



Final Report

Seqwater Irrigation Price Review
2013-17

Volume 2

Cedar Pocket Water Supply Scheme

April 2013

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TABLE OF CONTENTS

	PAGE
GLOSSARY	III
EXECUTIVE SUMMARY	IV
1. CEDAR POCKET DAM WATER SUPPLY SCHEME	1
1.1 Scheme Description	1
1.2 Bulk Water Infrastructure	1
1.3 Network Service Plans	3
1.4 Consultation	3
2. REGULATORY FRAMEWORK	4
2.1 Introduction	4
2.2 Regulatory Framework and Risk Allocation	4
3. PRICING FRAMEWORK	8
3.1 Tariff Groups	8
3.2 Tariff Structure	8
3.3 Water Use Forecasts	10
4. RENEWALS ANNUITY	12
4.1 Introduction	12
4.2 Seqwater's Opening ARR Balance (1 July 2013)	13
4.3 Forecast Renewals Expenditure	17
4.4 Seqwater's Consultation with Customers and Reporting	29
4.5 Allocation of Headworks Renewals Costs	31
4.6 Calculating the Renewals Annuity	31
5. OPERATING COSTS	33
5.1 Background	33
5.2 Historical Operating Costs	33
5.3 Forecast Total Operating Costs	34
5.4 Prudence and Efficiency of Direct Operating Costs	41
5.5 Prudence and Efficiency of Non-Direct Operating Costs	54
5.6 Allocation of Non-Direct Operating Costs	60
5.7 Cost Escalation	62
5.8 Summary of Operating Costs	64
6. TOTAL COSTS AND FINAL PRICES	68
6.1 Background	68
6.2 Approach to Calculating Prices	69
6.3 Total Costs	69
6.4 Fixed and Variable Costs	71
6.5 Allocation of Costs According to WAE Priority	72

6.6	Volumetric Charges	73
6.7	Cost Reflective Fixed and Volumetric Tariffs	74
6.8	Queensland Government Pricing Policies and Final Prices	74
7.1	Impact of Recommended Prices	78
	REFERENCES	80
	APPENDIX A: FUTURE RENEWALS LIST	96

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. A copy of the Ministerial Direction forms Appendix A to Volume 1.

Summary of Price Recommendations

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

Table 1: Prices for Cedar Pocket Dam WSS (Nominal \$/ML)

	<i>Past Prices</i>							<i>Recommended Prices</i>			
	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Fixed (Part A)	8.20	9.72	11.52	13.27	14.94	15.48	15.68	7.28	9.51	11.85	14.30
Volumetric (Part B)	8.78	10.41	12.34	14.21	16.01	16.59	16.81	36.94	37.87	38.81	39.78

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

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

Final Report

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

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

Consultation

The Authority has consulted with stakeholders throughout this review. Consultation has included meeting with irrigators and Seqwater and inviting submissions from all 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 this Final Report.

1. CEDAR POCKET DAM WATER SUPPLY SCHEME

1.1 Scheme Description

The Cedar Pocket Dam water supply scheme (WSS) is located near the town of Gympie. An overview of its characteristics is provided in Table 1.1.

Table 1.1: Overview of Cedar Pocket Dam WSS

<i>Cedar Pocket Dam WSS</i>	
Business Centre	Gympie
Irrigation Uses	Pasture downstream of the dam for the dairy industry.
Urban Water Supplies	Nil

Source: Seqwater (2012ak).

The Cedar Pocket Dam WSS has 11 bulk customers holding the medium and high priority water access entitlements (WAE) outlined in Table 1.2.

Table 1.2: Water Access Entitlements

<i>Customer Group</i>	<i>Irrigation WAE (ML)</i>	<i>Total WAE (ML)</i>
Medium Priority	495	495
High Priority	0	0
Total	495	495

Source: Seqwater (2012ak).

1.2 Bulk Water Infrastructure

Bulk water services involve the management of storages and WAE in accordance with regulations 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 Cedar Pocket Dam WSS

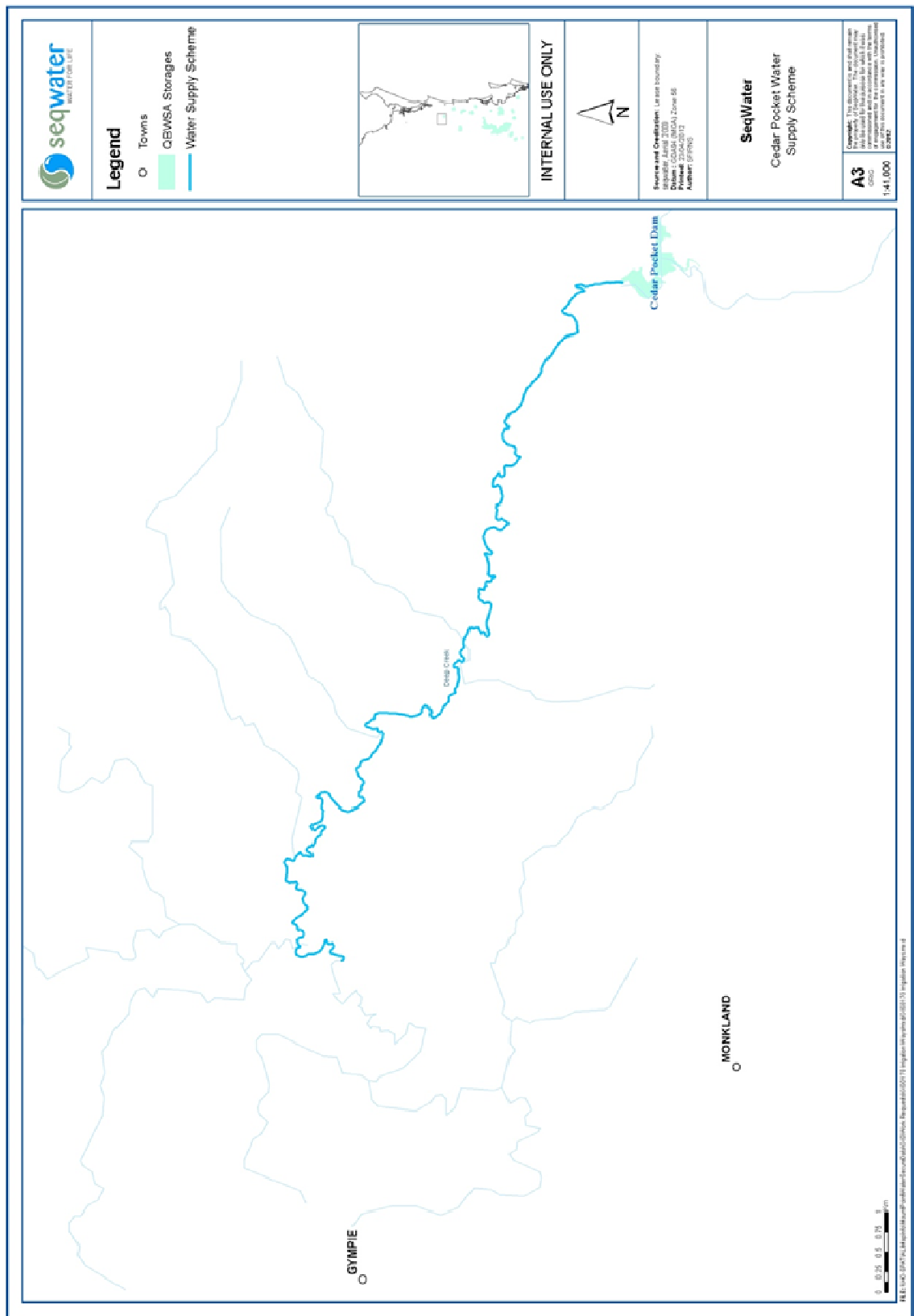
<i>Storage Infrastructure</i>	<i>Capacity (ML)</i>	<i>Age (years)</i>
Cedar Pocket Dam	730	28

Source: Seqwater (2012ak).

The characteristics of the bulk water assets are:

- (a) concrete gravity dam with earth-fill embankment on the eastern abutment;
- (b) a spillway consisting of a 50 metre wide concrete wall, including a 10 metre wide cut-out section and two 20 metre wide overflow sections on either side of the cut out; and
- (c) a single 450 mm diameter pipe reduced to 300 mm pipe, controlled by two gate valves operated from the outlet house.

Figure 1.1: Cedar Pocket Dam WSS Locality Map



Source: Seqwater (2012ak).

1.3 Network Service Plans

Seqwater submitted the Cedar Pocket Dam WSS network service plan (NSP), which presents:

- (a) existing service standards;
- (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 submitted supporting information on various aspects of the review.

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; and
- (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 Cedar Pocket Dam WSS was a tariff group in the Mary Valley WSS. The Tier 2 group for the Mary Valley WSS indicated that they were in favour of retaining the existing price cap regulatory arrangement. In the 2011-13 interim period, the price cap arrangement was continued.

2.2 Regulatory Framework and Risk Allocation

Draft Report

Stakeholder Submissions

Seqwater

Seqwater submitted that the Cedar Pocket Dam WSS is regulated under the Mary Basin Resource Operations Plan (ROP) issued September 2011. Prior to this date, the scheme was regulated under the Interim Resource Operations Licence (IROL) (Upper Mary River WSS) issued in July 2008.

A previous licence was granted to SunWater on 10 November 2000 for the Mary River WSS, which provided for three sub-schemes being the Mary Valley WSS, the Cedar Pocket Dam WSS and the Lower Mary River WSS. The 2008 IROL was issued as a result of the transfer of the Mary Valley WSS and the Cedar Pocket Dam WSS from SunWater to the Queensland Bulk Water Supply Authority (that is, Seqwater) on 1 July 2008.

Under the ROP, when Cedar Pocket Dam fills, customers can take 200% of their WAE.

Seqwater identified a range of generic risks considered relevant to allowable costs across all schemes (see Volume 1). Seqwater considered that volume risk should be borne by customers through a tariff structure where the fixed charge recovers fixed costs and where the volumetric charge recovers costs that vary with demand.

In the context of cost risk, Seqwater considered that it should not bear the risk associated with costs it is not able to control, such as unforeseen events and costs that are difficult to forecast. Accordingly, Seqwater considers that an end-of-period adjustment for such costs is appropriate (Seqwater 2012aj).

Other Stakeholders

Stakeholders variously noted that:

- (a) Cedar Pocket Dam WSS is a small scheme in comparison to most others and cannot achieve the economies of scale that larger schemes have (S. Tramacchi 2012);
- (b) the scheme has historically been a dairying area. Following deregulation in the 1990s, the number of dairy farms has declined to 10 (down from 30), with dairying comprising less than 75% of total WAE (down from 95%) (S. Tramacchi 2012); and

- (c) irrigators' allowable nominal volumes reset whenever there is a significant rainfall event. Hence, for a fixed charge on 100ML of WAE, irrigators could take 200ML in one year without penalty. Irrigators sought assurance that this arrangement would not be changed during the Round 1 consultations in June 2012 (QCA 2012c).

Stakeholders, during the consultation in June 2012, also submitted that the trading of water allocations in the Cedar Pocket Dam WSS will not allow irrigators to manage the relatively high fixed (Part A) tariff proposed by Seqwater as there are only 11 customers and water cannot be traded out of the Cedar Pocket Dam WSS to the Mary Valley WSS (QCA 2012c).

The Queensland Farmers' Federation (QFF 2012) noted that where cost-reflective prices are well in excess of current prices, desired levels of permanent trading (and associated benefits) will not be achieved. R.J. and E.R. Thefs (2012) submitted that water allocations will become a liability with no one willing to purchase allocations permanently.

Irrigators during the Round 1 consultations in June 2012 also questioned whether WAE could be surrendered (QCA 2012c).

Authority's Analysis

Summary of Risks and Cost Allocation

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

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

<i>Risk</i>	<i>Nature of the Risk</i>	<i>Allocation of Risk</i>	<i>Authority's Recommendation</i>
Short-Term Volume Risk	Risk of uncertain use from fluctuating water demand or supply.	Seqwater cannot manage these risks and under current legislative arrangements, they are the responsibility of customers. Allocate risk to customers.	Cost-reflective tariffs.
Long-Term Volume Risk (Planning and Infrastructure)	Matching storage capacity (or new entitlements from improving distribution loss efficiency) to future demand.	Seqwater cannot augment bulk infrastructure (Government is responsible). Seqwater can manage distribution system assets and losses.	Seqwater should bear the risks, and benefit from the revenues, associated with reducing distribution (and bulk) losses, (where/when the resulting water savings can be permanently traded).
Market Cost Risks	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	Changes to water planning framework imposing costs on service provider.	Customers should bear the risk though there may be some compensation associated with National Water Initiative (NWI) government decisions.	Cost variations may be immediately transferred to customers using a cost pass-through mechanism (depending on materiality).

Source: QCA (2012).

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

In relation to issues raised by irrigators, the Authority accepted that the small scale of the scheme represents some risk in terms of the level of costs incurred in operating the scheme. However, the Authority's approach was intended to ensure that costs are minimised as much as possible, taking these circumstances into account.

The scheme's reliance on the dairying industry is also noted. Irrigators indicated that dairy farms in the area are efficiently operated enabling them to remain viable in a competitive market. Impacts of recommended tariffs are further discussed in Chapter 6: Total Costs and Final Prices (refer below).

In relation to other issues raised by irrigators, the Authority noted that existing arrangements which allow customers to take up to twice their nominal allocation are established under Part 90 of the Mary Basin ROP (Department of Environment and Resource Management - DERM 2011). The Authority has no role in reviewing such arrangements and cannot provide assurance that such arrangements could be changed in future.

In regard to trading, the Authority considered that relatively high Part A charges generally promote water trading (as irrigators seek to sell entitlements not required in response to high fixed costs). The Authority's approach to tariff structures is reviewed in Chapters 3 and 6 (refer below). The Authority acknowledged that the Mary Basin ROP (DERM 2011) does

not provide for inter-scheme trading or a bulk water transfer agreement between Cedar Pocket Dam WSS and other sections of the Mary Valley.

The volumes of temporary trading in Cedar Pocket Dam WSS are identified below in Table 2.2.

Table 2.2: Volume of Water Traded in Cedar Pocket Dam WSS (ML)

	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>2011-12</i>
Temporary	10	10	10	15

Source: Seqwater (2012ak).

The Authority also noted that under the current regulatory framework, WAE (that is, the permanent water allocations held in this scheme) cannot be surrendered.

Submissions Received from Stakeholders on the Draft Report

QFF (2013b) submitted that Cedar Pocket Dam WSS is a small scheme where Council has not allowed small area subdivision. SunWater previously sought assurances from Council that zoning would not affect the customer base of the scheme.

QFF also noted that the high cost reflective charges if implemented would mean that dairy farms would progressively reduce their water use over the medium term and raises doubts about the viability of the scheme. QFF raised a possible local management review on:

- (a) the feasibility of establishing an independent management entity;
- (b) support required to transition to that independent entity;
- (c) ongoing services to be provided by Seqwater (e.g. management of the referable dam);
- (d) ways to improve water availability to irrigation customers; and
- (e) proposed customers discuss options with the Minister for Energy and Water Supply.

Authority's Response to Submissions Received on Draft Report

The Authority cannot comment on the future land zoning risks in the scheme. The scheme has not undergone significant adjustment away from dairying as has occurred elsewhere.

Options for local management are a matter for discussion with Government. The costs of managing dam safety and related issues may provide a barrier to such a transition.

3. PRICING FRAMEWORK

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

3.1 Tariff Groups

The Ministerial Direction specifically directs the Authority to adopt the tariff groups as proposed in Seqwater's NSPs. Currently, there is one tariff group for the Cedar Pocket Dam WSS. Seqwater proposed that this current bulk tariff group continue.

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

3.2 Tariff Structure

Previous Review 2006-11

For 2006-11, Cedar Pocket Dam was a tariff group in Mary River WSS. The establishment of Cedar Pocket Dam WSS was brought about by the Mary Basin ROP in 2011.

In the 2006-11 price path, a case was identified for a 70:30 ratio of fixed to variable costs. For the Cedar Pocket Dam tariff group, fixed charges were set to recover 70% of revenue and variable charges were set to recover 30% of revenue, given the agreed forecast usage.

In addition, as a consequence of the previous review, Cedar Pocket Dam tariff group was given Category 3 status as the Government considered it was too onerous to achieve lower bound during 2006-11. Accordingly, Government provided a community service obligation (CSO) to ensure the water service provider achieved lower bound costs. A CSO was also provided to cover this shortfall over 2011-13.

Draft Report

Stakeholder Submissions

Seqwater

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

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

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

Other Stakeholders

Stakeholders variously noted that:

- (a) Seqwater's proposed 100% fixed tariff is unacceptable as significant charges would apply when water is not available and in those instances where water is available but

not required. Accordingly, a greater percentage of variable charge (up to 85% of the total charge) is proposed (R.J. and E.R. Thefs 2012 and S. Tramacchi 2012);

- (b) some adjustment to the current ratio of fixed/variable tariffs is justified on the basis that although some costs are fixed, some operating costs are modest particularly when usage is low as has occurred in the past 18 months (S. Tramacchi 2012); and
- (c) Cedar Pocket Dam WSS tariffs should be the same as those in the Mary Valley WSS as they are in the same catchment (R.J. and E.R. Thefs 2012).

Authority's Analysis

The Authority, in Volume 1, analysed the tariff structures and their efficiency implications for Seqwater's schemes.

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

In response to submissions:

- (a) while noting stakeholders' concerns regarding a high fixed charge, particularly in periods of low water availability, under current legislative and contractual arrangements, customers must bear all the costs of water supply incurred by Seqwater, irrespective of whether it is made available (provided the costs of supply are efficient and prudent), and irrespective of whether there is a drought;
- (b) this does not necessarily imply a zero variable charge as suggested by Seqwater and it is accepted that some costs will reduce during prolonged low water use periods; and
- (c) Cedar Pocket Dam and Mary Valley charges were the same for 2000-06. Different charges were introduced for 2006-11. Under the Ministerial Direction, the Authority must reflect costs attributable to each tariff group. Accordingly, and given the differences in assets and water use in each, the 2013-17 prices will be developed independently for Cedar Pocket Dam and Mary Valley WSSs.

Submissions Received from Stakeholders on the Draft Report

During consultation in February 2013, stakeholders submitted that recommended prices (with a higher Part B) will penalise higher-volume users who subsidise lower-volume users. However, there was general support for the Authority's draft recommended prices. Low water users will not have an incentive to sell WAE if the recommended Part A charge is too low.

The main concern raised was that the cost-reflective fixed price is high, which could at some future point lead to unsustainable prices from the perspective of irrigators. Irrigators suggested that a longer price path would increase certainty and may lead to increased trading.

Authority's Response to Submissions Received on the Draft Report

The Authority considers that the recommended tariff structure (which aligns the Part B volumetric tariff to recover variable costs and the Part A fixed tariff to recover the balance of costs required to at least maintain current revenues) sends the appropriate price signals to irrigators regarding the costs associated with water use. Any change in tariffs would require a variation and a departure from the accepted pricing principles. Issues relating to the recommended tariffs are discussed in Chapter 6: Total Costs and Final Prices (refer below).

The Authority agrees that there is some risk that trading could be constrained as a result of a change to a lower fixed charge and a higher volumetric charge. However, the recommended prices incorporate a cost reflective Part B volumetric charge while the Part A fixed charge is subject to a price path. Over time, the fixed charge will increase and provide greater incentives for WAE holders to sell allocation. The risk of future price increases beyond the current price path is a risk that should be taken into account in such trades. The Authority notes that successive Governments over many years have applied only modest price increases to the irrigation sector in recognition of the importance of irrigation in regional economies.

The Authority considered that it was unable to recommend a longer price path as prices from 2017-18 onwards could be subject to a subsequent regulatory review. However, pricing certainty for a 4-year period is considered a benefit to irrigators which is typically not available in respect of other farm input costs.

3.3 Water Use Forecasts

Previous Review 2006-11

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

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

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

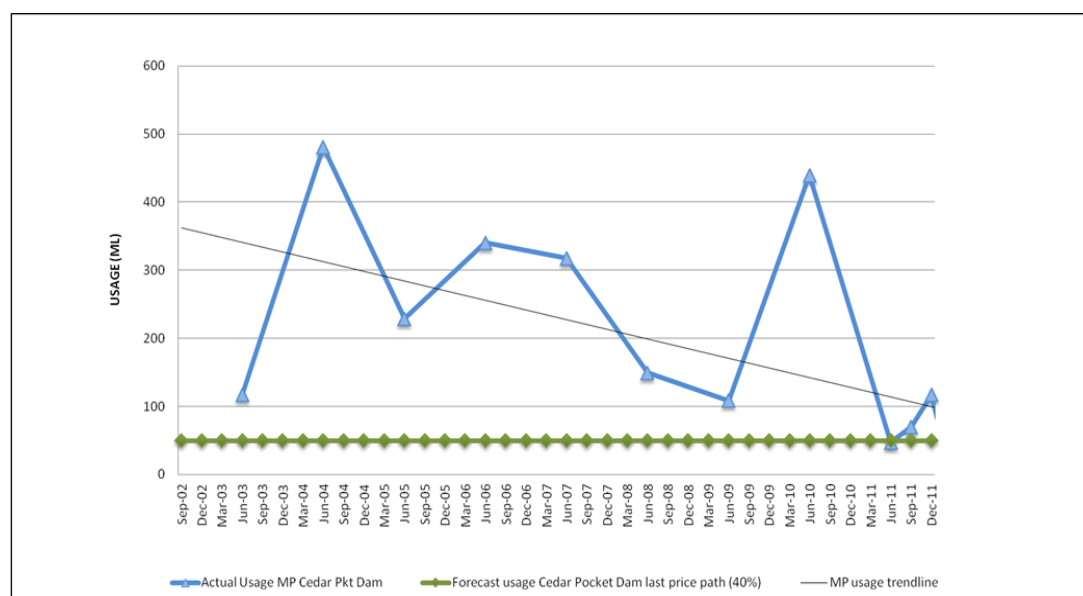
For this WSS, SunWater (2006b) assumed a water usage forecast of 40% of WAE in the river system, equivalent to 198ML per year. Water usage for high and medium priority irrigation WAEs were (where appropriate) not separately identified (SunWater 2006b).

Draft Report

Stakeholder Submissions

Seqwater (2012ak) confirmed that the previous price path adopted a use forecast at 40% of the nominal amount of WAE, equivalent to 198ML/annum or 50ML/quarter. Seqwater noted that the average water use over the 2006-12 period was actually higher than forecast at 228ML per year. Announced allocations were below 100% over the 2005-06 to 2007-08. Over the nine years to December 2011, average actual water use was 255ML per year.

Figure 3.1 shows the historic use information submitted by Seqwater (2012ak).

Figure 3.1: Water Use for the Cedar Pocket Dam WSS

Source: Seqwater (2012ak).

Seqwater (2012ak) has not provided forecast water use for the period 2013-17.

Authority's Analysis

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

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

Submissions Received from Stakeholders on the Draft Report

During consultation in February 2013, stakeholders submitted that irrigators use most of their available water (which, when credit water is included, can be up to twice their nominal WAE). However, a portion of irrigators use almost no water.

Stakeholders sought assurances that the Authority's pricing review would not impact the ROP provision allowing irrigators to take up to double their nominal WAE.

Authority's Response to Submissions Received on the Draft Report

The Authority's water use analysis takes into account total use, including credit water. The review has no impact on the ROP and, accordingly, the WSS's credit water arrangements remain unchanged.

The Authority's approach to estimating typical water-use for the purpose of establishing a volumetric charge is outlined in Chapter 6: Total Costs and Final Prices (refer below).

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 high and medium priority users was based on water pricing conversion factors (WPCFs).

In the 2006-11 review, the Cedar Pocket Dam WSS was treated as a tariff group within the Mary Valley WSS, so that in effect, the Mary Valley WPCF was applied.

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 2013-17 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 prudence and efficiency of Seqwater's forecast renewals expenditure; and
- (c) the methodology to calculate the renewals annuity.

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

Seqwater estimated that it has under management about 74 bulk water storage assets relevant to entitlement holders in South East Queensland (SEQ), including irrigators, local government authorities, industrial users and the SEQ Water Grid Manager (WGM). Seqwater (2012ak) submitted that asset management practice within Seqwater does not distinguish between irrigation and non-irrigation assets - that is, assets are managed as a portfolio and not on an industry sector basis.

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

Seqwater submitted that irrigation assets are currently not as advanced in this process as the high priority water treatment plants, although preliminary condition and criticality data for Irrigation Meter fleets in the Cedar Pocket Dam 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 and others will be in 2013-17. Depending on the asset life, some are renewed several times during the Authority's recommended 20-year planning period. It was, therefore, not practical within the timeframes, nor desirable given the potential costs, to assess the prudence and efficiency of every asset.

The Authority has relied on its consultants Sinclair Knight Merz (SKM) to comment upon Seqwater's renewals expenditure items. Across all schemes, a total of 12 forecast and two past renewals items were reviewed. The findings of these reviews were considered for application to other similar renewal items, to extend cost savings/findings.

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 (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 during 2006-13.

Previous Review

The 2006-11 price paths were based on the opening ARR balance at 1 July 2006. Seqwater (2012ak) submitted that SunWater's 1 July 2006 opening balance for the Cedar Pocket Dam WSS was negative \$75,428.

In Volume 1, the Authority noted that the opening ARR balance in 1 July 2006 is not subject to this review to establish 2013-17 irrigation prices.

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 (all sectors) basis at 30 June 2006;

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

Past Renewals Expenditure 2006-13

During 2006-11, actual direct renewals expenditure was substantially less than forecast over the period (Table 4.1).

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

<i>Tariff Group</i>	<i>Forecast 2006-11</i>	<i>Actual 2006-11</i>	<i>Variance</i>
Cedar Pocket Dam	129,541	4,928	(124,613)

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

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

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

	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>
Direct	0	218	0	4,710	0
Non-direct	0	244	0	1,435	0
Total	0	462	0	6,145	0

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 \$)

<i>Tariff Group</i>	<i>Actual 2011-12</i>	<i>Forecast 2012-13</i>	<i>Total</i>
Cedar Pocket Dam	51,847	0	51,847

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 in Table 4.4. The 1 July 2006 opening balance is also provided for reference.

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

<i>Tariff Group</i>	<i>Seqwater ARR Balance 1 July 2006</i>	<i>Seqwater Proposed ARR Balance 1 July 2013</i>
Cedar Pocket Dam	(75,428)	15,579

Source: Indec (2012).

Other Stakeholders

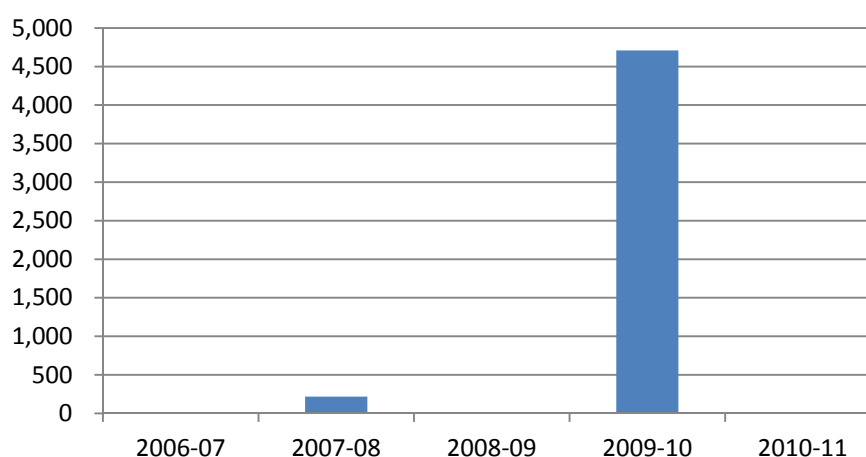
During consultation in June 2012 (QCA, 2012c), stakeholders submitted that any past expenditure on telemetry should not be included in prices.

Authority's Analysis

The 1 July 2006 opening ARR balances for each (bundled) scheme were approved by Government and are therefore accepted by the Authority.

Renewals Expenditure 2006-13

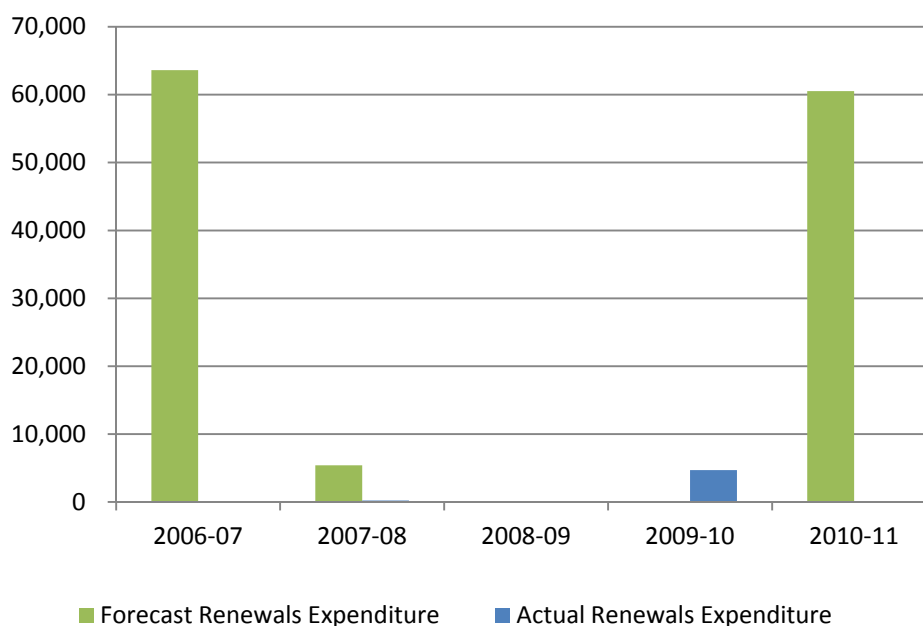
The total direct renewals expenditure for 2006-11 is detailed in Figure 4.1.

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

Source: Seqwater (2012ak).

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

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



Source: Indec (2012).

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

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

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

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

The question remains as to whether any cost reductions should also apply for 2008-13, once the WSSs were transferred to Seqwater. The Authority engaged engineering consultants SKM to review Seqwater's renewals items for prudence and efficiency. The Authority did not specifically review past capital expenditure items in the Cedar Pocket Dam WSS.

SKM found that based on the inability of Seqwater to substantiate renewals expenditure incurred in 2008-09 (the first year owning former SunWater schemes), 100% of expenditure incurred in this year (all WSSs) could not be considered prudent and efficient in Cedar Pocket Dam WSS. For 2009-10 and beyond, however, Seqwater recorded renewals expenditure in a more detailed and verifiable way.

In response to stakeholder comments that past expenditure on telemetry in Cedar Pocket Dam WSS should not be included in prices, the Authority noted SKM's conclusion that

forecast renewals expenditure associated with Cedar Pocket Dam telemetry is prudent on the basis that it represents compliance with the Mary Basin ROP.

SKM also commented that the existing gauging system has been and is currently being read manually. The forecast renewals expenditure associated with the gauging system provides for the automation of level recording and data transfer. Therefore, the Authority concluded that gauges and telemetry at Cedar Pocket Dam are prudent and efficient.

Conclusion

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

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

Accordingly, based on this approach, the Authority recommends that past renewals expenditure in Cedar Pocket Dam WSS be adjusted as shown below in Table 4.5.

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

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Seqwater Proposed	0	218	0	4,710	0	51,847	0
Authority Recommended	0	214	0	4,710	0	51,847	0

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

Opening ARR Balance (at 1 July 2013)

Based on the Authority's assessment of the prudence and efficiency of past renewals expenditure, the recommended opening ARR balance for 1 July 2013 for Cedar Pocket Dam WSS is \$15,593 compared to Seqwater's proposed \$15,579.

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) agreed with the Draft Report recommended opening ARR balances and no further submissions were received on renewals matters.

Authority's Response to Submissions Received on the Draft Report

The Authority proposes no change to Draft Report recommendations.

4.3 Forecast Renewals Expenditure

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

Draft Report

Stakeholder Submissions

Seqwater

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

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

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

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

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

<i>Facility</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Repair of drainage - right hand embankment	0	18	0	0
Water flow-meters	7	7	6	6
Total	7	25	6	6

Source: Seqwater (2012ar). 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 item incorporated in the above estimates is the repair of drainage on the right hand embankment of Cedar Pocket Dam at a cost of \$18,000 in 2014-15.

Additional major expenditure items from 2017-18 onwards are:

- (a) replacement of electrical reticulation valves at an estimated cost of \$27,000 in 2019-20;
- (b) renewal of telemetry assets with an estimated cost of \$34,000 in 2020-21, and again in 2030-31;
- (c) renewal of electricity supply assets with an estimated cost of \$30,000 in 2025-26; and
- (d) refurbishment of outlet valves with an estimated cost of \$28,000 in 2024-25.

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 Cedar Pocket Dam WSS, the proposed metering costs are detailed below in Table 4.7.

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

<i>Tariff Group</i>	<i>Phase 1: 2012-13 to 2014-15</i>	<i>Phase 2: 2015-16 to 2021-22</i>	<i>Phase 3: 2022-23 to 2035-36</i>	<i>Total</i>
Cedar Pocket Dam	14	42	28	84

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

Seqwater's forecast renewal expenditure items greater than \$10,000 in value, for the years 2013-14 to 2035-36 are provided in **Appendix A**.

Other Stakeholders

QFF (2012) queried whether costs associated with the repair of drainage on the right hand embankment of Cedar Pocket Dam (estimated at \$18,000 in 2014-15), should be off-set through insurance.

Stakeholders during Round 1 consultations in June 2012 (QCA 2012c) submitted that more details were required regarding Seqwater's proposed renewals expenditure on "electricity supply assets" in 2025-26 at \$30,000.

Authority's Analysis

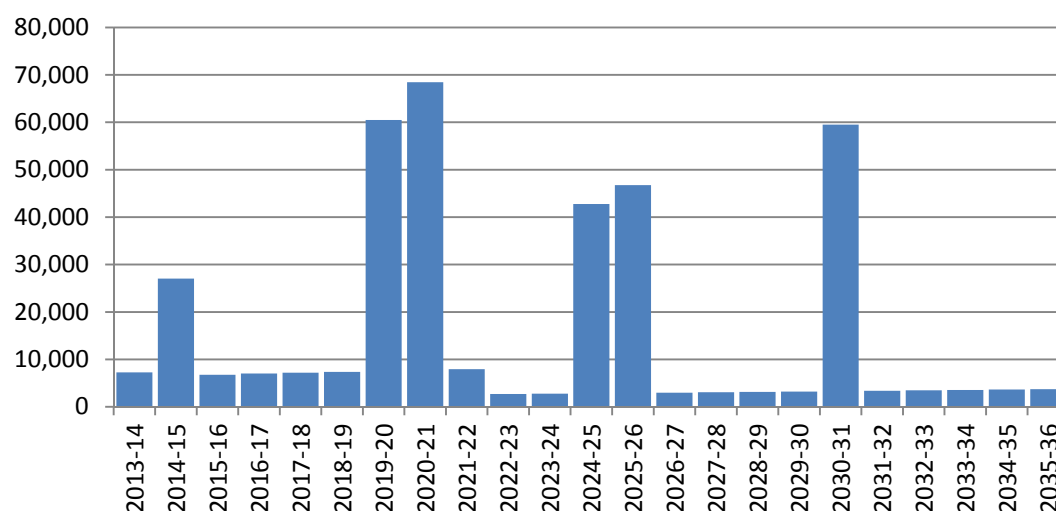
The Authority commissioned SKM to review Seqwater's procurement, asset performance and condition assessment policies and procedures and to determine whether they represented good industry practice.

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

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

Total Costs

Seqwater's proposed renewals expenditure for 2013-36 for the Cedar Pocket Dam WSS is shown below in Figure 4.3.

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

Source: Seqwater (2012ar).

The Authority noted QFF’s submission that queried whether costs associated with the repair of drainage on the right hand embankment of Cedar Pocket Dam, should be off-set through insurance. Seqwater confirmed that, for the purpose of pricing, no flood-related costs have been included on the expectation that insurance revenues would account for all flood-related damage costs.

The Authority noted the stakeholder submission requiring more details to be provided regarding the proposed renewal item, “electricity supply assets” in 2025-26. Seqwater subsequently described these assets as a property pole, meter box (excluding the meters), cabling and a distribution board. In addition, Seqwater stated:

The proposed renewals expenditure is scheduled based on the...“standard asset life” of 20 years for this type of equipment. It was installed in 2005 and will be 20 years old when the work is scheduled. The cost estimate is drawn from the estimated replacement costs as set out in Section 5.2.2 and Section 9 of the Irrigation Infrastructure Renewal Projections - 2013/14 to 2046/47 Report on Methodology. The renewal timing will be reviewed on an ongoing basis so that it is only delivered when condition warrants. The scope and cost estimate will be reviewed prior to commencement of work to ensure the delivery is efficient.

Item Reviews

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

Items reviewed included:

- (a) a specific item sampled in the Cedar Pocket Dam WSS (Item 1); and
- (b) additional items reviewed in another WSSs where the conclusion was considered by SKM for possible application to Cedar Pocket Dam WSS (Items 2 and 3).

Item 1: Cedar Pocket Dam Telemetry

Seqwater

Seqwater submitted that this renewals item is recurring with costs of \$34,000 scheduled to occur in 2020-21 and again in 2030-31.

Other Stakeholders

Stakeholders during consultations in June 2012 (QCA 2012c) submitted that any proposed expenditure on telemetry should not be included in prices.

Consultant's Review

Project Description

This project provides for the renewal of gauging and telemetry assets at Cedar Pocket Dam. The gauging station locations are at the headwater and tail-water levels. The tail-water gauge is currently read manually via a gauge board located a distance downstream of the dam due to the physical constraints of the stream. Seqwater proposes to install new air bubbler-style stream gauging stations during 2012-13 in order to better meet the compliance requirements of the Mary Basin ROP. The works nominated will be the replacement of both the upstream and downstream gauging equipment on a 10-year recurrence interval.

The project is recurring due to the anticipated deterioration over time of the electronic and communications equipment. SKM advised that this type of equipment can typically be expected to reach obsolescence after approximately 10 years service, beyond which it can be expected to suffer a reduction in reliability resulting from increased component failure and lack of service support.

SKM was not aware of any component of the costs being attributed to damage from the 2010-11 floods.

Project Status

This project is to be undertaken in 2020-21, and then again in 2030-31. In the Seqwater Asset Delivery Framework, the project would be classified as pre-implementation, in the Concept and Feasibility stage, meaning prior to Preliminary design. SKM reviewed the project cost estimates and found them to be reasonable. SKM considered the project is ready to proceed to the preliminary design phase.

Provided Documentation

The documents used for this review are:

- (a) WMO010: Water Monitoring Data Collection Standards. Queensland Government, Department of Natural Resources and Water (Version 2.1) March 2007;
- (b) Mary Basin ROP (Extract): ROL holder monitoring (page 183);
- (c) SM Project Outline – Cedar Pocket Dam Telemetry Cost Estimate;
- (d) Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47. Report on Methodology Seqwater, April 2012; and
- (e) RFI001 Irrigation Request Response. QCA Irrigation Price Review 2013-17.

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

Prudence

The need for this project has been determined as being required to fulfil the regulatory obligations as specified in the ROP, which to date have not been met. This need is supported by reference to Attachment 7 of Seqwater's submission, Mary Basin ROP, which requires continuous time series data for the water level (headwater) and the stream flow (tail-water) to be provided to DNRM. The proposed telemetry equipment will fulfil these requirements.

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

The automation of level recording and data transfer is required to efficiently manage data integrity and quality. All Seqwater stream-flow data is automatically recorded and transferred via radio link to a central database location. This is to ensure that the data is secure and errors or gaps that are a feature of a manual system are avoided.

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

Policies and Procedures

The level of service required, in accordance with the ROL, is for continuous time series data for the water level (headwater) and the stream flow (tail-water). SKM interpreted this as a requirement for the provision of real-time data; hence the need for a radio link to transmit the data. The proposed telemetry equipment will fulfil these requirements.

A cost breakdown and schedule has been provided which provides a time-frame and budget for future expenditure.

Timing of Asset Replacement/Refurbishment

The age of the existing manually-read gauging system is not clear. However, the condition assessment by Seqwater indicated replacement in 2020-21. As the expected life of the asset is 10 years, replacement is scheduled to be repeated in 2030-31.

Seqwater's standard useful asset life for telemetry components and level measurement equipment is 10 years (refer to Attachment 2 of Seqwater's submission supporting document: Report on Methodology). Seqwater's standard asset refurbishment for telemetry has yet to be determined (refer to Attachment 2 Seqwater's submission supporting document: Report on Methodology). Accordingly, SKM believed that standard asset lives, in keeping with industry standards, should be used.

As discussed, this type of equipment can normally be expected to reach obsolescence after approximately 10 years service, beyond which it can be expected to suffer a reduction in reliability due to increased component failure and a lack of service support. Although in some cases equipment life may be extended, in SKM's experience 10 years is considered typical. On this basis the timing of the asset replacement is considered appropriate.

Scope of Works

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

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

Although Seqwater has yet to undertake options analysis, SKM understood a bubbler system is favoured to maintain commonality with similar equipment elsewhere. SKM considered this method of stream gauging to be appropriate.

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

Efficiency

The work will involve replacement with similar equipment, which will mean very little modification of adjacent infrastructure or buildings/enclosures. The equipment will provide the same functionality, accuracy and performance as the existing system. From SKM's previous experience with similar equipment, the proposed costs were considered reasonable.

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

Project Cost

Seqwater has provided a breakdown of the cost estimate for the replacement works. The major supply components of the cost were verified independently by SKM by means of market quotes. Other cost components (such as install and design costs) were estimated by SKM from historic, benchmark costs from similar projects. The summary of the cost comparison is outlined below in Table 4.8.

Table 4.8: Cedar Pocket Dam Telemetry – Cost Estimate (Real \$'000)

<i>Item</i>	<i>Seqwater Estimate</i>	<i>SKM Estimate</i>
Design	3,500	5,500
Procurement	2,000	2,500
Supply and Installation - Campbell Scientific CR1000 Data Logger (x 2)	8,600	7,600
Supply and Installation - HW Air Force Compressor Bubblers (x 2)	9,000	15,500
McVan Tipping Bucket Rain Gauge	2,100	2,100
Ancillaries	1,800	1,800
Seqwater Internal Costs	7,000	8,500
Total	34,000	43,500

Source: SKM (2012).

Both the SKM estimate and the Seqwater estimate are for cost of a single installation project. As the variance between the SKM estimate and the Seqwater estimate is less than 30%, the Seqwater estimate is accepted as valid and hence efficient.

Conclusion

SKM assessed the project as prudent as the primary driver of the replacement of the stream gauging and telemetry has been demonstrated and an appropriate decision making process has been documented.

The project was assessed as efficient as the scope is appropriate, the standards of works are consistent with industry practice and the costs reflect prevailing market conditions.

Authority's Analysis

Based on the SKM analysis, the Authority concluded that the expenditure (scheduled to occur in 2020-21 and in 2030-31) is both prudent and efficient. The Authority noted that the proposed works are consistent with Seqwater's requirements outlined in the Mary Basin ROP – namely, the requirement for continuous, real time, water level measurements associated with water level (headwater) and stream flow (tail-water).

By inference, expenditure of a similar magnitude on the same project in previous years was also considered prudent and efficient.

Item 2: Meter Replacements

Seqwater

Seqwater submitted that expenditure of \$14,000 in 2013-14 to 2014-15, \$42,000 in the 2015-16 to 2021-22 period and \$28,000 in later years is required to replace water meters in the Cedar Pocket Dam WSS.

Other Stakeholders

No other stakeholders commented on this item.

Consultant's Review

SKM reviewed the metering requirements in the Central Lockyer Valley 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 Seqwater's irrigation schemes including Cedar Pocket Dam WSS. Metering is required for management of water supplies, reporting and billing purposes. Seqwater has advised that it has two types of meters: river meters and groundwater meters. Most meters are river meters with groundwater meters only in the Central Lockyer Valley WSS.

Prudency

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

- (a) meters are required to comply with monitoring requirements outlined in the ROP or IROL. Management of health and safety risks is also a legitimate project driver;
- (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's proposed high level scope of works with installation modifications to meet manufacture's guidelines was considered appropriate to achieve the desired outcome of providing flow measurements to meet the requirements of the relevant ROP; and
- (d) the installation of lower cost mechanical meters was supported (rather than NWI compliant magnetic flow meters) on the grounds there are very few high use irrigators and use levels change frequently.

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 program. 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 workplace health and safety standards is prudent;
- (b) for the seven years, 2015-16 to 2021-22, meter replacements at 70 per year were considered prudent for the first six years, but not the final year; and
- (c) for 2022-23 onwards, ongoing renewal at 70 annually was considered partially prudent (i.e. 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, and the useful asset life of the meters is 15 to 20 years, there should be no planned replacements until after these assets have passed their useful lives. SKM considered the renewal of meters from 2022-23 to 2027-28 not to be prudent.

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

Efficiency

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

The comparison is shown in Table 4.9.

Table 4.9: Comparison of Meter Installation Costs

<i>Item</i>	<i>Seqwater (\$)</i>	<i>SKM (\$)</i>	<i>Difference</i>
Parts – new flow meter	600	875	46%
Contractors - installation	4,000	5,700	43%
Management costs	2,000	1,600	(20%)
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 Cedar Pocket Dam WSS are outlined below in Table 4.10.

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

	<i>2013-14 to 2014-15</i>	<i>2015-16 to 2021-22</i>	<i>2022-23 to 2035-36</i>	<i>Total</i>
Seqwater proposed costs	14	42	28	84
SKM revised costs	13	34	14	61

Source: SKM (2012).

Authority's Analysis

The Authority noted the outcome of the SKM review that expenditure associated with Item 2: Meter replacement is efficient but only partially prudent on the basis of the proposed timing of replacement. A more realistic estimate of the number of meters to be replaced was also proposed by SKM.

The Authority, based on the SKM analysis, concluded that the expenditure associated with metering at Cedar Pocket Dam be adopted as outlined, above, in Table 4.10.

Item 3: Cedar Pocket Dam – Embankment Refurbishment

Seqwater

Seqwater submitted that expenditure of \$18,000 in 2015 is proposed for the refurbishment of Cedar Pocket Dam embankment.

Other Stakeholders

No other stakeholders made comment regarding this item.

Consultant's Review

SKM reviewed a dam embankment related project at Clarendon Dam in the Central Lockyer Valley WSS. This involved replacement of riprap (rock) on the lake-side embankment to absorb and disperse the wave energy for a total cost over a six-year period of \$312,000.

While the Clarendon Dam was considered prudent and efficient, SKM considered that the conclusions could not be applied to the Cedar Pocket Dam embankment project as it was unclear whether the works included or excluded renewal of riprap. SKM, therefore, considered that there was insufficient information to conclude on this project.

Conclusion

There was insufficient information to draw a conclusion relating to this item – a generic 13% saving was therefore applied (see below).

Draft Report

Sampled Items

In summary, one item was directly sampled (that is, Cedar Pocket Dam telemetry) and was found to be prudent and efficient.

In addition, proposed expenditure on meter replacements was found to be prudent and efficient in the case of installations made in 2013-14 and 2014-15 but partially prudent in later years. SKM's revised cost estimates were adopted.

In the case of another item, the Cedar Pocket Dam embankment refurbishment, it was considered that conclusions reached for a similar project at Clarendon Dam in the Central Lockyer WSS could not be applied. This item was, therefore, categorised as a non-sampled item and subject to the appropriate implied cost saving (see below).

Non-Sampled Forecast Renewals Expenditure

As discussed in Volume 1, due to time limitations, the Authority was unable to comprehensively review all past or forecast renewals expenditure for prudence and efficiency. Accordingly, the Authority drew on the results of consultant reviews, as detailed below.

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

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

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

Source: QCA (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 (not reviewed) assets, taking the sample size to in excess of 30% by value of forecast renewals.

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

In summary, the net variance between Seqwater's initially submitted (non-metering) forecast renewals costs and the efficient SKM cost estimate of \$0.68 million was 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.

Final Report

No submissions were received in regard to forecast renewals expenditure.

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

The findings on sampled items are unchanged since the Draft Report.

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

<i>Item</i>	<i>Year</i>	<i>Seqwater</i>	<i>Authority's Findings</i>	<i>Recommended</i>
Sampled Items				
1. Cedar Pocket Dam Telemetry	2020-21 & 2030-31	68	Prudent and efficient.	68
Results Applied from Other Reviews				
2. Metering	2013-14 to 2014-15	14	Partially prudent.	13
	2015-16 to 2021-22	42	Partially prudent.	34
	2022-23 to 2035-36	28	Partially prudent.	14
3. Cedar Pocket Dam Embankment	2015	18	Results could not be applied - 13% saving applied)	16
Non-Sampled Items				13% saving applied

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

4.4 Seqwater's Consultation with Customers and Reporting

Draft Report

Stakeholder Submissions

Seqwater made no submission in regard to stakeholder consultation.

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

QFF (2012) submitted that irrigators are concerned about the lack of consultation that has occurred since schemes were transferred to Seqwater in 2008-09 and 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.

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 including about the proposed renewals expenditure program. The Authority considered that this approach should also be adopted by Seqwater.

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

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) submitted that the *South East Queensland Water (Restructuring) Act 2007* provides for the responsible Ministers to issue a Statement of Obligations to Seqwater including 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 the annual costs for renewals options analysis would be \$12,546 for the Cedar Pocket Dam WSS. In addition, a cost of \$3,430 would be incurred to develop NSPs each year and \$3,570 to establish and run a scheme advisory committee for the scheme as a whole.

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

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

During consultation in February 2013, stakeholders submitted that an estimation of costs is needed to inform any consideration of whether more consultation is needed. Some irrigators indicated that further consultation is not necessary.

Authority's Response to Submissions Received on the Draft Report

Options Analysis

While 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.

The Authority notes that the annual cost of the options analysis could exceed the annual annuity for Cedar Pocket Dam.

The Authority considers that 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 the Authority has previously reviewed a proposed expenditure].

Accordingly, the nature of the recommended options analysis must be tailored to take into account the benefits and costs associated with the proposed project. This is a decision best made by Seqwater, but in consultation with the Cedar Pocket Dam WSS irrigation advisory committee.

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

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

The total annual cost of NSP preparation and consultation committees is about \$7,000 for Cedar Pocket Dam WSS and is treated as a fixed irrigation only direct bulk (operating) cost.

The precise details of consultation for each WSS should be decided by Seqwater in consultation with irrigators. In general, it is considered that the benefits of consultation will justify the relatively small costs.

4.5 Allocation of Headworks Renewals Costs

The Cedar Pocket Dam WSS has only medium priority WAE and therefore all headworks renewals costs are allocated to medium priority customers.

4.6 Calculating the Renewals Annuity

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

For the Cedar Pocket Dam WSS, the Authority's Draft and Final recommended renewals annuity for the 2013-17 regulatory period is shown in Table 4.13. 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% (Volume 1).

Table 4.13: Cedar Pocket Dam WSS Renewals Annuity (Nominal \$)

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Seqwater (April NSP)	64,009	60,349	43,913	47,695	44,161	47,831	50,699	10,104	10,246	10,393	11,794
Seqwater (Nov NSP)	21,764	29,933	21,715	23,930	21,740	23,547	24,959	14,088	14,150	14,212	14,277
Authority								Draft			
High Priority	-	-	-	-	-	-	-	0	0	0	0
Medium Priority	-	-	-	-	-	-	-	12,448	12,298	12,149	12,003
Distribution Loss	-	-	-	-	-	-	-	0	0	0	0
Total Authority	-	-	-	-	-	-	-	12,448	12,298	12,149	12,003
Irrigation Only								12,448	12,298	12,149	12,003
Authority								Final			
High Priority	-	-	-	-	-	-	-	0	0	0	0
Medium Priority	-	-	-	-	-	-	-	12,446	12,311	12,178	12,046
Distribution Loss	-	-	-	-	-	-	-	0	0	0	0
Total Authority	-	-	-	-	-	-	-	12,446	12,311	12,178	12,046
Irrigation Only								12,446	12,311	12,178	12,046

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

5. OPERATING COSTS

5.1 Background

Ministerial Direction

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

Issues

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

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

5.2 Historical Operating Costs

Previous Review 2006-11

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

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

Draft Report

Stakeholder Submissions

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

- (a) does not disaggregate operating costs for each tariff group (where relevant). In the 2006-11 review, Cedar Pocket Dam was part of the Mary Valley WSS;

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

Authority's Analysis

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 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	30,361	38,001	36,317	37,446	37,605
Actual	59,247	41,175	n.a	n.a	n.a
Variance	28,886	3,174	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, WHS and other reporting obligations.

Operating cost classifications

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

Direct Operating Costs

Direct costs are those costs that have been budgeted for each tariff group, including:

- (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). Activities include implementation of asset management plans and meeting compliance obligations (recreation services, public safety, catchment conservation);
- (b) repairs and maintenance of assets that support irrigation water supply including:
 - (i) scheduled maintenance generated by the corporate information system (CIS);
 - (ii) planned maintenance (e.g. scheduled inspections); 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 and are generally selected from Seqwater's panel of providers and supervised by Seqwater staff. Seqwater currently employs 49 full-time contractors plus ad-hoc contractors depending on workload; and

- (c) other (direct) costs including:

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

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

- (a) labour costs are the direct labour costs arising from budgeted operations activities for 2012-13 (base year). Total irrigation direct labour (for Seqwater employees) has been submitted under the category 'direct operations costs'; however, in practice a small proportion of this 'operations' labour will be used for maintenance activities¹;
- (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 costs are classified by type of expenditure and comprise:

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

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

- (a) non-infrastructure costs of assets such as buildings, plant and equipment. Seqwater uses aggregate depreciation costs as a proxy for the costs associated with use of these assets;
- (b) insurance premium costs including 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.

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).

Forecast Operating Costs

Draft Report

Stakeholder Submissions

Seqwater

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

The 2012-13 year was adopted as the base year as it 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 reviewed by the Authority for prudence and efficiency.

Seqwater applied the following escalators to 2012-13 costs to derive forecasts for 2013-17:

- (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 non-direct costs were escalated at CPI (2.5% per annum).

Seqwater provided two versions of its Cedar Pocket Dam 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 2012b); and
- (b) a version in November 2012 (Seqwater 2012ak) 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).

This comparison shows that the total costs for the scheme are about 10% higher than originally proposed.

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

	<i>April NSP</i>	<i>November NSP</i>	<i>Variance</i>
Direct Operating Costs			
<i>Operations</i>			
Labour	44,178	56,951	12,773
Contractors	0	0	0
Materials	3,000	3,000	0
Electricity	100	100	0
Other	2,000	2,000	0
Sub-Total	49,278	62,051	12,773
<i>Repairs and Maintenance</i>			
Planned	9,940	9,940	0
Unplanned	4,060	4,060	0
Sub-Total	14,000	14,000	0
<i>Dam Safety</i>	0	0	0
<i>Rates</i>	0	0	0
Total Direct Operating Costs	63,278	76,051	12,773
Non Direct Operating Costs			
<i>Operations</i>			
Water Delivery	6,778	7,826	1,048
Asset Delivery	3,026	3,855	829
Corporate	24,216	24,165	(50)
Other	2,064	666	(1,398)
Sub-Total	36,083	36,512	429
<i>Non-Infrastructure Asset</i>	3,015	3,747	732
<i>Insurance</i>	10,095	8,935	(1,160)
<i>Working Capital</i>	946	946	0
Total Non-Direct Operating Costs	50,140	50,140	0
Total Operating Costs	113,418	126,191	12,773

Source: Seqwater (2012b) and Seqwater (2012ak).

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

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

	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Direct Operating Costs					
Operations	62,051	64,502	67,049	69,698	72,452
Repairs and Maintenance	14,000	14,560	15,142	15,748	16,378
Dam Safety	0	0	0	0	27,595
Rates	0	0	0	0	0
Non-Direct Operating Costs					
Operations	36,512	37,425	38,360	39,319	40,302
Non-infrastructure	3,747	3,841	3,937	4,035	4,136
Insurance	8,935	9,158	9,387	9,622	9,683
Working Capital	946	970	994	1,019	1,044
Total	126,191	130,455	134,870	139,442	171,770

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

The total operating costs by type are detailed in Table 5.4 for the Cedar Pocket Dam WSS.

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

	2012-13	2013-14	2014-15	2015-16	2016-17
Labour	56,951	59,229	61,598	64,062	66,625
Contractors and Materials	3,000	3,120	3,245	3,375	3,510
Electricity	100	103	105	108	110
Others	2,000	2,050	2,101	2,154	2,208
Planned Repairs and Maintenance	9,940	10,338	10,751	11,181	11,628
Unplanned Repairs and Maintenance	4,060	4,222	4,391	4,567	4,750
Dam Safety	0	0	0	0	27,595
Rates	0	0	0	0	0
Non-Direct	50,140	51,394	52,678	53,995	55,345
Total	126,191	130,455	134,870	139,442	171,770

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

Other Stakeholders

R.J. Thefs and E.R. Thefs (2012) submitted that as farmers have had to become more cost efficient, so should Seqwater.

S. Tramacchi (2012) submitted that it is recognised that Cedar Pocket Dam WSS is small in comparison and cannot achieve the economies of scale of other schemes. However, it could be more efficiently operated, reducing costs and tariffs.

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 irrigators in relation to the forecasting and incurrence of operating costs.

In response to submissions, the Authority acknowledged that one of the objectives of this investigation is to establish, as far as practicable, the efficient cost base for pricing purposes. The Authority's review appears in the following sections.

Final Report

No submissions were received in regard to forecast operating costs.

5.4 Prudency and Efficiency of Direct Operating Costs

Introduction

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

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

Draft Report

For the purposes of the analysis of the prudency and efficiency of operating costs, the Authority 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 storages to meet regulatory/community standards; and
- (f) developing system operating plans to ensure the efficiency and operation of dams, weirs, bores and other water sources.

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

Seqwater has responsibility for the ongoing management and maintenance of recreation sites transferred from SunWater. The use of Seqwater assets for recreational purposes is secondary to Seqwater's main function of water supply and treatment. However, recreation

facilities must be managed in a sustainable and environmentally responsible manner to ensure that Seqwater's core responsibilities and accountabilities are not adversely impacted.

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

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

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

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

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

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

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

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

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

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

Seqwater's proposed direct operating costs by activity as submitted in November 2012 NSPs are detailed in Table 5.5.

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

	2012-13	2013-14	2014-15	2015-16	2016-17
Operations	62,051	64,502	67,049	69,698	72,452
Repairs and Maintenance	14,000	14,560	15,142	15,748	16,378
Dam Safety Inspections	0	0	0	0	27,595
Rates	0	0	0	0	0
Total	76,051	79,062	82,192	85,446	116,425

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

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

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

	2012-13	2013-14	2014-15	2015-16	2016-17
Labour	56,951	59,229	61,598	64,062	66,625
Contractors and Materials	3,000	3,120	3,245	3,375	3,510
Electricity	100	103	105	108	110
Other	2,000	2,050	2,101	2,154	2,208
Planned Repairs and Maintenance	9,940	10,338	10,751	11,181	11,628
Unplanned Repairs and Maintenance	4,060	4,222	4,391	4,567	4,750
Dam Safety	0	0	0	0	27,595
Rates	0	0	0	0	0
Total	76,051	79,062	82,192	85,446	116,425

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

Other Stakeholders

Stakeholders' comments regarding individual direct operating costs are outlined below under specific item reviews.

Authority's Analysis

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

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

Item 1: Direct Labour and Contractors

Stakeholder Submissions

Seqwater

Seqwater originally submitted an estimate for direct labour and contractors of \$45,945 for 2013-14, escalated from the budgeted 2012-13 base forecast of \$44,178 by 4%. Seqwater subsequently revised the forecast estimate up slightly to \$46,100.

In November 2012, Seqwater again revised its estimate of direct labour costs for the Cedar Pocket Dam WSS to \$56,951 (2012-13), or \$59,200 in 2013-14.

Other Stakeholders

QFF (2012) submitted that labour and other direct operating costs are high in this WSS.

In consultations in June 2012 (QCA 2012c), irrigators questioned whether it is possible for irrigators themselves to operate releases to reduce operating costs. S.Tramacchi (2012) submitted that labour costs of \$49,500 for direct operations related to items that seem to have limited relevance to the Cedar Pocket Dam WSS.

Consultant's Review

The 2012-13 base forecast was built up from a zero base (i.e., using a bottom up method). While this review was to assess the costs related to direct labour and contractors, Seqwater informed SKM that there are no contractor costs included in their forecasts. Accordingly, this review relates to internal Seqwater staff costs only.

After SKM's review, SKM was provided with additional data indicating that Seqwater has provided a revised submission that increased the original forecast from \$45,945 to \$46,100. No further information was, however, provided to support this increase in the labour cost forecast. Actual costs in 2011-12 were \$16,149. Seqwater increased the 2012-13 amount again to \$56,951 (November 2012), but SKM's analysis was based on earlier estimates.

The labour resources required to operate the Cedar Pocket Dam WSS mainly relate to the operation of assets such as Cedar Pocket Dam (including the catchment and surrounding areas associated with the dam). Seqwater noted in its response to SKM's request for information that the cost forecast for 2013-14 was \$45,945 rather than the \$49,000 that the Authority had initially been advised in Seqwater's submission. Another \$3,000 had been budgeted for materials rather than contractors which may have been included in the initial estimate provided to the Authority.

Provided documentation

The documents used for this review are:

- (a) Seqwater, 2013-14 Irrigation Pricing, Submission to the Queensland Competition Authority, July 2012;
- (b) Seqwater, Cedar Pocket Dam Water Supply Scheme, Network Service Plan;
- (c) Seqwater, Information Request Response – QCA Irrigation Price Review 2013-17, RFI 012, Cedar Pocket Dam WSS, Operations – Direct Labour, 14 Aug 2012;
- (d) Seqwater, Budget 2012-13, Salaries and Wages, Dam Operations;

- (e) Seqwater, Budget 2012-13, Salaries and Wages, Group Support;
- (f) Seqwater, Opex – Irrigation Updated YTD.xlsx;
- (g) Seqwater, Opex – Irrigation Salaries Queries.xlsx; and
- (h) Seqwater Enterprise Bargaining Certified Agreement 2009 – 2012.

SKM noted that while Cedar Pocket Dam does not have any public areas open for recreational use, it does have areas associated with the dam that are maintained. To assist with undertaking the review of costs, SKM requested from Seqwater evidence of historical costs for contracted area maintenance including the cost of mowing services.

In Seqwater's operating structure, Catchment Services is responsible for the maintenance of the areas surrounding the dams. While Catchment Services (Group Support) had charged against Cedar Pocket Dam for the provision of some labour services in the past, this cost has not been included in any forecast. While the reason is not clear, the cost of maintaining the areas surrounding the dam may have been included with other operating expenditure categories like repairs and maintenance rather than identified as labour costs [or excluded where costs are related to water quality].

Prudency

Cedar Pocket Dam is a referable dam under the *Water Supply (Safety and Reliability) Act 2008*. To adequately satisfy Seqwater's regulatory obligations at Cedar Pocket Dam, labour resources are needed to comply with various legislative requirements including obligations relating to dam safety and dam management.

Consequently the operating expenditure item was seen as prudent.

Efficiency

Seqwater's operating cost projections of labour are not based on any water demand cost drivers but are rather based on the 2012-13 budget. In SKM's view, the method for the development of budget costs based on a previous budget was not satisfactory as actual costs may vary significantly from budget.

SKM preferred that forecast costs be based on actual costs, taking into consideration the trend exhibited by recent actual expenditure. Seqwater indicated that the budgeted cost is typically higher than actual (or recorded) costs because of unforeseen events or incorrect recording of time by staff. In SKM's view, while this could explain some variations, this cannot be the reason why there is an almost 3-fold increase in costs since 2011-12. Accordingly, additional information relating to actual historical expenditure was sought from Seqwater.

SKM was advised by Seqwater that the actual expenditure values are correct as incurred, although Seqwater subsequently revised the forecast direct labour cost in November 2012 (Table 5.7). However, SKM's detailed review was limited to the available information provided by Seqwater at the time which is consistent with their original cost forecast.

Table 5.7: Historic and Budget Labour Costs Compared (Nominal \$)

<i>Item</i>	<i>2009-10 Actual</i>	<i>2010-11 Actual</i>	<i>2011-12 Actual</i>	<i>2012-13 Budget – April 2012</i>	<i>2012-13 Revised</i>	<i>2012-13 Budget Revised – November 2012</i>
Direct Labour	48,696	15,933	16,149	44,178	44,325	56,951

Source: SKM (2012) and Seqwater (2012ak).

SKM also sought from Seqwater information regarding the estimated quantity of FTEs assigned to the assets. Seqwater advised that costs related to base salaries and on-costs for a Dam Operations Officer 1 (5%), a Dam Operations Officer 2 (40%) and a Dam Operations Supervisor (20%). Total labour costs were estimated at \$44,178 (2012-13).

The information provided by Seqwater in this case is consistent with the original submission, rather than Seqwater's revised submission. Overall, the proposed budget of \$45,945 for labour cost for 2013-14 is significantly higher than the historical actual expenditure of 2010-11 and 2011-12 although about 10% less than the actual 2009-10 labour cost.

Delivery of Service

Dam operations must meet the regulatory requirements under various Acts including those relating to Dam Safety, Flood Management, the Mary Basin ROP, and providing sufficient water to meet standards of service. Dam operations are relatively labour intensive and the expenditure is required to provide the various services identified by Seqwater in its submission (see above).

Cedar Pocket Dam is an unmanned site located about 45 minutes drive from the Pie Creek Depot where the staff member who operates the dam is based. The site is also sometimes serviced by staff based at Borumba Dam approximately 1 hour and 15 minutes away.

The dam is attended at least three times a week by a staff member whose duties vary depending on the state of the storage. As a minimum the operator will carry out a dam safety inspection which involves walking the embankment, checking equipment and recording data from dam instruments. A dam safety inspection takes on average 1.5 to 2.5 hours.

The frequency of the inspections increases as spillway discharges increase and as directed by the Seqwater Dam Safety Team. An operator must take visual readings of instruments to verify automated equipment and to act as an early warning for potential dam safety issues. The data gathered from instruments at the dam must be reported both internally and externally. It takes 2.5 hours per week to input the data and 1 hour to validate the data.

The Mary Basin ROP requires Seqwater to notify customers when their allocations are effectively topped up by spillway flows. Water ordering across the system is ad hoc and the system has to be monitored by the operator which involves the operator monitoring flows in certain sections of the system by eye as the only flow gauge is at the head of the system.

All meters must be read quarterly which involves driving and walking to metering locations. Meter reading takes one operator 1-2 days or longer during wet conditions.

Group Support (catchment management) has responsibility for the development and delivery of catchment maintenance services for all operational assets. The team of rangers and bio-security officers ensures that asset management plans, processes, systems and practices are implemented in accordance with regulatory requirements. In forecast costs, however,

Seqwater has not provided labour costs associated with Group Support or Catchment Management. This could be due to a change in the way the allocation has been made with such costs included under Repairs and Maintenance or other related categories. However, SKM could not be certain that this is the case.

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

Efficiencies and Economies of Scale

The services provided by the operators of the dam, water treatment plant and irrigation scheme are likely to be difficult to contract to third party operators given that they are small and the operators are required to know their assets intimately. These operators also do not allocate all their time to the Cedar Pocket Dam WSS but also provide services to other dams and WSSs within the Seqwater region including assets belonging to the Mary Valley WSS (including Pie Creek).

With the transfer of the assets to Seqwater and the consequent change in operating model, these dam operators have not had their work load reduced.

Group Support (rangers) is responsible for managing contracts for ground maintenance, of which there are two. One is for dam grounds maintenance and the other is for catchment grounds maintenance. Because of the slope of the ground, specialised equipment is required. This together with the remoteness of the dam determines the ground maintenance costs.

Seqwater submitted that a significant amount of time is required for data input and validation. However, SKM understood that Cedar Pocket Dam is equipped with telemetry equipment and only the tail-water flow below the spillway needs to be monitored manually.

Benchmarking

The initial data provided by Seqwater for Cedar Pocket Dam WSS did not allow SKM to directly comment on the reasonableness of the labour costs. However based on the cost data submitted for the Mary Valley WSS, SKM considered that the rates applied are reasonable.

SKM indicated that under normal circumstances, to comply with dam safety requirements, an onsite inspection of the dam is required three times a week. Given the distance from other Seqwater assets, SKM estimated that the onsite dam inspection could take 2.5 hours, three times a week.

When water releases are required for irrigation purposes, a visit every day to manage the release and check water levels at the dam may be required. Given the distance of the dam from the operating base where the operators are located, SKM expected that it would take approximately three hours to manage the release and check water levels per visit. SKM expected that a visit for the sole purpose of managing releases may occur two times a week, on average. Therefore, 0.35 FTEs are required to operate the Cedar Pocket Dam (i.e. 2.5 to 3 hours five days a week on average). SKM acknowledged that some excess capacity may be necessary during normal operations to address peak requirements. Outside peak

requirements, this excess may thus be utilised in non-core activity like mowing and minor maintenance work.

Seqwater also indicated that time is spent away from the dam to manage ROP compliance activities, and other activities including managing staff, quarterly meter readings and recording data and customer contacts. These activities are largely undertaken by the Dam Operations Supervisor.

While there is a large increase in the 2012-13 budget of labour cost from the labour cost incurred in 2010-11 and 2011-12, the budget for 2012-13 is about 10% less than that incurred in 2009-10. While the documents submitted to SKM do not detail the reasons for this expenditure pattern, SKM understood from its discussions with Seqwater that the years of 2010-11 and 2011-12 may be unusual with first the drought and its end in 2010-11 and subsequently the floods of 2011-12. Labour resources had been allocated more to manage the drought asset and subsequently the floods rather than irrigation asset like Cedar Pocket Dam WSS. With the return to normal weather patterns expected and thus a requirement for irrigation water releases, the expected labour costs are more likely to reflect costs incurred in the years prior to 2010-11.

Seqwater allowed for 0.65 FTE in its budget. This comprises of:

- (a) Dam Operations Officer 1 - 5%;
- (b) Dam Operations Officer 2 - 40%; and
- (c) Dam Operations Supervisor - 20%.

In SKM's initial view, dam operations required 0.35 FTE. Assuming that only 5% of the Dam Operations Supervisor's time is spent on dam operations and the remainder on activities including managing ROP compliance and staff, meter readings and customer contacts, the allocation of costs to the Cedar Pocket Dam WSS is over estimated by 0.15 FTE.

SKM recommended reducing Dam Operations Officer 1 and 2's allocation to a total of 30% with the Supervisor contributing 5%. In addition, SKM accepted that the other 15% of Dam Operations Supervisor's time for his other supervisory activities is efficient. The resulting allocation to Cedar Pocket Dam Operations is as follows:

- (a) Dam Operations Officer 1 - 3%;
- (b) Dam Operations Officer 2 - 27%; and
- (c) Dam Operations Supervisor - 20%.

Based on this analysis, SKM initially recommended a revised total labour budget for 2012-13 of \$37,707, which escalates to a revised forecast of \$39,215 in 2013-14. These revised figures represented a 15% reduction compared to those originally submitted by Seqwater.

Seqwater provided subsequent information regarding direct labour costs and the Authority endorsed the consideration by SKM of this information. SKM reviewed this information, concluding that its initial recommendation did not fully include:

- (a) the time required to manage releases during drier periods (given the last two years have been characterised by significant inflow events); and

- (b) the time required for accurate weekly data input and validation given the manual nature of telemetry.

Taking this into consideration and assuming that in a typical year the dam spills 50% of the time while the other 50% of time requires daily visits to release water and a 38 hour working week, SKM concluded that a 0.6 FTE is required based on average hours required per week (Table 5.8 refers).

Table 5.8: FTE Calculation Based on Revised Data

<i>Activity</i>	<i>Spilling - Time Required</i>	<i>Release - Time Required</i>
Travel (including return)	4.5 hours (3 visits per week @ 1.5 hours)	10.5 hours (7 visits per week @ 1.5 hours)
Site inspections	6 (3 visits per week @ 2 hours)	-
Dam release (including inspections)	-	17.5 hours (7 visits per week @ 2.5 hours)
Weekly data input	3.5 (1 visit @ 3.5 hours)	3.5 hours (1 visit @ 3.5 hours)
Total (weekly)	14 hours	31.5 hours

Source: SKM (2012). Note - calculation is: $[(14 + 31.5) / 2] / 38 = 0.6$ FTE (rounded).

Accordingly, SKM revised its recommendation for direct labour cost to reflect the allocation of 0.6 FTE (Table 5.9). However, Seqwater responded that, by reducing the allocation of 0.65 FTE to 0.6 FTE to Cedar Pocket Dam WSS, Seqwater will be unable to recover 0.05 FTE that is dedicated to irrigation assets. Given that the difference is small and relatively immaterial, SKM recommended that the Authority accepts the Seqwater's cost allocation.

Table 5.9: Revised 2012-13 Labour Cost Budget (Nominal \$)

<i>Position</i>	<i>Allocated</i>	<i>Salaries Applied</i>
Dam Operations		
Operations Officer 1	5%	
Operations Officer 2	35%	
Operations Supervisor	20%	
Total Labour Cost for 2012-13		42,774
Recommended Labour Cost 2012-13		44,178

Source: SKM (2012).

Based on Seqwater's salary rates and on-costs, SKM estimated a revised total labour budget of \$42,774 for 2012-13. However, because the difference was not material, SKM recommended a forecast of \$44,178 for 2012-13, as proposed by Seqwater.

Conclusion

The operating expenditure item was assessed as prudent as the need for the expenditure has been demonstrated. SKM recommended the revised estimate for direct labour costs be accepted as efficient.

Authority's Analysis

The Authority recognised the reasoning behind SKM's recommendation and agreed that it may be difficult for Seqwater to manage staff resources to eliminate a small amount of under-utilisation. The Authority accepted SKM's recommendation.

In response to stakeholder comment about the potential for irrigators to operate releases themselves, the Authority considered that such an option was not consistent with the requirements of the ROL. The issue of local management is otherwise a policy matter outside of the Authority's remit.

The issue of labour costs raised by S. Tramacchi (2012) was directed to SKM, as noted above. SKM found labour costs to be prudent and efficient.

Submissions Received from Stakeholders on the Draft Report

Seqwater (2013a) noted an arithmetic error on labour costs in the SKM report. Seqwater calculated the total labour cost based on 0.6 FTE to be \$54,176 and submitted that the total cost should be amended to \$54,176.

Following further request for clarification, Seqwater (2013e) advised that it had reduced the provision for Dam Operator 1 from 5% to 0%, to accommodate the reduction from 0.65 FTEs to 0.6 FTEs. Seqwater is seeking to adjust its regime to accommodate 0.6 FTE. Seqwater identified a further reduction in costs from \$54,176 to \$53,763 to allow for over-time and allowances for Dam Operator 1.

During consultation in February 2013 irrigators considered that direct labour costs should be lower as Seqwater staff did not visit Cedar Pocket Dam more than 1-2 times per week.

Authority's Response to Submissions Received on the Draft Report

Seqwater's November 2012 revision reflected an allocation of dam operators' costs that was previously allocated by Seqwater to the Mary Valley tariff group by mistake².

SKM considered that the April estimate of dam operators' costs for the Mary Valley tariff group was too high as it was based on historical costs which considered Cedar Pocket Dam to be a tariff group of the Mary Valley WSS. Reallocating costs (including dam operators' costs) away from Mary Valley tariff group had implications for Cedar Pocket Dam WSS. Between April and November NSPs, Seqwater increased 2013-14 forecast cost from \$45,900 to \$59,200.

In the Draft Report, SKM addressed the issue of potential underutilisation of operations staff following the provision of new information by Seqwater. SKM accepted that 0.6 FTE of staff time was necessary and accepted that 0.65 FTE was not materially different. The Authority accepted the revised labour costs proposed by SKM, equivalent to 0.65 FTE.

² For the Mary Valley tariff group, Seqwater re-submitted its estimate for direct labour, down from \$404,438 in April (for 2012-13) to \$227,300 in November. SKM considered the efficient labour costs for Mary Valley tariff group to be \$224,494 - a \$177,138 (or 44%) reduction on Seqwater's April estimate.

However, while SKM's conclusion of a staff allocation of 0.65 FTE was accepted, this was applied to incorrect (too low) labour input costs.

In their submission, Seqwater (2013a) proposed a 2012-13 cost of \$54,176, later revised to \$53,763 (Seqwater 2013e) based on 0.6 FTE. This estimate is 9% less than Seqwater's November NSP estimate of \$59,200.

The Authority accepts that SKM reviewed the staff time allocation of 0.6 FTE as being prudent and efficient, but that SKM applied incorrect staff salary and allowances rates. Accordingly, the Authority proposes to accept an amount of \$53,763 for direct labour in Cedar Pocket Dam WSS (based on a 0.6 FTE and the correct staff salary and allowances rates).

In response to stakeholder comment, the direct labour cost equates, on average, to a Seqwater officer attending Cedar Pocket Dam three days per week. SKM indicated and the Authority accepted that this is reasonable.

Conclusion

Draft Report

In response to stakeholder comment about the potential for irrigators to operate releases themselves, the Authority considered that such an option is not consistent with the requirements of the ROL. The issue of local management is otherwise a policy matter outside of the Authority's remit.

The issue of labour costs raised by S. Tramacchi (2012) was directed to SKM, as noted above. SKM found labour costs to be prudent and efficient.

Sampled Operating Cost Items

For the Cedar Pocket Dam WSS, the Authority sampled one direct operating cost item, direct labour costs. Seqwater initially submitted an estimate for direct labour costs in April 2012 of \$44,000. SKM initially reduced this to \$38,000. Seqwater subsequently revised the 2012-13 forecast to \$57,000 in November 2012 submissions due to a correction of cost allocation issues.

SKM reviewed the information available at the time of its initial review and recommended an amount to \$44,000 (2012-13).

The Authority accepted SKM's estimated cost.

Unsampled Operating Cost Items

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

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

Based on this methodology, the Authority's recommended direct operating expenditure is outlined below (Table 5.10 refers).

Final Report

The Authority's revised sampled direct operating expenditure items are detailed in Table 5.10 compared to Seqwater's proposed and Draft Report recommendations.

Table 5.10: Review of Budgeted 2012-13 Direct Operating Expenditure (Real \$'000)

	<i>Seqwater (April NSP)</i>	<i>Seqwater Revised Cost</i>	<i>Seqwater (November NSP)</i>	<i>Authority's Recommended (Draft)</i>	<i>Authority's Recommended (Final)</i>
Sampled Item					
Direct Labour	44	47	59	44	54
Unsampled Items				5% saving to apply	5% saving to apply

Source: SKM (2012), Seqwater (2012b), Seqwater (2012ak) and QCA (2012).

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

Cost Information Issues

Seqwater (2012aj) submitted that the April NSPs did not properly allocate direct operating costs between related tariff groups due to overlaps within certain operational areas. That is, for the Mary Valley operational area, Mary Valley WSS is linked operationally to Pie Creek tariff group and Cedar Pocket Dam WSS (the latter was previously a bulk tariff group within the Mary Valley WSS, but is now a WSS in its own right).

In each of these operational areas, Seqwater did not initially accurately allocate costs to each tariff group. Seqwater budgets, in the absence of economic regulation and therefore the apparent need to allocate costs carefully for irrigation pricing purposes, had previously been developed more generally for an operational area.

The Authority's irrigation review has caused Seqwater to substantially revise its forecast operating costs in these tariff groups.

Seqwater's revised direct labour costs are shown in Table 5.11, together with the Authority's decision as reviewed above.

³ The Authority chose not to include a large reduction in Repairs and Maintenance costs in the Central Lockyer WSS that were included in the original sample in error.

Table 5.11: Direct Labour Costs – Mary Valley Operational Area (\$2012-13)

<i>Tariff Group</i>	<i>April Seqwater Forecast</i>	<i>Revised Seqwater Forecast</i>	<i>Change in Seqwater Forecast</i>	<i>SKM Final Estimate</i>	<i>QCA Decision</i>	<i>QCA Variation to April</i>
Mary Valley (Sampled)	404,000	224,000	(180,000)	224,000	224,000	(45%)
Pie Creek (Unsampled)	22,000	56,000	34,000	n.a.	53,200	142%
Cedar Pocket Dam (Sampled)	44,000	57,000	13,000	44,000	44,000	0%
Sub-Total	470,000	337,000	(133,000)	n.a.	321,200	(32%)

Source: QCA (2012).

The Authority has adopted SKM's final estimate for Mary Valley and Cedar Pocket Dam WSSs – these revised costs were sampled / reviewed by SKM.

Seqwater (2012aj) submitted that similar cost allocation issues had arisen for repairs and maintenance costs submitted in April 2012 for the Mary Valley operational area. Table 5.12 refers.

Table 5.12: Repairs and Maintenance – Mary Valley Operational Area (\$2012-13)

<i>Tariff Group</i>	<i>April Seqwater Forecast</i>	<i>Revised Seqwater Forecast</i>	<i>Change in Seqwater Forecast</i>	<i>SKM Final Estimate</i>	<i>QCA Decision</i>	<i>QCA Variation to April</i>
Mary Valley (Unsampled)	208,000	203,000	(5,000)	n.a.	192,850	(7%)
Pie Creek (Sampled)	66,000	71,000	5,000	71,000	71,000	8%
Cedar Pocket Dam (Unsampled)	14,000	14,000	0	n.a.	13,300	(5%)
Sub-Total	288,000	288,000	0	n.a.	277,150	(3.5%)

Source: QCA (2012).

Cedar Pocket Dam WSS repairs and maintenance costs remain unchanged at \$14,000 for 2012-13 and the Authority's 5% cost reduction has been applied as these were not sampled / reviewed by SKM.

Summary of Direct Operating Costs

A comparison of Seqwater's and the Authority's direct operating costs for the Cedar Pocket Dam WSS is set out in Table 5.13. The Authority's proposed costs include all specific adjustments and the Authority's proposed cost escalations as noted above. Final recommendations are compared to the Authority's Draft recommendations.

The significant increase in direct operating costs since the Draft Report is explained by the corrected direct labour costs for the scheme and the inclusion of consultation costs.

Table 5.13: Direct Operating Costs (Nominal \$)

Costs	Seqwater				Authority			
	2013-14	2014-15	2015-16	2016-17	2013-14	2014-15	2015-16	2016-17
					Draft			
Operations	64,502	67,049	69,698	72,452	50,022	51,025	52,036	53,054
Repairs and Maintenance – Planned	10,338	10,751	11,181	11,628	10,763	11,023	11,287	11,554
Repairs and Maintenance - Unplanned	4,222	4,391	4,567	4,750	2,861	2,930	3,000	3,071
Dam Safety	0	0	0	27,595	0	0	0	24,643
Rates	0	0	0	0	0	0	0	0
Total	79,062	82,192	85,446	116,425	63,646	64,979	66,323	93,322
					Final			
Operations					59,816	61,017	62,227	63,446
Repairs and Maintenance – Planned					10,763	11,023	11,287	11,554
Repairs and Maintenance - Unplanned					2,861	2,930	3,000	3,071
Dam Safety					0	0	0	24,643
Rates					0	0	0	0
Consultation Costs					7,175	7,354	7,538	7,727
Total					80,615	82,325	84,053	110,441

Source: Seqwater (2012ak), 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 GSCs review.

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

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

Previous Review

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

Draft Report

Stakeholder Submissions

Seqwater

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

Total non-direct costs and those allocated to the Cedar Pocket Dam WSS are in Table 5.14.

Table 5.14: Seqwater's Budget and Forecast Non-Direct Costs (Nominal \$'000)

	<i>2012-13</i>	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Seqwater	9,524	9,762	10,006	10,256	10,512
Cedar Pocket Dam WSS	50	51	53	54	55

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

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

A comparison of the alternative estimates for the Cedar Pocket Dam WSS is provided in Table 5.15 for non-direct operations costs.

Table 5.15: Non-Direct Operations Costs 2012-13 Forecasts (Nominal \$)

<i>Cost</i>	<i>April NSP</i>	<i>November NSP</i>	<i>Variance (\$)</i>	<i>Variance (%)</i>
Water Delivery	6,778	7,826	1,048	15%
Asset Delivery	3,026	3,855	829	27%
Business Services	16,728	15,641	(1,086)	(6%)
Organisational Development	6,817	7,364	547	8%
Executive	671	1,160	489	73%
Other	2,064	666	(1,398)	(68%)
Total Non-Direct Operations	36,083	36,512	428	1%

Source: Seqwater (2012b) and Seqwater (2012ak).

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

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

Seqwater's submitted non-direct operating costs for the Cedar Pocket Dam WSS are detailed in Table 5.16 below (November 2012 NSP).

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

	2012-13	2013-14	2014-15	2015-16	2016-17
Operations					
Water Delivery	7,826	8,022	8,222	8,428	8,638
Asset Delivery	3,855	3,951	4,050	4,151	4,255
Business Services	15,641	16,032	16,433	16,844	17,265
Organisational Development	7,364	7,548	7,737	7,930	8,128
Executive	1,160	1,189	1,219	1,249	1,280
Other	666	683	700	717	735
Sub-Total	36,512	37,425	38,360	39,319	40,302
Non-Infrastructure Assets	3,747	3,841	3,937	4,035	4,136
Insurance	8,935	9,158	9,387	9,622	9,863
Working Capital	946	970	994	1,019	1,044
Total	50,140	51,393	52,678	53,995	55,345

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

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

The Cedar Pocket Dam WSS utilises a range of non-infrastructure assets (buildings and plant and equipment). These assets are not included in the renewals expenditure forecasts. However, it is necessary for costs associated with the use of these assets to be attributed to the WSS. Seqwater used depreciation costs as a proxy for the cost associated with use of these assets. However, these depreciation costs are not captured for the WSS. Accordingly, aggregate non-infrastructure depreciation for 2012-13 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 Cedar Pocket Dam WSS using the replacement value of scheme assets. This value has been escalated by CPI to determine a premium for each year of the forecast period.

In regard to working capital, Seqwater indicated that the Authority has already adopted a methodology for calculating Seqwater's working capital in GSCs. Seqwater has 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 Cedar Pocket Dam WSS on the basis of revenue attributable to the scheme. The 2012-13 working capital allowance has then been escalated by CPI to provide a forecast for each year of the regulatory period.

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

Other Stakeholders

S. Tramacchi (2012) submitted that the non-direct operating cost appears largely irrelevant and excessive at \$37,000. The estimate of \$10,300 for insurance is not clearly explained and the method by which it is determined does not seem to relate to specific risks and liabilities.

Authority's Analysis

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

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

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

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

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

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

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

In relation to specific comments, the Authority noted that insurance costs are allocated between schemes on the basis of asset replacement value. Costs will be relatively higher as a proportion of total non-direct costs where asset values are relatively higher. The Authority noted that the proposed efficiency reduction will also apply to insurance.

Submissions Received from Stakeholders on the Draft Report

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

Authority's Response to Submissions Received on the Draft Report

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

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

The Authority's recommended non-direct costs to be recovered from the Cedar Pocket Dam WSS (from all customers) are set out in Table 5.17, and compared to Draft Report estimates.

Since the Draft Report, non-direct costs allocated to Cedar Pocket Dam WSS have increased to reflect the increase in direct operating costs.

The allocation of these costs between high and medium priority customers is discussed below.

Table 5.17: Non-Direct Operating Costs (Nominal \$)

Costs	Seqwater				Authority			
	2013-14	2014-15	2015-16	2016-17	2013-14	2014-15	2015-16	2016-17
					Draft			
Non-Direct Operations	37,425	38,360	39,319	40,302	30,555	31,007	31,459	31,909
Non-Infrastructure	3,841	3,937	4,035	4,136	3,114	3,143	3,172	3,200
Insurance	9,158	9,387	9,622	9,863	9,021	9,105	9,189	9,270
Working Capital	970	994	1,019	1,044	0	0	0	0
Total	51,394	52,678	53,995	55,345	42,689	43,256	43,820	44,380
					Final			
Non-Direct Operations					38,759	39,333	39,905	40,477
Non-Infrastructure					3,948	3,985	4,022	4,057
Insurance					9,158	9,387	9,622	9,862
Working Capital					0	0	0	0
Total					51,865	52,705	53,549	54,396

Source: Seqwater (2012ak) and 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 medium and high priority WAE within each tariff groups using the preferred cost allocation methodology for this stage.

Stage 1 – Allocation of Costs to Tariff Groups

Stakeholder Submissions

Seqwater

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

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

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

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

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

Authority's Analysis

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

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

Stage 2 – Allocation of Costs Between Priority Groups

Previous Review

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

Stakeholder Submissions

Seqwater

Seqwater submitted that for Cedar Pocket Dam WSS, no stage 2 cost allocations are required as all water allocations in these tariff groups are medium priority.

As the scheme consists of medium priority customers only, Seqwater (2012f) has proposed to assign all operating costs to these users on the basis of their current nominal WAEs.

Authority's Analysis

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

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

Final Report

No scheme specific comments were received in regard to allocation of non-direct operating costs.

5.7 Cost Escalation

Draft Report

Seqwater

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

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

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

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

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

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

Authority's Analysis

The Authority's analysis of cost escalation is detailed in Volume 1. The Authority recommended that for 2013-17:

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

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

Authority's Response to Submissions Received on the Draft Report

Labour Costs

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

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

There is no forecast for 2016-17; however, the Authority considers Treasury's WPI forecast to be the most appropriate basis for escalating labour costs for 2012-17. The Authority also

notes Seqwater's acceptance of the 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

Electricity costs are a very small cost component for Cedar Pocket Dam WSS.

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

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

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

5.8 Summary of Operating Costs

Seqwater's proposed operating costs by activity and type for the Cedar Pocket Dam WSS are set out in Table 5.18. The Authority's Draft and Final recommended operating costs are set out in Table 5.19 and 5.20 respectively.

Table 5.18: Seqwater's Proposed Operating Costs (Nominal \$)

	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Direct Operations				
Labour	59,229	61,598	64,062	66,625
Contractors and Materials	3,120	3,245	3,375	3,510
Electricity	103	105	108	110
Other	2,050	2,101	2,154	2,208
Repairs and Maintenance				
Planned	10,338	10,751	11,181	11,628
Unplanned	4,222	4,391	4,567	4,750
Dam Safety	0	0	0	27,595
Rates	0	0	0	0
Non-Direct Costs				
Non-Direct Operations	37,425	38,360	39,319	40,302
Non-Infrastructure	3,841	3,937	4,035	4,136
Insurance	9,158	9,387	9,622	9,863
Working Capital	970	994	1,019	1,044
Total	130,455	134,870	139,442	171,770

Source: Seqwater (2012ak).

Table 5.19: Authority's Draft Operating Costs (Nominal \$)

	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Direct Operations				
Labour	45,082	45,993	46,912	47,838
Contractors and Materials	2,920	2,990	3,062	3,134
Electricity	102	105	108	110
Other	1,918	1,936	1,954	1,971
Repairs and Maintenance				
Planned	10,763	11,023	11,287	11,554
Unplanned	2,861	2,930	3,000	3,071
Dam Safety	0	0	0	24,643
Rates	0	0	0	0
Non-Direct Costs				
Non-Direct Operations	30,555	31,007	31,459	31,909
Non-Infrastructure	3,114	3,143	3,172	3,200
Insurance	9,021	9,105	9,189	9,270
Working Capital	0	0	0	0
Total	106,336	108,234	110,143	136,702

Source: QCA (2012).

The Authority's Draft Report recommended operating costs for 2013-14 were 18% lower than Seqwater's proposed amount, as defined in its November NSP.

The Final recommendations are set out in Table 5.20. The final total operating costs are higher due to revised direct labour costs, and the consequent change to non-direct operations costs, increased insurance costs and the inclusion of consultation costs.

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

	<i>2013-14</i>	<i>2014-15</i>	<i>2015-16</i>	<i>2016-17</i>
Direct Operations				
Labour	54,863	55,973	57,091	58,217
Contractors and Materials	2,920	2,990	3,062	3,134
Electricity	115	118	121	124
Other	1,918	1,936	1,954	1,971
Repairs and Maintenance				
Planned	10,763	11,023	11,287	11,554
Unplanned	2,861	2,930	3,000	3,071
Dam Safety	0	0	0	24,643
Rates	0	0	0	0
Consultation Costs	7,175	7,354	7,538	7,727
Non-Direct Costs				
Non-Direct Operations	38,759	39,333	39,905	40,477
Non-Infrastructure	3,948	3,985	4,022	4,057
Insurance	9,158	9,387	9,622	9,862
Working Capital	0	0	0	0
Total	132,480	135,029	137,602	164,837

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

The Ministerial Direction also requires that:

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

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

Previous Review

The Mary Basin ROP (September 2011) established Cedar Pocket Dam WSS. Prior to this, Cedar Pocket Dam was a tariff group of the Mary River WSS.

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

For the Cedar Pocket Dam tariff group, although prices over 2006-11 increased by an average of \$2/ML per annum in real terms (plus CPI), the recovery of lower bound costs was not achieved.⁴

⁴ The average annual increase of \$2/ML in real terms was comprised of a \$0.25 increase in the first year, a \$2.50 increase in each of the next three years, and a \$2.25 increase in the last year.

6.2 Approach to Calculating Prices

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

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

6.3 Total Costs

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

Revenue Offsets

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

Stakeholder Submissions

For Cedar Pocket Dam WSS, Seqwater included no revenue offsets.

Summary of Total Costs

The Authority's estimate of prudent and efficient total costs for the Cedar Pocket Dam WSS for the 2013-17 regulatory period is outlined in Table 6.1. Total costs for 2012-13 are also provided including a renewals annuity deflated from 2013-14 (not actual). Total costs reflect the costs for the specific tariff group (all sectors) and do not include any adjustments for Queensland Government's pricing policies.

Table 6.1: Comparison of Total Costs (Nominal \$)

	2012-13	2013-14	2014-15	2015-16	2016-17
Seqwater (April NSP)					
Renewals Annuity	9,858	10,104	10,246	10,393	11,794
Direct Operating	63,278	65,778	68,376	71,078	101,483
Non-Direct Operating	49,194	50,423	51,684	52,976	54,301
Less Revenue Offsets	0	0	0	0	0
Return on Working Capital	946	970	994	1,019	1,044
Total	123,275	127,275	131,300	135,466	168,622
Seqwater (November NSP)					
Renewals Annuity	13,745	14,088	14,150	14,212	14,277
Direct Operating	76,051	79,062	82,192	85,446	116,425
Non-Direct Operating	49,194	50,424	51,684	52,977	54,301
Less Revenue Offsets	0	0	0	0	0
Return on Working Capital	946	970	994	1,019	1,044
Total	139,936	144,543	149,020	153,654	186,047
Authority - Draft					
Renewals Annuity	-	12,448	12,298	12,149	12,003
Direct Operating	-	63,646	64,979	66,323	92,322
Non-Direct Operating	-	42,689	43,256	43,820	44,380
Less Revenue Offsets	-	0	0	0	0
Return on Working Capital	-	0	0	0	0
Total	-	118,784	120,532	122,292	148,704
Authority - Final					
Renewals Annuity	-	12,446	12,311	12,178	12,046
Direct Operating	-	80,615	82,325	84,053	110,441
Non-Direct Operating	-	51,865	52,705	53,549	54,396
Less Revenue Offsets	-	0	0	0	0
Return on Working Capital	-	0	0	0	0
Total	-	144,926	147,340	149,780	176,883

Source: Seqwater (2012b), Seqwater (2012ak) and QCA (2012) and (2013).

6.4 Fixed and Variable Costs

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

Previous Review 2006-11

For the 2006-11 price paths:

- (a) the volumetric charge (previously referred to as the variable charge) was not directly linked to variable costs. Rather, it reflected variable costs together with the balance of fixed costs not recovered by the Part A tariff. The proportion of the fixed charge reflected in Part B was determined in consultation with customers; and
- (b) for many schemes (including the Cedar Pocket Dam), a 70% fixed (Part A) and 30% variable (Part B) tariff structure was considered appropriate because it reflected the existing (past) tariff structures.

Draft Report

Stakeholder Submissions

Seqwater

Seqwater (2012s) submitted that all operations (including electricity), maintenance and renewal costs for the Cedar Pocket Dam WSS do not vary with water use (that is, they are 100% fixed costs).

Other Stakeholders

S. Tramacchi (2012) submitted that, in contrast to Seqwater's submission, not all costs associated with the Cedar Pocket Dam WSS are fixed. Accordingly, a 60% fixed tariff is suggested given a 100% fixed tariff cannot be justified.

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, applied the Indec findings to Seqwater schemes where appropriate.

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

Table 6.2: Variable Costs

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

Source: Indec (2011).

The Authority noted that Cedar Pocket Dam WSS constitutes a bulk scheme and that applying the average findings determined for the SunWater Review (as outlined in Table 6.2), is consistent with S. Tramacchi's (2012) submission that not all costs associated with the Cedar Pocket Dam WSS are fixed.

Final Report

No changes are proposed for the Final Report.

6.5 Allocation of Costs According to WAE Priority

In earlier chapters, the Authority identified its preferred approach to allocating costs between priority groups. Given only medium priority irrigation WAE is provided for by Cedar Pocket Dam WSS, there is no high priority revenue requirement (Table 6.3 refers).

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

Table 6.3: Allocation of Fixed Revenue Requirement between High and Medium Priority WAE 2013-14 (Nominal \$'000)

<i>Tariff Group</i>	<i>High Priority Fixed Revenue Requirement</i>	<i>Medium Priority Fixed Revenue Requirement</i>	<i>High Priority Irrigation Share of Fixed Revenue Requirement</i>	<i>Medium Priority Irrigation Share of Fixed Revenue Requirement</i>
Cedar Pocket Dam (Draft)	0	106	0	106
Cedar Pocket Dam (Final)	0	124	0	124

Source: QCA (2012) and (2013).

6.6 Volumetric Charges

Draft Report

On the basis of its analysis of the share of total costs, the Authority estimated total variable costs for Cedar Pocket Dam 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 usage.

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

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

Final Report

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

Table 6.4 shows total variable costs (all sectors), the typical all sectors' average water use and the resulting volumetric charge for Cedar Pocket Dam WSS.

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

<i>Tariff Group</i>	<i>Total Variable Costs (\$'000)</i>	<i>Authority Estimate of Typical Water Use (ML)</i>	<i>Volumetric Tariff (\$/ML)</i>
Cedar Pocket Dam - Draft	13	395	32.02
Cedar Pocket Dam - Final	15	395	36.94

Source: QCA (2012) and (2013). Note: The volumetric charge is derived by taking the NPV of total variable costs divided by the 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 for each tariff group 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 6.5 presents current tariffs, Seqwater's (April and November 2012) proposed tariffs and the Authority's Draft and Final cost-reflective tariffs.

Table 6.5: Cost-Reflective Tariffs (Nominal \$/ML)

<i>Tariff Group</i>	<i>Actual</i>	<i>Seqwater (April 2012)</i>	<i>Seqwater (November 2012)</i>	<i>Cost Reflective - Draft</i>	<i>Cost Reflective - Final</i>
	<i>2012-13</i>	<i>2013-14</i>	<i>2013-14</i>	<i>2013-14</i>	<i>2013-14</i>
Cedar Pocket Dam					
Fixed (Part A)	15.68	271.65	306.07	221.93	270.81
Fixed (Part B)	16.81	0.0	0.0	32.02	36.94

Source: Seqwater (2012), Seqwater (2012b), Seqwater (2012ak) and QCA (2012) and (2013).

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

6.8 Queensland Government Pricing Policies and Final Prices

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

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

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

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

Revenue Target

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

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

Table 6.6 below compares the current revenue with the revenue that would be required to achieve efficient cost recovery, and the Authority's Draft and Final estimates.

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

<i>Tariff Group</i>	<i>Current Revenue</i>	<i>Revenue Based on QCA Cost-Reflective Prices</i>	<i>Revenue Difference</i>	<i>Current Cost Recovery %</i>
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<i>Tariff Group</i>	<i>Current Revenue</i>	<i>Revenue Based on QCA Cost-Reflective Prices</i>	<i>Revenue Difference</i>	<i>Current Cost Recovery %</i>
7. Cedar Pocket Dam - Draft	11.6	116.6	105.0	10%
Cedar Pocket Dam - Final	11.6	141.8	130.3	8%

Source: QCA (2012) and (2013).

Current revenue is calculated using variable charge revenues based on average water use during 2006-11.

Table 6.7 below summarises the total current revenue maintenance target consistent with the Government's requirements - that is, it includes provision for an initial \$2/ML increase in fixed charges for 2013-14. The split between variable revenues, based on a 10-year average irrigation water use, and the balance to be recouped through fixed charges is also shown.

Table 6.7: Revenue Maintenance Target (2013-14 Nominal \$'000)

<i>Tariff Group</i>	<i>Revenue Maintenance Target</i>	<i>Fixed Revenue</i>	<i>Variable Revenue</i>
Cedar Pocket Dam - Draft	12.6	4.8	7.8
Cedar Pocket Dam - Final	12.6	3.6	9.0

Source: QCA (2012) and (2013).

Irrigation Water Prices

Draft Report

Given current revenues are below the assessed level of efficient costs (that is, charges are below costs), the Authority is required to recommend a price path for 2013-17 set at an average pace similar to that applied over 2006-11 (that is, an average of \$2/ML per year). This level of increase was previously considered as being reasonable.

It is also proposed to escalate all such charges at CPI (2.5% per annum from July 2013). The \$2/ML increase would typically be applied to the fixed charges (Part A).

As noted above, the Authority generally recommended that the cost-reflective volumetric tariffs apply from 1 July 2013 and that current revenues be maintained by adjusting the fixed charge.

The Authority did not recommend price paths beyond 2013-17 as this is beyond the scope of the Ministerial Direction (such price paths could be determined by a subsequent review).

On the basis of the previously described analysis and principles, and the Ministerial Direction to maintain current prices (interpreted to be a requirement to maintain average revenues over 2006-12), the Authority recommended prices as outlined below in Table 6.8.

Submissions Received from Stakeholders on the Draft Report

Irrigators suggested that a longer price path would increase certainty and may lead to increased trading.

QFF (2013b) submitted that the effect of the recommended tariffs will be greater for enterprises that make more use of their WAE. An irrigator using 20% of WAE would have a 17% reduction in the total bill, while an irrigator using 60% would have a 9% increase.

Authority's Response to Submissions Received on the Draft Report

As outlined in Volume 1, the Authority proposes to apply the \$2/ML real price increase to Cedar Pocket Dam's fixed tariff as it is below cost-recovery until such time as the required revenue is achieved. Although Cedar Pocket WSS will not achieve cost-recovery by the end of the 2013-17 regulatory period, the Authority has not recommended price paths beyond this period as any such prices may be subject to a subsequent regulatory review. The Authority cannot predict the nature or outcome of such a future review. However, the price path provides certainty for the next 4 years, a benefit to irrigators which is typically not available in respect of other farm input costs.

The Authority's final recommended price paths for Cedar Pocket Dam WSS during 2013-17 are shown in Table 6.8.

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

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

Table 6.8: 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
Cedar Pocket Dam								Draft			
Fixed (Part A)	8.20	9.72	11.52	13.27	14.94	15.48	15.68	9.70	11.99	14.39	16.91
Fixed (Part B)	8.78	10.41	12.34	14.21	16.01	16.59	16.81	32.02	32.82	33.64	34.48
Cedar Pocket Dam								Final			
Fixed (Part A)								7.28	9.51	11.85	14.30
Fixed (Part B)								36.94	37.87	38.81	39.78

Source: QCA (2012) and (2013).

Cedar Pocket Dam WSS does not reach the cost reflective revenue requirement during 2013-17.

7.1 Impact of Recommended Prices

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

Draft Report

Stakeholder Submissions

R.J. and E.R. Thefs (2012) and S. Tramacchi (2012) submitted that due to higher water prices being proposed by Seqwater (at \$271.65 per ML):

- (a) water allocations would become worthless (or a liability) and untradeable;
- (b) tighter profit margins and reduced farming enterprise viability would result, possibly forcing farmers out of the industry; and
- (c) if irrigators exited the industry, Cedar Pocket Dam WSS could become less viable. Accordingly, there needs to be a proper balance between prices and irrigators' viability, otherwise Seqwater could end up with an asset that has no value.

Authority's Analysis

In response to stakeholders concerns regarding the impact of recommended prices, the Authority noted that the Ministerial Direction requires prices to increase in real terms at a pace consistent with 2006-11 prices until such time as the Cedar Pocket Dam WSS reached efficient costs. As a consequence, Seqwater's proposed lower bound reference tariffs (as outlined in Seqwater's NSPs) and the Authority's cost-reflective tariffs (at least in the medium-term) are avoided.

In addition, the Authority's draft recommended tariffs were predominantly volumetric, with initially no fixed charges and small fixed charges in the later part of the regulatory period. This charge structure should ameliorate the risks associated with holding an allocation and the limited scope for trading in the scheme.

The Authority is also required to consider (if appropriate) arrangements that moderate price impacts on irrigators while having regard to the legitimate commercial interests of Seqwater. As outlined above, the Authority has taken steps to ensure the effects of its recommended prices have been moderated.

Compared to Seqwater's proposed approach, the Authority's recommended prices should not result in any significant impact on the value of water allocations.

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

Stakeholder Submissions on the Draft Report

During consultation in February 2013, stakeholders submitted that reassurance was being sought: that Government would accept the Authority's recommendations given the recommended prices were broadly acceptable; and that consultation with irrigators would

occur subsequent to the 2013-17 price path given there is a chance that prices could increase substantially towards cost-reflective prices at this time.

Authority's Response to Submissions Received on the Draft Report

The Government's response (which could accept, rejecting or modify the Authority's recommendations) is a matter, for Government.

REFERENCES

Andrew, A.R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Andrew, V.J. (2012) . Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Aurecon. (2011). Review of SunWater's Network Service Plans Bundaberg Cluster Draft Report. A Consultancy Report Prepared for the Queensland Competition Authority, August.

Australian Bureau of Statistics (ABS). (2012a). *Engineering Construction Activity, Australia., cat. no. 8762*. Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (ABS). (2012b). *Labour Price Index, cat. no. 6345*. Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics (ABS). (2012c). *Producer Price Index, cat. no. 6427*. Canberra: Australian Bureau of Statistics.

Australian Competition and Consumer Commission (ACCC). (2008a). Water Charge (Termination Fees) Rules Final Advice. Canberra: Commonwealth of Australia.

Australian Competition and Consumer Commission (ACCC). (2008b). Water Market Rules. Canberra: Commonwealth of Australia.

Australian Competition and Consumer Commission (ACCC). (2011). Pricing Principles for Price Approvals and Determinations Under the Water Charge (Infrastructure) Rules 2010. Canberra: Commonwealth of Australia.

Australian Competition Tribunal (ACompT). (2011). *Application by Energex Limited (Gamma)*, No5. ACompT 9, May.

Australian Energy Regulator (AER). (2009). Electricity Transmission and Distribution Network Service Providers - Review of the Weighted Average Cost of Capital (WACC) Parameters Final Decision, May.

Australian Energy Regulator (AER). (2011). Investra Ltd - Access Arrangement for Qld Gas Network: 1 July 2011 - 30 June 2016, February

Australian Energy Regulator (AER). (2012). *Powerlink Transmission Determination 2012-13 to 2016-17: Final Report*, April.

Bailey, J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Battersby, J.B. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Beard, G.C. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Begg, J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

-
- Bell, G.N. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Bernitt, B. and Summerville, C. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Brealey, R., Myers, S., and Allen, F. (2005). *Principles of Corporate Finance*, McGraw-Hill, New York. McGraw-Hill, New-York, NY.
- Brimblecombe, L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Lockyer Valley Water Supply Scheme), July.
- Brooks, R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Brown, G.K. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Brown, S.J. and Sibley, D.S. (1986). *The Theory of Public Utility Pricing*. Cambridge University Press.
- Brown Salt Pty Ltd. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Burnett, D. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Mary Valley Water Supply Scheme), July.
- Cardno-Atkins. (2009). *Strategic Management Overview and Review of Operating and Capital Expenditure of State Water Corporation 2009: Final. A Consultancy Report Prepared for the Independent Pricing and Regulatory Tribunal of New South Wales (IPART)*, November.
- Central Lockyer Valley Water Supply Scheme (WSS) Representatives. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Lockyer Valley WSS), March.
- Chalmers, A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Chalmers, A.C. and D.K. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Collier, D. and Collier, J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Cooper, I. (2012). Comment on the Split Cost of Capital Proposal of Professor Helm, submitted by BA. Available at <http://www.caa.co.uk/docs/5/BAASplitCoC.pdf>.
- Council of Australian Governments (COAG). (1994). *Report of the Working Group on Water Resource Policy: Communique*. Canberra: Council of Australian Governments.
- Council of Australian Governments (COAG). (2004). *Intergovernmental Agreement on a National Water Initiative*. Canberra: Council of Australian Governments.
- Council of Australian Governments (COAG). (2010). *National Water Initiative Principles*. Canberra: Council of Australian Governments.
-

-
- Craigie, J.M. (2012a). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Craigie, J.M. (2012b). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), August.
- Crockett, S. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Cunningham, T. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Da Silva, A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- De Lange, J.H. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Deloitte. (2011a). SunWater Administration Cost Review Phase 2. A Consultancy Report Prepared for the Queensland Competition Authority, August.
- Deloitte. (2011b). SunWater Working Capital Allowance. A Consultancy Report Prepared for the Queensland Competition Authority, August.
- Department of Environment and Resource Management (DERM). (2008a). Interim Resource Operations Licence for Central Lockyer Valley Water Supply Schemes, July.
- Department of Environment and Resource Management (DERM). (2008b). Interim Resource Operations Licence for Lower Lockyer Valley Water Supply Schemes, July.
- Department of Environment and Resource Management (DERM). (2009a). Moreton Resource Operation Plan, December.
- Department of Environment and Resource Management (DERM). (2009b). Logan Basin Resource Operations Plan, December.
- Department of Environment and Resource Management (DERM). (2011). Mary Basin Resource Operations Plan, September.
- Department of Natural Resources and Mines (DNRM). (2009). Permanent Water Trading Report.
- Department of Natural Resources and Mines (DNRM). (2010). Permanent Water Trading Report.
- Department of Natural Resources and Mines (DNRM). (2011). Permanent Water Trading Report.
- Department of Natural Resources and Mines (DNRM). (2012). Permanent Water Trading Report.
- Department of Natural Resources and Mines (DNRM). (2013a). Submission re: Seqwater 2013-17 Irrigation Price Review Draft Report, February.
- Department of Natural Resources and Mines (DNRM). (2013b). Department of Natural Resources and Mines (7 March 2013) Submission/Response to QCA Information/Data Request of 27 February 2013.
- Department of Natural Resources and Mines (DNRM). (2013c). Department of Natural Resources and Mines (8 March 2013) Submission/Response to QCA Information/Data Request of 8 March 2013.
-

Department of Natural Resources and Mines (DNRM). (2013d). Department of Natural Resources and Mines (22 March 2013) Submission/Response to QCA Information/Data Request of 14 March 2013.

Department of Sustainability, Environment, Water, Population and Communities. (2010). *National Water Initiative Pricing Principles*. Steering Group on Water Charges. Canberra: Australian Government.

DeRuiter, A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Drynan, G. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Logan River Water Supply Scheme), July.

Economic Regulation Authority (ERA). (2007). Inquiry on Harvey Water Bulk Water Pricing, April.

Economic Regulation Authority (ERA). (2009). Inquiry into Tariffs of the Water Corporation, Aqwest and Busselton Water, August.

Economic Regulation Authority (ERA). (2011). Final Decision on Proposed Revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline, October.

Ellis, J.B., Ellis, A.M., Ellis, D.K., Ellis, L.M. and Ellis, W.F. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Pie Creek), March.

Ernst and Young. (1997). SCARM Water Industry Asset Valuation Study - Draft Guidelines on Determining Full Cost Recovery, August.

Essential Services Commission (ESC). (2008). 2008 Water Price Review: Regional and Rural Businesses' Water Plans 2008-13 and Melbourne Water's Drainage and Waterways Water Plan 2008-13, June.

Essential Services Commission (ESC). (2009). *Metropolitan Melbourne Water Price Review 2008-09: Final Decision*, June.

Essential Services Commission (ESC). (2011). *2013 Water Price Review: Guidance on Water Plans*, October.

Essential Services Commission of South Australia (ESCOSA). (2010). Inquiry into the 2010-11 Metropolitan and Regional Potable Water and Sewerage Pricing Process: Final Report, October.

Evans and Peck. (2012). Seqwater Price Review. A Consultancy Report Prepared for the Queensland Competition Authority, November.

Farnsea Pty Ltd. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Frontier Economics. (2005). Review of Pricing Policies: A Report Prepared for Goulburn Murray Water, March.

Frontier Economics. (2008). Termination Fees and Landholder Considerations. A Consultancy Report Prepared for the Australian Competition and Consumers Association, October.

Geiger, A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

-
- GHD. (2011). Review of SunWater's Network Service Plans: Toowoomba Cluster - Operational and Capital Expenditure - Final Report. A Consultancy Report Prepared for the Queensland Competition Authority, August.
- Gilbert and Sutherland. (2011). Quality Assurance Assessment of a Review of SunWater's Headworks Utilisation Factors Methodology. A Consultancy Report Prepared for the Queensland Competition Authority, March.
- Glamorgan Vale Water Board (GVWB). (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Goulburn-Murray Water (GMW). (2009). Goulburn-Murray Water: Water Services Committee Charter, September.
- Government Prices Oversight Commission (GPOC). (2007). Investigation into the Pricing Policies of Hobart Regional Water Authority, Esk Water Authority and Cardle Coast Water.
- GRASSCO Pty Ltd. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Grinblatt, M. and Titman, S. (2002). Financial Markets and Corporate Strategy. McGraw-Hill, New-York, NY.
- Halcrow. (2005). 2005 Review of Rural Water Prices Assessment of Expenditure Forecasts: Goulburn-Murray Water. A Consultancy Report Prepared for the Essential Services Commission, December.
- Harris, J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Harsant, I. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Warrill Valley Water Supply Scheme), January.
- Hay, B.L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Hayes, K. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Lower Lockyer Valley Water Supply Scheme), January.
- Heck, S. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Hill, C. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Hill, N. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Hinrichsen, R. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Warrill Valley Water Supply Scheme), January.
- INDEC. (2011). SunWater Water Supply Schemes 2011-16 Price Paths: Qualitative Framework and Assessment of Fixed and Variable Cost Drivers. A Consultancy Report Prepared for the Queensland Competition Authority, October.

INDEC. (2012). Seqwater Water Supply Schemes Asset Restoration Reserve Balances. A Consultancy Report Prepared for Seqwater, July.

Independent Competition and Regulatory Commission (ICRC). (2008). Waste and Wastewater Price Review: Final Report and Price Determination, April.

Independent Pricing and Regulatory Tribunal (IPART). (2004). Bulk Water Prices 2005-06 - Issues Paper, September.

Independent Pricing and Regulatory Tribunal (IPART). (2009a). Review of Prices for the Sydney Catchment Authority From 1 July 2009 to 20 June 2012; Water - Determination and Final Report, June.

Independent Pricing and Regulatory Tribunal (IPART). (2009b). Review of Prices for Water, Sewerage and Other Services for Hunter Water Corporation: Determination and Final Report, July.

Independent Pricing and Regulatory Tribunal (IPART). (2010). Review of Bulk Water Charges for State Water Corporation: Water - Final, June.

Independent Pricing and Regulatory Tribunal (IPART). (2011). Review of Prices for the Water Administration Ministerial Corporation: Water - Determination, February.

Independent Pricing and Regulatory Tribunal (IPART). (2012a): Review of Imputation Credits (Gamma): Research - Final Decision, March.

Independent Pricing and Regulatory Tribunal (IPART). (2012b): Review of Rural Water Charging Systems: Water - Final Report, August.

Jackson, N.C. and Jackson, L.R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

James, D.R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

James, R.W. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Jendra, M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Lower Lockyer Valley Water Supply Scheme), July.

Jendra, M. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Lower Lockyer Valley Water Supply Scheme), January.

Jensen, B.A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Jensen, M.W. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Johnson, L.G. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Keable, B. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

-
- Keable, R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, J.B. and Keller, B.L. (2012a). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, J.B. and Keller, B.L. (2012b). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, K. and Keller, N.J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, P.J. Keller, J.M. and Keller, N.J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, P.J. Keller, J.M., Keller, N.J. and Keller, N. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, P.J. Keller, J.M. and Keller, W.A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keller, W.A. and Keller, L.M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Kelly, B.J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Keyes, G.J. and Keyes, M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Kirby, M. and Kirby, B. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- KPMG. (2007). Valuation of SEQ Councils' Bulk Water Assets: Approach and Process. Report to the Queensland Treasury. December.
- Kruger, P., Landier, A. and Thesmar, D. (2011). The WACC Fallacy: The Real Effects of Using a Unique Discount Rate, AFA 2012 Chicago Meetings Paper, February.
- Ladbrook, R.G. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Larsen, C.V. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Larsen, K.E. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Lee, W.J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Long, D. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Lowood and District Golf Club Inc. (LDGCI). (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

-
- Lyne, I. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Morton Vale Pipeline), January.
- MacDonald, K. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Mahon, B. and Mahon, L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Mahon, W.M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- McCarthy, D.T. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- McInnes, L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Mid Brisbane River Irrigators Inc (MBRI). (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Mid Brisbane River Irrigators Inc (MBRI). (2013a). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), February.
- Mid Brisbane River Irrigators Inc (MBRI). (2013b). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), February.
- Mid Brisbane River Irrigators Inc (MBRI). (2013c). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), February.
- Mid Brisbane River Irrigators Inc (MBRI). (2013d). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), March.
- Mid Brisbane River Irrigators Inc (MBRI). (2013e). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), April.
- Montgomery, P. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Pie Creek), January.
- Morgan, P.G. and Morgan, M.N. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- National Water Commission (NWC). (2008). *National Performance Report 2006-07: Rural Water Service Providers*. Canberra: Australian Government.
- National Water Commission (NWC). (2009). *Australian Water Reform: Second Biennial Assessment of Progress in Implementation of the National Water Initiative*. Canberra: Australian Government.
- NERA Economic Consulting (NERA). (2010a). Form of Price Control: SunWater Water Supply Schemes. Issues Paper Prepared for the Queensland Competition Authority, August.
- NERA Economic Consulting (NERA). (2010b). Single or Multiple Rate of Return: SunWater. A Consultancy Report Prepared for the Queensland Competition Authority, August.
- NERA Economic Consulting (NERA). (2011). Cost of Capital for Water Infrastructure Company. A Consultancy Report Prepared for the Queensland Competition Authority, March.
-

-
- NERA Economic Consulting (NERA). (2012a). SunWater's Electricity Cost Model. A Consultancy Report Prepared for the Queensland Competition Authority, April.
- NERA Economic Consulting (NERA). (2012b). Cost of Debt for Seqwater. A Consultancy Report Prepared for the Queensland Competition Authority, November.
- NERA Economic Consulting (NERA). (2013). Cost of Debt for Seqwater, A Consultancy Report for the Queensland Competition Authority, March.
- Nunn, G. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Ofcom. (2005). Ofcom's approach to risk in the assessment of the cost of capital - Final Statement. Available from http://stakeholders.ofcom.org.uk/consultations/cost_capital2/statement/
- Office for Water Security. (2010). Water for Good. Adelaide: Government of South Australia.
- Officer, R. R. (1994). "The Cost of Capital of a Company Under an Imputation Tax System", Accounting and Finance, May.
- Olive, P. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Parsons Brinckerhoff (PB). (2012). Hydrologic Assessment of Headworks Utilisation Factors (HUFs), A Consultancy Report Prepared for Seqwater, March.
- PricewaterhouseCoopers (PwC). (2010a). Pricing Principles and Tariff Structures for SunWater's Water Supply Schemes. Issues Paper Prepared for the Queensland Competition Authority, September.
- PricewaterhouseCoopers (PwC). (2012). Estimating the Benchmark Debt Risk Premium. A Report Prepared for SP AusNet, MultiNet, Envestra and APA Group, March.
- Queensland Competition Authority (QCA). (2000). Statement of Regulatory Pricing Principles for the Water Sector, December.
- Queensland Competition Authority (QCA). (2002). Gladstone Area Water Board: Investigation of Pricing Practices, September.
- Queensland Competition Authority (QCA). (2005). Gladstone Area Water Board: Investigation of Pricing Practices - Final Report, March.
- Queensland Competition Authority (QCA). (2010a). Gladstone Area Water Board: Investigation of Pricing Practices, July.
- Queensland Competition Authority (QCA) (2010b). QR Network's 2010 DAU: Final Decision, September.
- Queensland Competition Authority (QCA). (2012a). SunWater Irrigation Price Review: 2011-17, Volume 1: Final Report, May.
- Queensland Competition Authority (QCA). (2012b). SEQ Grid Service Charges 2012-13: Final Report, July.
- Queensland Competition Authority (QCA). (2012c). Issues Arising from Round 1 Stakeholder Consultations, June.
-

-
- Queensland Competition Authority (QCA). (2013a). Issues Arising from Round 2 Stakeholder Consultations, February.
- Queensland Farmers' Federation (QFF). (2012). Submission re: Seqwater 2013-17 Irrigation Price Review, July.
- Queensland Farmers' Federation (QFF). (2013a). Submission re: Seqwater 2013-17 Irrigation Price Review, February.
- Queensland Farmers' Federation (QFF). (2013b). Submission re: Seqwater 2013-17 Irrigation Price Review, March.
- Queensland Treasury (QT). (2006). Government Owned Corporations – Cost of Capital Principles. February.
- Reck, B. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Lower Lockyer Valley Water Supply Scheme), January.
- Reid, F. and Reid E. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Rieck, M. and Rieck, T. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Warrill Valley Water Supply Scheme), January.
- Rivermead Pty Ltd. (RPL). (2012a). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Rivermead Pty Ltd. (RPL). (2012b). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Riverside Farming Pty Ltd.(RFPL). (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Riverside Farming Pty Ltd.(RFPL). (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Round, D.I. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Rozynski, G. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Mary Valley Water Supply Scheme including Pie Creek), July.
- Rozynski, G. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Mary Valley Water Supply Scheme including Pie Creek), January.
- Russell, M.T. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Ryder, R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Sentinella, N. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Seqwater. (undated). SM Project Outline: Clarendon Diversion Access Road,

-
- Seqwater. (undated). Updated SM Project Outline: Clarendon Diversion Access Road,
- Seqwater. (1995). Agreement between Primary Industries Corporation and the Proprietor, March.
- Seqwater (2010). System leakage Management Plan. A Plan Submitted to the Department of Environment and Resource Management, February.
- Seqwater (2012). Fees and Schedules for Various Schemes (2006-07 to 2011-12).
- Seqwater. (2012a). 2013-14 Irrigation Pricing – Submission to the Queensland Competition Authority, April.
- Seqwater. (2012b). Cedar Pocket Dam Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012c). Central Brisbane River Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012d). Central Lockyer Valley Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012e). Logan River Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012f). Lower Lockyer Valley Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012g). Mary Valley Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012h). Warrill Valley Water Supply Scheme Network Service Plan, April.
- Seqwater. (2012i). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Cedar Pocket Tariff Group, April.
- Seqwater. (2012j). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Central Brisbane River Tariff Group, April.
- Seqwater. (2012k). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Central Lockyer Tariff Group, April.
- Seqwater. (2012l). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Logan River Tariff Group, April.
- Seqwater. (2012m). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Lower Lockyer Tariff Group, April.
- Seqwater. (2012n). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Mary Valley Tariff Group, April.
- Seqwater. (2012o). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Morton Vale Pipeline Tariff Group, April.
- Seqwater. (2012p). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Pie Creek Tariff Group, April.
- Seqwater. (2012q). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Warrill Valley Tariff Group, April.
- Seqwater. (2012r). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Report on Methodology, April.
-

Seqwater. (2012s). Seqwater's Response (29 June 2012, 6 July 2012, 11 July 2012 and 16 July 2012) to QCA Information/Data Request of June 14 2012 Re: Various Matters, June and July.

Seqwater. (2012t). Seqwater Irrigation Price Model, July.

Seqwater. (2012u). Seqwater's Response (10 July 2012) to QCA Information/Data Request of 29 June 2012 Re: Interim Water Allocations (IWA), July.

Seqwater. (2012v). Seqwater's Response (10 July 2012) to QCA Information/Data Request of 10 July 2012 Re: Morton Vale Pipeline Contract Matters, July.

Seqwater. (2012w). Seqwater's Response (27 July 2012) to QCA Information/Data Request of 23 July Re: Various Matters, July.

Seqwater. (2012x). Seqwater's Response (1 August 2012) to QCA Information/Data Request of 1 August 2012 Re: Pie Creek Losses, August.

Seqwater. (2012y). Seqwater's Response (6 August 2012) to QCA Information/Data Request of 30 July 2012 Re: Indec Report, August.

Seqwater. (2012z). Seqwater's Response (10 August 2012) to QCA Information/Data Request of 3 August 2012 Re: Various Matters, August.

Seqwater. (2012aa). Seqwater's Response (17 August 2012) to QCA Information/Data Request of 10 August 2012 Re: Various Matters, August.

Seqwater. (2012ab). Seqwater's Response (23 August 2012) to QCA Information/Data Request of 14 August 2012 Re: Various Matters, August.

Seqwater. (2012ac). Seqwater's Response (28 August 2012) to QCA Information/Data Request of 28 August 2012 Re: Cost Categories in the Asset Delivery Group, August.

Seqwater. (2012ad). Seqwater's Response (31 August 2012) to QCA Information/Data Request of 24 August 2012 Re: Various Matters, August.

Seqwater. (2012ae). Seqwater's Response (3 September 2012) to QCA Information/Data Request of 24 August 2012 Re: Various Matters, August.

Seqwater. (2012af). Seqwater's Response (3 September 2012) to QCA Information/Data Request of 31 August 2012 Re: Various Matters, September.

Seqwater. (2012ag). Seqwater's Response (10 September 2012) to QCA Information/Data Request of 5 September 2012 Re: Various Matters, September.

Seqwater. (2012ah). Reconciliation of Seqwater's Baseline Expenditures, September.

Seqwater. (2012ai). Seqwater's Response (22 October 2012) to QCA Information/Data Request of 12 October 2012 Re: Various Matters, October.

Seqwater. (2012aj). 2013-14 Irrigation Pricing – Submission to the Queensland Competition Authority, November.

Seqwater. (2012ak). Cedar Pocket Dam Water Supply Scheme Network Service Plan, November.

Seqwater. (2012al). Central Brisbane River Water Supply Scheme Network Service Plan, November.

-
- Seqwater. (2012am). Central Lockyer Valley Water Supply Scheme Network Service Plan, November.
- Seqwater. (2012an). Logan River Water Supply Scheme Network Service Plan, November.
- Seqwater. (2012ao). Lower Lockyer Valley Water Supply Scheme Network Service Plan, November.
- Seqwater. (2012ap). Mary Valley Water Supply Scheme Network Service Plan, November.
- Seqwater. (2012aq). Warrill Valley Water Supply Scheme Network Service Plan, November.
- Seqwater. (2012ar). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Cedar Pocket Tariff Group, September.
- Seqwater. (2012as). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Central Brisbane River Tariff Group, September.
- Seqwater. (2012at). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Central Lockyer Tariff Group, September.
- Seqwater. (2012au). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Logan River Tariff Group, September.
- Seqwater. (2012av). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Lower Lockyer Tariff Group, September.
- Seqwater. (2012aw). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Mary Valley Tariff Group, September.
- Seqwater. (2012ax). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Morton Vale Pipeline Tariff Group, September.
- Seqwater. (2012ay). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Pie Creek Tariff Group, September.
- Seqwater. (2012az). Irrigation Infrastructure Renewal Projections – 2013-14 to 2046-47: Warrill Valley Tariff Group, September.
- Seqwater. (2012ba). Seqwater's Response (9 November 2012) to QCA Information/Data Request of 7 November 2012 Re: Various Matters, November.
- Seqwater. (2012bb). Seqwater Irrigation Price Model, November.
- Seqwater. (2013a). Submission re: Seqwater 2013-17 Irrigation Price Review Draft Report, February.
- Seqwater. (2013b). Seqwater's Response (1 March 2013) to QCA Information/Data Request of 25 February 2013, March.
- Seqwater. (2013c). Seqwater's Response (11 March 2013) to QCA Information/Data Request, March.
- Seqwater. (2013d). Seqwater's Response (11 March 2013) to QCA Information/Data Request of 25 February 2013, March.
- Seqwater. (2013e). Seqwater's Response (18 March 2013) to QCA Information/Data Request of 13 March 2013, March.
-

-
- Seqwater. (2013f). Seqwater's Response (19 March 2013) to QCA Information/Data Request of 12 March 2013, March.
- Seqwater. (2013g). Seqwater's Response (21 March 2013) to QCA Information/Data Request of 19 March 2013, March.
- Seqwater. (2013h). Seqwater's Response (26 March 2013) to QCA Information/Data Request of 22 March 2013, March.
- Seqwater. (2013i). Seqwater's Submission (2 April 2013) on Pie Creek Electricity, April.
- Seqwater. (2013j). Seqwater's Submission (5 April 2013) on Labour Costs Escalation, April.
- Seqwater. (2013k). Seqwater's Submission (8 April 2013) on Electricity Price Queries, April.
- Seqwater. (2013l). Seqwater's Submission (17 April 2013) on Pie Creek Electricity, April.
- Seqwater. (2013m). Seqwater's Submission (16 April 2013) on Statement of Obligations for Queensland Bulk Water Supply Authority Issued by Treasurer and Minister for Trade and Minister for Energy and Water Supply 2013, April.
- Shard, B.. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Warrill Valley Water Supply Scheme), January.
- Sims, M. and Sims, R. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Pie Creek), March.
- Sinclair, S. and Sinclair, H. (2012a). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Sinclair, S. and Sinclair, H. (2012b). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Sinclair Knight Merz (SKM). (2012). Seqwater Irrigation Price Review - Assessment of Capital and Operating Expenditure: Final. A Consultancy Report Prepared for the Queensland Competition Authority, September.
- Sinclair Knight Merz (SKM). (2013). Letter re: Seqwater Irrigation Price Review - Assessment of Capital and Operating Expenditure, February.
- Sippel, L. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Morton Vale Pipeline), January.
- Sippel, L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Skerman, R.G.M. and Skerman, H.M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Smith, A.P.W. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Smith, K.J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
-

-
- Smith, S.A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Southern Rural Water (SRW). (2007a). Customer-Charter: Water Supply, Version 5, August..
- Southern Rural Water (SRW). (2007b). Southern Rural Water: Water Plan 2008-13.
- Stallmann, D. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- State Water. (2008). 2008-12 Customer Service Charter Terms of Reference.
- Strong, D. and Strong, L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- SunWater. (2006a). Statewide Irrigation Pricing Working Group: Tier 1 Report. Brisbane: SunWater Limited, April.
- SunWater. (2006b). SunWater Irrigation Price Paths 2006-07 to 2010-11: Final Report. Brisbane: SunWater Limited, September.
- SunWater. (2011a). QCA Review of Irrigation Prices: Pricing Principles and Tariff Structures January.
- SunWater. (2011b). QCA Review of Irrigation Prices: Water Distribution Entitlements Supplementary Information, February.
- SunWater. (2011c). QCA Review of Irrigation Prices: Pricing of Distribution Losses, March.
- SunWater. (2011d). QCA Review of Irrigation Prices: Pricing Principles and Tariff Structures January.
- Thefs, R.J. and Thefs, E.R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Cedar Pocket Dam Water Supply Scheme), July.
- Thomson, B. and Thomson, E. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Toft, D. and Toft, L. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Toft, J. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Tramacchi, S. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Cedar Pocket Dam Water Supply Scheme), July.
- Tudge, R. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- Turner, W.A. and Turner, C.M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.
- United Kingdom (UK) Civil Aviation Authority. (2008). Economic Regulation of Heathrow and Gatwick Airports 2008-2013, March.

Van der Est, G. (2013). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Valley Water Supply Scheme), July.

Vogler, D. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Vogler, R.F. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Walther, M. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Wendt, J.R. and Wendt, L.A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Westaway, B.W. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Wilkinson, T. and Wilkinson, A. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Winson, M., Brown, V., Cumming, M. and Cumming, S. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

Zanow, B. (2012). Submission re: Seqwater 2013-17 Irrigation Price Review (Central Brisbane River Water Supply Scheme), July.

APPENDIX A: FUTURE RENEWALS LIST

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

<i>Asset</i>	<i>Year</i>	<i>Description</i>	<i>Total (\$,000)</i>
Cedar Pocket Dam	2014/15	Refurbish Embankment	18
	2019/20	Refurbish Outlet Valve	15
		Replace Elect Reticulation To Valves	27
		Replace Fence	13
	2020/21	Replace Telemetry	34
	2024/25		28
	2030/31	Replace Telemetry	34
	2025/26	Replace Electricity Supply	30
Water Flowmeters	2025/26	Replace Flowmeters	35
Total			234