watercraft	Sea Jay – 4.9 m aluminum boat	4,920	80
Watercraft	Quintrex Explorer – aluminum boat	2,400	80
Vehicle	Ford Ranger XL 4x4 Dual Cab	9,720	4,843
Vehicle	Ford Ranger Space 4x4	9,300	4,338
	Total	**57,780**	**25,305**

Source: SKM (2012).

No information regarding the number of Seqwater personnel employed at the Warrill Valley WSS has been provided. Therefore, SKM was unable to assess the number of vehicles assigned to Dam Operations. With regards to fuel allocation, utilising a fuel efficiency of 10km/L for all vehicles and fuel cost of 159.996 cents per litre (cpl), the fuel allocation budget provides for between 23,869 km and 30,382 km per annum. Seqwater personnel confirmed that they drove approximately 30,000 km per year. Considering the large distance between sites in the Warrill Valley WSS and its remoteness to major regional centres, SKM considered the fuel allocation budget for vehicles to be reasonable, particularly if (as is expected) operators use these vehicles to travel from home to site.

With regards to fleet and plant types and numbers, SKM had insufficient information to enable a complete assessment of the number of vehicles assigned to Dam Operations. However, as discussed above the fuel budget, which is based on historical consumption suggests a high level of utilisation for vehicles in addition to the truck and motorbike. For watercraft, considering the low fuel budget, SKM considered that one boat would be sufficient to conduct operations. SKM had insufficient information to fully assess the fleet allocation budget. Information required would include number of dam operators, which vehicles are allocated, distances between home and sites and between sites and number of visits per annum (or estimates of vehicle distances travelled in the dam operators carrying out their duties).

SKM noted that Seqwater's applied cost of 159.996 cpl for fuel compares to the RACQ listed retail Brisbane unleaded fuel price for April 2012 of 148.8cpl for unleaded and 153.8 cpl for diesel. 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.

Costs for Group Support identified in the breakdown of costs are for plant and fleet hire internal as shown in below Table 5.10. However the methodology for calculating these costs was not clear in supporting documentation provided. No further materials and other costs were identified for group support.

Table 5.10: Plant and Fleet Costs (Group Support) 2012-13 (Real $)

Fleet/Plant Type	*Description*	*Fleet Allocation Budget ($)*	*Fuel Allocation Budget ($)*
Vehicle	Nissan Navarra ST-X 4x4	9,720	8,971
Tractor/Mower	Kubota F3680	7,400	880
Tractor/Mower	John Deere BL20	10,200	2,400
Tractor/Mower	John Deer K Series	2,400	1,280
Tractor/Mower	Kubota 4x4	2,400	1,280
Vehicle	Ford Ranger Space Cab 4x4	9,500	7,035
Watercraft	Polycraft Ranger Vessel	1,680	1,600
Vehicle	Ford Ranger Space Cab 4x4	9,500	8,016
	Total	**52,800**	**31,462**

Source: SKM (2012).

As detailed above, insufficient information was provided to assess the number of vehicles assigned to Group Support. However, the fuel allocation for vehicles is reasonable and provides for between approximately 44,000 km and 56,000 km per annum for each vehicle. SKM considered vehicle usage to be reasonable, albeit higher than for Dam Operations personnel. The fuel allocation for the watercraft was considered by SKM to be reasonable.

With regards to fleet and plant types and numbers, SKM assessed the watercraft to be reasonable, particularly considering the utilisation inferred from the fuel allocations. SKM questioned the requirement for four tractor / mowers considering that mowing is undertaken by contractors. SKM had insufficient information to enable a complete assessment of the number of vehicles assigned to Group Support. However, the fuel budget which is based on historical expenditure suggested a high utilisation of all vehicles.

Accordingly, SKM had insufficient information to fully assess the fleet allocation budget.

A breakdown of the Water Quality Monitoring costs for Moogerah Dam is provided in Table 5.11. No breakdown of costs is provided for costs of water quality monitoring for the Moogerah recreational water treatment plant, however supporting documentation demonstrating the base costs and requirements for sampling were provided. These documents included rates for contractor water sampling and analysis and an example HACCP Plan.

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 was developed in accordance with resource operating plans, licenses and for the recreational water treatment plant, in accordance with the plant's HACCP Plan. The costs associated with the water sampling program were therefore considered reasonable.

Table 5.11: Water Quality Monitoring Costs – Moogerah Dam (Real $)

Sub-Item	*2012-13 budget ($)*	*2013-14 forecast ($)*
Water Sampling	11,120	11,565
Routine Testing	20,800	21,632
Unscheduled Testing	1,664	1,731
Event Testing	4,000	4,160
Total	**37,584**	**39,088**

Source: SKM (2012).

Summary

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

The operating expenditure was assessed efficient, with the exception of the fleet allocation budget, 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.

It was recommended that sufficient additional information is provided by Seqwater to enable a complete assessment. This information should include:

(a) number of dam operators to which vehicles are allocated; and

(b) distances travelled by dam operators between home and sites and between sites and number of visits per annum (or estimates of vehicle distances travelled in the dam operators carrying out their duties).

The value of any expenditure considered to be prudent or efficient is outlined below in Table 5.12. In calculating the revised figures, SKM removed the budget for plant and fleet as there was insufficient information to enable a complete review. Further, insufficient information has been provided in Seqwater's revised budget to enable costs to be broken down and reviewed, and the effects of reductions in costs on prudency and efficiency assessed.

Table 5.12: SKM's Revised Material & Other Costs Budget (2012-13) & Forecast (2013-14) (Real $'000)

Item	*Seqwater's Budget 2012-13*	*SKM's Proposed Budget 2012-13*	*Seqwater's Revised Forecast 2013-14*	*SKM Revised Forecast 2013-14*
Materials & Other Costs	317.0	n.a.	314.0	282.6

Source: SKM (2012).

Authority's Analysis

The Authority noted the submission from QFF that Seqwater's proposed materials and other costs appear high and should be reviewed.

SKM recommended a 10% reduction on Seqwater's initial forecast, that is, an estimate of $276,000.

The Authority noted that Seqwater reduced its estimated cost in its November NSP as compared to the April NSP. The revised estimate of $218,400 was significantly lower than SKM's estimate and was therefore adopted.

Conclusion

Draft Report

Sampled Operating Cost Items

The Authority noted that SKM's review was based on a higher earlier estimate provided by Seqwater. As noted above, the Authority adopted the revised lower estimate. Table 5.13 refers.

Unsampled Operating Costs

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

As outlined in Volume 1, the Authority considered there was merit in applying an average, uniform saving to unsampled direct operating expenditure (excluding electricity and rates) of 5%[2].

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) submitted that the Authority's estimate of direct labour in the Draft Report ($327,016 in 2013-14) was an 11% reduction on Seqwater's submitted amount of $368,724. Seqwater suggested that if the 5% adjustment is applied correctly, the amount should be $350,288.

During consultation in January (2013), stakeholders submitted that resources are wasted on contractors who are undertaking work (such as slashing grass near dam) that SunWater staff used to do.

Authority's Response to Submissions Received on the Draft Report

The Authority accepts that the revised direct labour amount was $368,724 for 2013-14 and that the 5% factor was applied to the April 2012 submitted data rather than revised data. However, the Authority proposes to retain the Draft Report estimate.

In response to stakeholder comment regarding Seqwater's use of contractors, the Authority notes that contractors is a cost item that has not been sampled by consultants SKM. As a consequence, a 5% saving has been applied for the 2012-13 year.

The Authority's recommended direct operating expenditure for Warrill Valley WSS is outlined in Table 5.13.

[2] Although the average saving indentified from sampled items was 15.53%, the Authority chose not to include a large reduction in Repairs & Maintenance costs in the Central Lockyer WSS that were included in the original sample in error.

Sampled items are unchanged since the Draft Report.

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

	Seqwater (April NSP)	*Seqwater (November NSP)*	*Authority's Recommended*
Sampled Item			
Materials and Other	306	218.4	218.4
Unsampled Items			
Other Direct Operating Costs			5% saving to apply

Source: SKM (2012), Seqwater (2012aq) and QCA (2012).

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

Summary of Direct Operating Costs

A comparison of Seqwater's and the Authority's direct operating costs for the Warrill Valley WSS is set out in Table 5.14.

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

Table 5.14: Direct Operating Costs (Nominal $)

	Seqwater				*Authority*			
	2013-14	***2014-15***	***2015-16***	***2016-17***	***2013-14***	***2014-15***	***2015-16***	***2016-17***
					Draft			
Operations	620,037	641,951	664,669	688,223	579,556	589,395	599,277	609,194
Repairs and Maintenance Planned	224,776	233,767	243,118	252,843	234,826	240,500	246,252	252,080
Repairs and Maintenance Unplanned	91,810	95,483	99,302	103,274	62,422	63,930	65,459	67,009
Dam Safety	0	0	0	27,595	0	0	0	24,643
Rates	44,946	46,070	47,222	48,402	44,946	46,069	47,221	48,402
Total	**981,570**	**1,017,271**	**1,054,311**	**1,120,336**	**921,750**	**939,895**	**958,209**	**1,001,326**
					Final			
Operations					574,967	584,719	594,514	604,344
Repairs and Maintenance Planned					234,034	239,689	245,422	251,230
Repairs and Maintenance Unplanned					62,212	63,715	65,239	66,783
Dam Safety					0	0	0	24,643
Rates					44,946	46,069	47,221	48,402
Consultation					7,175	7,354	7,538	7,727
Total					**923,334**	**941,547**	**959,934**	**1,003,127**

Source: Seqwater (2012aq),QCA (2012, 2013). Note: Totals vary from NSP due to exclusion of revenue offset (which is dealt with in the following chapter), and rounding.

5.5 Prudency and Efficiency of Non-Direct Operating Costs

Introduction

Seqwater (2012aj) advised that all non-direct costs were assigned to operating expenditure as it does not have sufficiently disaggregated data at the renewals project level for it to allocate non-direct costs to individual renewals projects.

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

For this investigation, Seqwater made adjustments to the aggregate non-direct cost estimates that it submitted to the Authority's GSC investigation to exclude costs not relevant to the

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

Previous Review

As noted above, in the previous review, Indec reviewed 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

As noted in Volume 1, Seqwater submitted that it will incur $9,524,000 in total non-direct costs in 2012-13. Seqwater's approach to the forecasting of non-direct operating expenditures is detailed in Volume 1.

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

In brief, Seqwater forecast non-direct costs by deriving the costs for a representative base year (2012-13) and escalating forward over each year of the regulatory period by the CPI, estimated to be 2.5% per annum

Seqwater proposed that the total direct costs of each service contract be used to allocate non-direct costs except for insurance premium costs which are allocated on the basis of asset replacement values.

Total Seqwater non-direct costs and those allocated to the Warrill Valley WSS are outlined in Table 5.15 below.

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

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater	9,523,510	9,761,598	10,005,638	10,255,779	10.512,173
Warrill Valley WSS	529,435	542,669	556,236	570,141	584,395

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

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 regarding this review and further analysis by Seqwater of bulk water costs.

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

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

Costs	*April NSP*	*November NSP*	*Variance ($)*	*Variance (%)*
Water Delivery	103,925	92,953	(10,972)	(11)
Asset Delivery	46,397	45,787	(610)	(1)
Business Services	256,493	185,785	(70,708)	(28)
Organisational Development	104,521	87,466	(17,055)	(16)
Executive	10,292.3	13,777	3,486	34
Other	31,648	7,909	(23,739)	(75)
Total Operations Non-Direct	**553,276**	**433,678**	**(119,598)**	**(22)**

Source: Seqwater (2012h) and Seqwater (2012aq).

Corporate functions have been defined as comprising the office of the CEO and the Organisational Development and Business Services group. 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, monitoring and maintenance of various servers and network infrastructure, demand management, application management, strategy maintenance and development, business analysis and subject matter expert advice.

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

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

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Operations					
Water Delivery	92,953	95,277	97,659	100,101	102,603
Asset Delivery	45,787	46,932	48,105	49,307	50,540
Business Services	185,785	190,429	195,190	200,070	205,072
Organisational Development	87,466	89,653	91,894	94,191	96,546
CEO	13,777	14,122	14,475	14,837	15,208
Other	7,909	8,107	8,310	8,517	8,730
Sub-Total Operations	**433,678**	**444,520**	**455,633**	**467,024**	**478,699**
Non –Infrastructure Assets	**44,506**	**45,619**	**46,759**	**47,928**	**49,126**
Insurance	**37,407**	**38,342**	**39,301**	**40,283**	**41,290**
Working Capital	**13,842**	**14,188**	**14,543**	**14,906**	**15,279**
Total	**529,433**	**542,669**	**556,235**	**570,141**	**584,395**

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

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

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

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

Seqwater allocated its 2012-13 premium to the Warrill 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 Authority has already adopted a methodology for calculating Seqwater's working capital in GSCs. Seqwater calculated the working capital allowance using this methodology and the values submitted to the Authority for 2012-13, at $5.538 million.

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

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

Authority's Analysis

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

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

Seqwater (2012aj) has taken these adjustments into account in its revised submission to the Authority. As these costs have been approved by Government, the Authority 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.

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

In response to Seqwater, as insurance service provision is a competitive market, it should be possible to negotiate savings in premiums. However, the Authority agrees that since the

flood inquiry and other events subsequent to the Draft Report, it may not be reasonable for Seqwater to be expected to achieve year-on-year reductions in insurance premium costs.

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

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

Table 5.18: Non-Direct Operating Costs (Nominal $)

	Seqwater				*Authority*			
	2013-14	*2014-15*	*2015-16*	*2016-17*	*2013-14*	*2014-15*	*2015-16*	*2016-17*
					Draft			
Non-Direct Operations	444,520	455,633	467,024	478,699	421,565	427,807	434,038	440,250
Non-Infrastructure	45,619	46,759	47,928	49,126	42,964	43,367	43,764	44,154
Insurance	38,342	39,301	40,283	41,290	37,767	38,122	38,470	38,813
Working Capital	14,188	14,543	14,906	15,279	0	0	0	0
Total	**542,669**	**556,236**	**570,141**	**584,395**	**502,295**	**509,296**	**516,272**	**523,217**
					Final			
Non-Direct Operations					422,502	428,759	435,003	441,230
Non-Infrastructure					43,036	43,441	43,838	44,228
Insurance					38,342	39,301	40,283	41,290
Working Capital					0	0	0	0
Total					**503,881**	**511,500**	**519,124**	**526,748**

Source: Seqwater (2011aq), QCA (2012, 2013).

5.6 Allocation of Non-Direct Operating Costs

Draft Report

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

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

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

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

Stage 1 – Allocation of Costs to Tariff Groups

Stakeholder Submissions

Seqwater

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

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

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

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

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

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

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

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

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

Authority's Analysis

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

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

Stage 2 – Allocation of Costs Between Priority Groups

Previous Review

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

Stakeholder Submissions

Seqwater

Seqwater proposed that renewals and maintenance costs are allocated to MP using the HUF. Seqwater commissioned Parsons Brinckerhoff (PB) to calculate the HUF percentage for the scheme, using the methodology endorsed by the QCA for irrigation pricing in SunWater schemes.

PB calculated a HUF for MP customers of 11%.

In its draft SunWater report, the Authority allocated insurance premium costs in water supply schemes based on the HUF, and in distribution systems according to nominal WAEs. Seqwater has adopted the same approach as the draft report. Seqwater acknowledges a different approach was adopted in the Final Report (50% HUF and 50% nominal WAE), which resulted in MP being allocated a greater share of these costs.

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

The balance of costs was allocated to the irrigation sector based on a 50:50 split between the HUF (11%) and the nominal ML entitlements attributable to MP customers (68.5%).

Other Stakeholders

No other stakeholders provided comment regarding this topic.

Authority's Analysis

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

For the Warrill Valley WSS:

(a) fixed repairs and maintenance costs were allocated to medium and HP customers using HUFs (as for renewals expenditure) as repairs and maintenance expenditures have a similar purpose to renewals expenditures. As these activities are more related to headworks assets, they are more likely to deliver a higher standard of service per ML to HP users; and

(a) in principle, those components of fixed operations costs that are asset-related (for example, dam safety, water, facilities and environmental management) were allocated to medium and HP customers using HUFs, while those components of fixed operations costs that are more related to service provision (scheduling, water delivery, customer service, account management) be allocated using current WAE. The asset-related components of fixed operations costs were more closely linked to the provision of higher service standards (reliability) that the non-asset components, which tend to provide similar service standards to all users. However, as Seqwater does not disaggregate operations costs into those which are asset and non-asset related, it was

proposed that 50% of these costs be allocated using HUFs and 50% using current nominal WAEs.

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

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

The Authority proposes no change to Draft Report recommendations.

5.7 Cost Escalation

Draft Report

Seqwater

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

For direct labour costs, Seqwater proposed an annual increase of 4% over the 2013-17 period. This aligned with the Authority's SunWater recommendations and was in line with historic growth in labour cost indices over the past 5 to 10 years.

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

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

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

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

Authority's Analysis

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

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

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

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

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

(d) electricity should be escalated by 2.5% per annum. However, should Seqwater sustain material electricity cost changes above the escalated level, consideration should be given to an application by Seqwater to the Authority for an end-of-period adjustment.

Submissions Received from Stakeholders on the Draft Report

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

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

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

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

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 electricity costs by 2.5% each subsequent year of the regulatory period. The Authority endorses Seqwater's view that material variations could be addressed via application for an end-of-period adjustment.

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 Report recommended operating costs are set out in Table 5.20**.**

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

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
Labour	368,724	383,473	398,812	414,764
Contractors and Materials	58,817	61,170	63,617	66,161
Electricity	10,410	10,670	10,937	11,210
Other	182,086	186,638	191,304	196,087
Repairs and Maintenance				
Planned	224,776	233,767	243,118	252,843
Unplanned	91,810	95,483	99,302	103,274
Dam Safety	0	0	0	27,595
Rates	44,946	46,070	47,222	48,402
Non-Direct Costs				
Non-Direct Operations	444,520	455,633	467,024	478,699
Non-Infrastructure	45,619	46,759	47,928	49,126
Insurance	38,342	39,301	40,283	41,290
Working Capital	14,188	14,543	14,906	15,279
Total	**1,524,238**	**1,573,506**	**1,624,452**	**1,704,731**

Source: Seqwater (2012an).

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

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
Labour	327,016	333,630	340,295	347,009
Contractors and Materials	52,427	53,610	54,808	56,018
Electricity	10,409	10,670	10,936	11,210
Other	189,704	191,485	193,237	194,957
Repairs and Maintenance				
Planned	234,826	240,500	246,252	252,080
Unplanned	62,422	63,930	65,459	67,009
Dam Safety	0	0	0	24,643
Rates	44,946	46,069	47,221	48,402
Non-Direct Costs				
Non-Direct Operations	421,565	427,807	434,038	440,250
Non-Infrastructure	42,964	43,367	43,764	44,154
Insurance	37,767	38,122	38,470	38,813
Working Capital	0	0	0	0
Total	**1,424,045**	**1,449,190**	**1,474,481**	**1,524,543**

Source: QCA (2012).

The Authority's draft recommended operating costs for 2013-14 were 6.6% lower than Seqwater's proposed amount, as defined in its November 2012 NSP.

The Authority's final total operating cost estimate is little changed since the Draft Report. Reduced contractor costs are largely offset by increased insurance costs and consultation costs (see Table 5.21)**.**

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

	2013-14	*2014-15*	*2015-16*	*2016-17*
Direct Operations				
Labour	327,016	333,630	340,295	347,009
Contractors and Materials	46,569	47,634	48,712	49,802
Electricity	11,679	11,971	12,270	12,577
Other	189,704	191,485	193,237	194,957
Repairs and Maintenance				
Planned	234,034	239,689	245,422	251,230
Unplanned	62,212	63,715	65,239	66,783
Dam Safety	0	0	0	24,643
Rates	44,946	46,069	47,221	48,402
Consultation	7,175	7,354	7,538	7,727
Non-Direct Costs				
Non-Direct Operations	422,502	428,759	435,003	441,230
Non-Infrastructure	43,036	43,441	43,838	44,228
Insurance	38,342	39,301	40,283	41,290
Working Capital	0	0	0	0
Total	**1,427,215**	**1,453,047**	**1,479,058**	**1,529,876**

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 NSPs and not to investigate additional nodal pricing arrangements.

The Ministerial Direction also requires that:

(a) where current prices are above the level required to recover prudent and efficient costs, current prices are to be maintained in real terms;

(b) where cost-reflective prices are above current prices, the Authority must consider recommending price paths to moderate price impacts on irrigators, whilst having regard to Seqwater's commercial interests; and

(c) for certain schemes or segments of schemes [hardship schemes], prices should increase in real terms at a pace consistent with 2006-11 price paths, until such time as the scheme reaches the level required to recover prudent and efficient costs.

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

Previous Review

In the 2006-11 price paths, real price increases over the five years were capped at $10/ML for relevant schemes (including the Warrill 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 Warrill Valley WSS, the 2005-06 prices were already above the assessed reference tariff (lower bound costs) and increases in the tariffs were limited to CPI increases.

6.2 Approach to Calculating Prices

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

(a) identified the total prudent and efficient costs of the scheme;

(b) identified the fixed and variable components of total costs;

(c) allocated the fixed and variable costs to each priority group where appropriate;

(d) calculated cost-reflective irrigation prices;

(e) compared the cost-reflective irrigation prices with current irrigation prices; and

(f) implemented the Government's pricing policies in recommended irrigation prices.

6.3 Total Costs

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

Revenue Offsets

Seqwater receives revenue from property leases (flood margin land leases and houses), 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 be offset against the estimate of efficient costs.

Stakeholder Submissions

In the Warrill Valley WSS, Seqwater included a revenue offset of $21,900 based on the 2012-13 expected amount of such revenue in its April 2012 NSP, subsequently revised to $19,500 in November 2012. These off-sets were primarily based on lease revenue associated with buildings.

Authority's Analysis

The Authority noted that the proposed amount for the revenue offset is substantially higher than the recent average of $1,800 (over the 2009-10 to 2011-12 period). However, the Authority accepted the amount of $19,500 as a revenue offset for Warrill Valley WSS.

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

Summary of Total Costs

The Authority's Draft and Final Report estimates of prudent and efficient total costs for the Warrill Valley WSS for the 2013-17 regulatory period are 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 service contract (all sectors) and do not include any adjustments for the Queensland Government's pricing policies.

Table 6.1: Total Costs for the Warrill Valley WSS (Nominal $)

	2012-13	*2013-14*	*2014-15*	*2015-16*	*2016-17*
Seqwater (April NSP)					
Renewals Annuity	158,002	161,952	169,888	174,684	177,357
Direct Operating	1,014,103	1,050,044	1,087,307	1,125,942	1,193,596
Non-Direct Operating	641,775	657,819	674,265	691,121	708,399
Less Revenue Offsets	(21,879)	(22,426)	(22,986)	(23,561)	(24,150)
Return on Working Capital	13,842	14,188	14,543	14,906	15,279
Total	**1,805,843**	**1,861,578**	**1,923,016**	**1,983,092**	**2,070,482**
Seqwater (November NSP)					
Renewals Annuity	202,648	207,714	212,742	215,234	216,031
Direct Operating	947,158	981,570	1,017,271	1,054,311	1,120,336
Non-Direct Operating	515,591	528,481	541,693	555,235	569,116
Less Revenue Offsets	(19,468)	(19,955)	(20,454)	(20,965)	(21,489)
Return on Working Capital	13,842	14,188	14,543	14,906	15,279
Total	**1,659,771**	**1,711,997**	**1,765,794**	**1,818,720**	**1,899,272**
Authority - Draft					
Renewals Annuity	-	161,065	166,241	167,487	166,480
Direct Operating	-	921,750	939,895	958,209	1,001,326
Non-Direct Operating	-	502,295	509,296	516,272	523,217
Less Revenue Offsets	-	(19,955)	(20,454)	(20,965)	(21,489)
Return on Working Capital	-	0	0	0	0
Total	**-**	**1,565,156**	**1,594,978**	**1,621,003**	**1,669,533**
Authority - Final					
Renewals Annuity	-	162,986	168,103	169,426	168,572
Direct Operating	-	923,334	941,547	959,934	1,003,127
Non-Direct Operating	-	503,881	511,500	519,124	526,748
Less Revenue Offsets	-	(19,955)	(20,454)	(20,965)	(21,489)
Return on Working Capital	-	0	0	0	0
Total	**-**	**1,570,246**	**1,600,696**	**1,627,519**	**1,676,959**

Source: Seqwater (2012h), Seqwater (2012), 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 of the irrigation schemes.

Previous Review 2006-11

In the 2006-11 price path, for the Warrill Valley WSS, fixed charges were set to recover 61% of revenue and variable charges were set to recover 39% 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 Warrill Valley tariff group do not vary with water use (that is, they are 100% fixed costs).

Other Stakeholders

In Round 1 consultations, irrigators commented that a move to a 100% fixed tariff would substantially increase the fixed charge from $19/ML to Seqwater's proposed $31/ML. This increase needs to be introduced gradually.

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 response to comments, the Authority noted that the proposed price structure contains a higher fixed charge proportion than current charges, but is below the 100% proposed by Seqwater. The Authority's recommendations involved an increase in the fixed charge, but there is a corresponding decrease in variable charges.

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

Final Report

No changes are proposed for the Final Report.

6.5 Allocation of Costs According to WAE Priority

Draft Report

In earlier chapters, the Authority identified its preferred approach to allocating costs between MP and HP WAE. This approach is summarised in Table 6.3.

Table 6.4 shows the resulting fixed revenue requirements for HP and MP allocations.

Final Report

Since the Draft Report, the Authority has adopted a different approach to allocating distribution losses, from 100% of these costs being allocated to MP irrigation to the Final Report's approach of 11% being allocated to irrigators in accordance with the HUF methodology.

Table 6.3: Fixed Cost Allocation Between High and Medium Priority WAE

Cost Component	*Draft*	*Final*
Renewals Annuity	HUF	HUF
Repairs and Maintenance	HUF	HUF
Distribution Losses	100% to MP	HUF
Other Operating Costs	50% by HUF and 50% by WAE	50% by HUF and 50% by WAE

Source: QCA (2012).

The revised fixed revenue requirements are shown in Table 6.4 compared to the Draft Report estimates.

The difference mainly arises from changing the methodology of allocating costs associated with distribution losses.

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

Tariff Group	*High Priority Fixed Revenue Requirement*	*Medium Priority Fixed Revenue Requirement*	*High Priority Irrigation Share of Fixed Revenue Requirement*	*Medium Priority Irrigation Share of Fixed Revenue Requirement*
Warrill Valley – Draft	903	489	0	422
Warrill Valley - Final	946	453	0	452

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 each 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 Warrill 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 10-year average would also be misleading given the large number of recent low use years due to drought and floods.

As the notion of typical costs relates to management practices which seek to ensure services are made available when required, the Authority adopted a water use estimate based on the

average of those years that exceed the 10 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 extreme years of flood and drought.

Submissions Received from Stakeholders on the Draft Report

Harsant (2013) noted that in the Draft Report the years used by the Authority to predict typical water use are deficient as they over-emphasise the extreme wet and dry years.

R. Hinrichsen (2013) submitted that there is a great disparity between the estimated water uptake and the probable uptake. The very low water use assumption distorts the Part B charge due to overly dry and then wet conditions over the past 10 years.

The issue was also raised in Round 2 consultations (January 2013). Irrigators considered that the past 10 years water-use has not been typical, and the years prior to the last 10 years may be more indicative of likely water use in coming years.

Irrigators noted that the Authority assumed a 25% typical water use, which contrasted with a water use assumption of 55% used to determine current prices. Irrigators were interested in the actual water use to 31 December 2012. They noted that in the past month (January 2013), irrigators may have used 10% of the year's allocation already, with water use at about 2000ML per month.

Irrigators noted that water use in the Warrill Valley WSS is normally low even when there are 100% announced allocations, due to difficult business conditions and alternative water sources such as groundwater which have lower marginal costs.

Irrigators queried whether a lower Part B charge would apply in the next price path if water use was actually higher during 2013-17 than is assumed by the Authority. If so, the issue arises as to whether this is a cost reflective Part B charge if it can change between review periods.

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 4,978ML 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 15% 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 10,971 ML or 33% of nominal WAE.

This estimate was considered more realistic, and resulted in a lower Part B charge as detailed in Table 6.5, compared to the Draft Report estimate. At a subsequent meeting with irrigators in March 2013, there was support for this change.

In regard to other comments:

(a) the Authority agrees that a water use assumption of 55% applied to irrigation only use in the last price path. Historical evidence suggests this is an optimistic estimate. The Authority's revised use assumption is 33% for all sectors;

(b) water use for the first 6 months of 2012-13 was indeed higher than in recent years, at 4,710ML. On a pro-rata basis, this is equivalent to about 28% of WAE;

(c) the scheme has a naturally low level of water use on a percentage basis, and this is reflected in the revised estimate; and

(d) it is accepted that a subsequent change to water use assumptions could result in a change to cost-reflective variable costs. The Authority anticipates that for the next review, Seqwater should derive bottom-up estimates of variable costs, avoiding the need for the Authority's current approach.

Total variable costs (all sectors), the typical all sectors' average water use and the resulting volumetric charge for the Warrill Valley WSS are in Table 6.5. The table compares the draft and final estimates.

Table 6.5: 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)*
Warrill Valley - Draft	173	4,978	34.52
Warrill Valley - Final	172	18,383	7.31

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

6.7 Cost-Reflective Fixed and Volumetric Tariffs

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

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

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

Table 6.6: Cost-Reflective Tariffs (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*
Warrill Valley					
Fixed (Part A)	18.96	30.87	25.63	20.39	21.85
Variable (Part B)	22.37	0.00	0.00	34.52	7.31

Source: Seqwater (2012aj), Seqwater (2012h), Seqwater (2012aq) and QCA (2012, 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 Warrill 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 6.7 compares the current revenue with the revenue that would be required to achieve efficient cost recovery.

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

Tariff Group	*Current Revenue*	*Revenue Based on QCA Cost Reflective Prices*	*Revenue Difference*	*Current Cost Recovery*
Warrill Valley – Draft	462.3	514.2	51.9	90%
Warrill Valley – Final	462.3	468.2	5.9	99%

Source: QCA (2012) and (2013).

As outlined in Table 6.7, current revenue in the Warrill Valley WSS is in 2013-14 slightly below the cost reflective revenue requirement.

Table 6.8 below summarises the total current revenue maintenance target consistent with Government's requirements (that is, prices are set to increase in real terms slightly in 2013-14 to achieve cost-reflectivity).

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

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

Tariff Group	*Revenue Maintenance Target*	*Fixed Revenue*	*Variable Revenue*
Warrill Valley - Draft	481.5	417.6	63.9
Warrill Valley - Final	462.3	448.8	13.5

Source: QCA (2012) and (2013)

Irrigation Water Prices

Draft Report

Given current revenues for Warrill Valley WSS are below the assessed level of the efficient cost-reflective revenue requirement, the Authority was required to recommend a modest increase in 2013-14 prices.

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

On the basis of the previously described analysis and principles, and the Ministerial Direction to at least maintain real (2006-11) revenues, the Authority recommended prices as outlined below in Table 6.9.

The Authority also did not recommend price paths beyond 2013-17 on the grounds that such price paths should be subject to a subsequent review (and in accordance with the current Ministerial Direction).

Submissions Received from Stakeholders on the Draft Report

QFF (2013b) accepted the tariff recommendations outlined in the Draft Report.

Additional comments received included that:

(a) the Authority's proposed 7.5% increase in the Part A charge (from $18.96 to $20.39) and 54.3% increase in the Part B charge (from $22.37 to $34.52) is unacceptable. (I. Harsant (2013) and R. Hinrichsen (2013));

(b) the recommended price path shows a 33% increase (bill analysis) and suggested the increase should be moderated (I. Harsant, 2013). Similarly, M & T Rieck (2013) submitted that with the new pricing structure, their bill would rise by 30%;

(c) given water-use is approximately 14% of capacity, increasing prices will only lead to further reductions in water-use. Prices should be lower as this will increase demand, inspire the sleepers and dozers back into the water market and share the cost burden amongst more irrigators. The Authority should be encouraging productive farmers who are high water users. (R. Hinrichsen (2013) and B.J. Shard (2013), Round 2 consultations (January 2013);

(d) Seqwater's proposed exclusive fixed Part A charge of $30.87 would suit larger users and would cut administration costs as it constitutes a single charge requiring only one bill and one meter reading annually (B.J. Shard (2013) and I. Harsant (2013)); and

(e) irrigators suggested that there should be a price path to cost reflective Part B levels (Round 2 consultations).

Authority's Response to Submissions Received on the Draft Report

The Authority's Draft Report recommended prices included a substantial increase in Part B variable charges as well as an increase in Part A fixed charges. This resulted in a significant bill increase for larger users as noted in some customer submissions. 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 price increases and the impacts on bills, as it is based on a more realistic estimate of typical water use. The revised charges also provide more appropriate signals to encourage productive water users to irrigate and to encourage sleepers and dozers to trade their unused entitlements (once tradeable WAE are in place).

At a subsequent meeting in March 2013, irrigators accepted the revised recommended tariffs (QFF, 2013). However, it was noted that there would be a bill decrease of around 18% for an irrigator using 60% of WAE, while an inactive user would have a bill increase of 12%.

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

In the Warrill 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 6.9: 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*
Warrill Valley – Draft Report											
Fixed (Part A)	5.20	16.42	17.00	17.54	18.06	18.71	18.96	20.39	20.90	21.42	21.96
Volumetric (Part B)	18.60	19.14	20.06	20.69	21.31	22.08	22.37	34.52	35.39	36.27	37.18
Warrill Valley – Final Report											
Fixed (Part A)	5.20	16.42	17.00	17.54	18.06	18.71	18.96	21.91	22.46	23.02	23.59
Volumetric (Part B)	18.60	19.14	20.06	20.69	21.31	22.08	22.37	7.31	7.50	7.68	7.88

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

In summary, Warrill Valley WSS's current revenues for 2013-14 represent 99% of cost-reflective revenues. With the adoption of the cost reflective volumetric charge, and with a $0.06/ML real increase applied to the fixed charge, the Warrill Valley WSS reaches cost-reflective levels in 2013-14. Price increases after 2013-14 reflect CPI only.

6.9 Impact of Recommended Prices

Draft Report

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

The 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.

Submissions Received from Stakeholders on the Draft Report

I. Harsant (2013) and R. Hinrichsen (2013) noted in response to the Draft Report that:

(a) Government should recognise the challenges being faced by irrigation enterprises and exert influence to control costs given irrigators are price takers and cannot pass these costs on; and

(b) given Government has acknowledged primary production is a pillar of the economy, it is unfair to ask irrigators to be allocated all scheme costs particularly given the broader positive regional economic effects.

I. Harsant (2013), R. Hinrichsen (2013) and M. and T. Rieck (2013) noted in response to the Draft Report that the Authority's recommended prices show no understanding of, or empathy for, the economic realities of Seqwater's customers. Increases in electricity prices and the loss of off-peak night rates [e.g. Tariff 22], a dairy sector struggling with $1/litre milk, coupled with rising irrigation costs will be the knockout-punch for many irrigation enterprises.

B.J. Shard (2013) noted in response to the Draft Report that government should be doing more to protect rural-based industries.

M & T. Rieck (2013) noted in response to the Draft Report that pumping infrastructure valued at $15,000 to $20,000 (lost due to recent flooding) may not be replaced given the increased costs associated with accessing and using water.

Authority's Response to Submissions Received on the Draft Report

The Authority's revised recommended charges should generally address irrigators' concerns about the impacts of the Draft Report charges. However, it is acknowledged that while there are various cost pressures in primary production, a policy response is a matter for the Government and outside the Authority's current irrigation pricing review remit.

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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)*
Aratula Weir	2034/35	Replace Valve, 250Mm Sluice Tyco	4
Black Gully Diversion	2034/35	Replace Concrete Works	7
Churchbank Weir	2030/31	Replace Outlet Valve	6
		Replace Outlet Works	15
Gauging Station-Warrill Creek	2022/23	Replace Gauging Stations-Warrill Ck	70
	2032/33	Replace Gauging Stations-Warrill Ck	70
Kents Lagoon Diversion Weir	2025/26	Refurbish Regulating Gate At 17.8M	21
	2029/30	Refurbish Regulating Gate At 17.8M	21
	2032/33	Replace Actuator, Man Awma	1
	2034/35	Replace Trash Screen	5
Moogerah Dam	2013/14	Refurbish Concrete Structure	20
		Refurbish Ladders	100
	2019/20	Refurbish Fencing	15
	2020/21	Replace Store/Workshop	61
		Replace Structure Of Building	84
	2022/23	Replace Hoist, 1.6T Demag Elec Incl Trolley	18
	2032/33	Replace Hoist, 1.6T Demag Elec Incl Trolley	18
	2032/33	Replace Valve, 203Mm Butf John	1
		Replace Valve, 229Mm Sluice	10
		Replace Valve, 660Mm Cone English Electric	222
	2036/37	Replace Control	21
Normanby Gully Diversion	2014/15	Replace Regulating Gate	6
	2016/17	Refurbish Normanby Gully Diversion	10
	2026/27	Refurbish Normanby Gully Diversion	10
	2027/28	Replace Regs/Inlet - Siphon 3-11987.47	11
		Replace Regs/Inlet To Loop-11905M	10
Upper Warrill Diversion	2014/15	Refurbish -	36
		Refurbish Scour Valve At 122M(0M 399Ft)	12
		Replace Regulating Gate	6
	2014/15	Replace Diversion Channel-Open Earth	21
	2034/35	Replace Diversion Channel-Open Earth	21
	2015/16	Refurbish Scour Valve At 6122M, 5860M	24
		Refurbish Scour Valve At 6850M	12
		Refurbish Scour Valve At 9961M	12
		Replace Scour Valve At 5072M	12
		Replace Trash Screen Inlet Structure	18
	2017/18	Replace Regulating Structure Mid-Pipe	22
	2019/20	Refurbish Fencing, Gates & Grids	21

Asset	*Year*	*Description*	*Total ($,000)*
	2024/25	Replace Butterfly Valve	8
		Replace Double Air Valve At 10911.60M	11
		Replace Double Air Valve At 273M	11
		Replace Double Air Valves-2829M, 3342M	21
		Replace Irrig Outlet At 5860M- Johnson	30
		Replace Irrig Outlet At 6048M- Johnson	11
		Replace Manhole - 2754.63M	1
		Replace Pumpwell At 10647M-Moffatt	9
		Replace Pumpwell At 11215M-Mcgrath	4
		Replace Pumpwell At 11376M-Shellbach	4
		Replace Scour Valve At 5072M	26
		Replace Scour Valve At 6122M, 5860M	53
		Replace Scour Valve At 6850M	26
		Replace Scour Valve At 9961M	26
		Replace Scour Valves-2741,3103,3459M	79
		Replace Screen To Inlet Of Siphon	3
		Replace Trash Screen At Inlet	3
	2025/26	Replace Irrig Outlet At 5860M- Johnson	14
	2034/35	Replace Scour Valve At 122M(0M 399Ft)	26
Warrill Creek Diversion Weir	2028/29	Replace Access Road & Hardstanding	194
	2033/34	Replace Cable	16
		Replace Control Equipment	98
Warroolaba Creek Diversion	2017/18	Replace Ladder	10
Water Supply Flowmeters	2025/26	Replace Water Meters	46
	2026/27	Replace Water Meters	46
	2027/28	Replace Water Meters	46
	2028/29	Replace Water Meters	46
	2029/30	Replace Water Meters	46
	2030/31	Replace Water Meters	46
	2031/32	Replace Water Meters	46
	2032/33	Replace Water Meters	46
	2033/34	Replace Water Meters	46
	2034/35	Replace Water Meters	46
	2035/36	Replace Water Meters	46
West Branch Warrill Diversion	2033/34	Replace Sluice Valve	47
Total			**2,270**