Central Brisbane River Water Supply Scheme

Network Service Plan

1. Introduction

Review Context

The QCA has been directed by the Queensland Government to develop irrigation prices for the Central Brisbane River Water Supply Scheme (the Scheme) for the four-year regulatory period 1 July 2013 to 30 June 2017.

The QCA is required to provide a draft report including draft irrigation prices by 30 November 2012 and a final report with recommended price paths by April 2013.

The Scheme does not have current irrigation prices. It is intended to introduce irrigation prices to the Scheme subsequent to this review.

This document is the Network Service Plan (NSP) for the Scheme. It sets out information relevant to the QCA's review, including Seqwater's expenditure proposals over the regulatory period and specific pricing proposals for the Scheme.

It should be noted that this review is occurring alongside a separate review of Grid Service Charges, and that certain costs also form part of that review, although over a different timeframe.

About Seqwater

Seqwater owns different types of water supply assets and service types, namely:

- Storage assets - Seqwater owns 26 dams and 48 weirs which provide bulk water storage services to a range of water entitlement holders in South East Queensland, including irrigators, local governments, industrial users and the SEQ Water Grid Manager (WGM);
- Bulk distribution assets - Seqwater also provides distribution system services to irrigators from pipelines and channel systems;
- Water treatment assets - Seqwater provides drinking water to the WGM from 46 water treatment plants;
- A desalination plant - provides bulk drinking water to the WGM;
- An advanced recycled water scheme, which provides treated recycled water to the WGM;
- Groundwater - Seqwater provides drinking water to the WGM from 14 groundwater bore fields.

Seqwater owns, manages and operates physical assets with a book value of $6.3 billion. Seqwater provides irrigation services to around 1,200 rural customers in seven water supply schemes.

Seqwater also owns unregulated assets such as its head office building at 240 Margaret Street, water entitlements held for trading in the Upper Mary Water Supply Scheme, and two hydro-electricity plants. No costs of these assets are attributed to regulated assets.

Seqwater's total regulated revenue allowance for 2011-12 was $705M to $709M, of which some $3.3M relates to irrigation supplies. Of this $3.3M, some $1.9M is sourced directly from irrigation charges, with the balance sourced from a Community Service Obligation (CSO) payment.

Interpretation of terms used

For the purposes of this NSP, the following terms are defined as follows:

Water Access Entitlement (WAE) – means water allocations, interim water allocations or water licences.

Scheme background and context

The Scheme is regulated under the Moreton Resource Operations Plan (ROP) which was issued in December 2009.

The Scheme is located around the Brisbane River from below the Wivenhoe Dam to Mt Crosby Weir and supplies bulk raw water to supplemented irrigators located within the boundaries of the Scheme. The Scheme (also known as the Mid-Brisbane Zone) was established in 1980 via Cabinet Decision to enable irrigation of up to 1,000ha (7,000ML) within the area via area-based licensing. Historically, scheme irrigators were not required to pay water charges. However, under the ROP a deemed contract (under the *Water Act 2000*) applied to the scheme's irrigators. No water charges are currently applied to the scheme's irrigators.

The map in C1 below presents an overview of the Scheme, including the locations of storages and monitoring/gauging stations.

Customers served

The Scheme supplies water to:

- Irrigation users;
- Somerset Regional Council

- Ipswich City Council;
- Glamorgan Vale Water Board;
- Lowood Golf Club;
- Seqwater; and
- WGM.

Further details are set out in section 2 below.

Asset base

The asset base of the scheme consists of bulk water storage assets. These assets are listed in section 2 below and details of individual assets can be found in Appendix A.

Organisational resourcing arrangements

Seqwater is well advanced in transitioning its resourcing arrangements from those inherited in July 2008. Key achievements include:

- replacing service level agreements with previous asset owners (e.g. Councils) with internal staff appointments;
- negotiating a single enterprise bargaining agreement (refer below) to standardise work conditions; and
- developing and refining the structure of the organisation and recruiting the necessary resources.

Seqwater has also substantially completed its procurement arrangements for external resources, including consultants and contractors. Seqwater continues to outsource many maintenance activities for its assets, usually with local suppliers. In most cases suppliers were providing similar services to the previous asset owner, and Seqwater has retained these contractors to ensure continuity in asset performance and retention of asset knowledge.

Seqwater inherited 14 different enterprise agreements which required 47 separate payroll runs. Seqwater has since consolidated these into a single enterprise agreement, with a single payroll.

The enterprise agreement process also provided for more standardised work hours and overtime arrangements, and included the establishment of a 38 hour week.

The standardisation achieved through a single enterprise agreement has allowed more streamlined systems to be implemented, reducing the implementation costs for the payroll system and enabling a reduction in the number of staff required to administer the payroll from seven to two.

Seqwater's current enterprise agreement, which was certified on 2 November 2009, will expire on 30 June 2012. Seqwater is now meeting with all unions in regards to a replacement agreement.

Key systems and processes

Seqwater also inherited a diverse range of systems and business processes from previous asset owners. Since 2008-09, Seqwater has given priority to developing its systems so that they can support the business and enable more streamlined business processes.

Seqwater is in the second year of using its Corporate Information System (CIS) and has completed a post implementation review across all modules. As a result, Seqwater is committed to a series of continuous improvements for better business performance.

Seqwater is continuing with its program of end-to-end process reviews to identify improvements and generate cost savings in performing its business support and related activities.

Asset management

Asset management practice within Seqwater does not distinguish between irrigation and non-irrigation assets. Assets are managed as a portfolio and not on an industry sector basis.

Seqwater's maintenance tasks and associated expenditure follows three broad categories:

- Scheduled maintenance – which relates to regular maintenance items that are planned in advance;
- Corrective maintenance – relating to maintenance that is made in reaction to events or new information/inspections during the year; and
- Strategic asset maintenance – which relates to asset replacements and renewals and involves a mix of operating and capital expenditure.

Seqwater uses the Asset Management module within CIS to plan and schedule asset maintenance work. Work orders are produced on the system for each parcel of work required to be performed to capture the costs of performing the work.

Renewals and refurbishments are determined through a strategic asset management process. This process and its outcomes are documented in Facility Asset Management Plans (FAMPs), which are being rolled out across all assets. Irrigation assets are currently not as advanced in this process as the high-priority water treatment plants.

Procurement

Seqwater complies with the State Procurement Policy (SPP). Policies, procedures and processes consistent with, and supporting, the requirements of the SPP have been developed and are in operation. Where possible, procurement processes are system based using the Supply Chain Module in Seqwater's Corporate Information System (CIS).

Procurement activities are undertaken at all business sites.

Seqwater's Procurement Team monitors and analyses a range of performance indicators to identify opportunities to improve performance and minimise costs.

Seqwater is currently reviewing its "procure to pay" process to streamline the procurement of services and goods, management of delivery and payment for services.

Customer and Financial Management

Customer information management including invoicing and accounts receivable operations for the Scheme are carried out from Seqwater's Karalee office. Financial management including financial reporting and accounts payable processing is centralised in Seqwater's Finance group in the Margaret Street office. Accounts payable is carried out using the AP module in CIS.

Insurance

Seqwater's portfolio of assets is insured with differing premium and deductible arrangements in place for bulk water and channel distribution systems. This requires specialist management of the insurances held, including management of claims and renewals and providing information to insurers and brokers.

Insurance premiums are obtained for a portfolio of Seqwater assets.

2. Scheme details

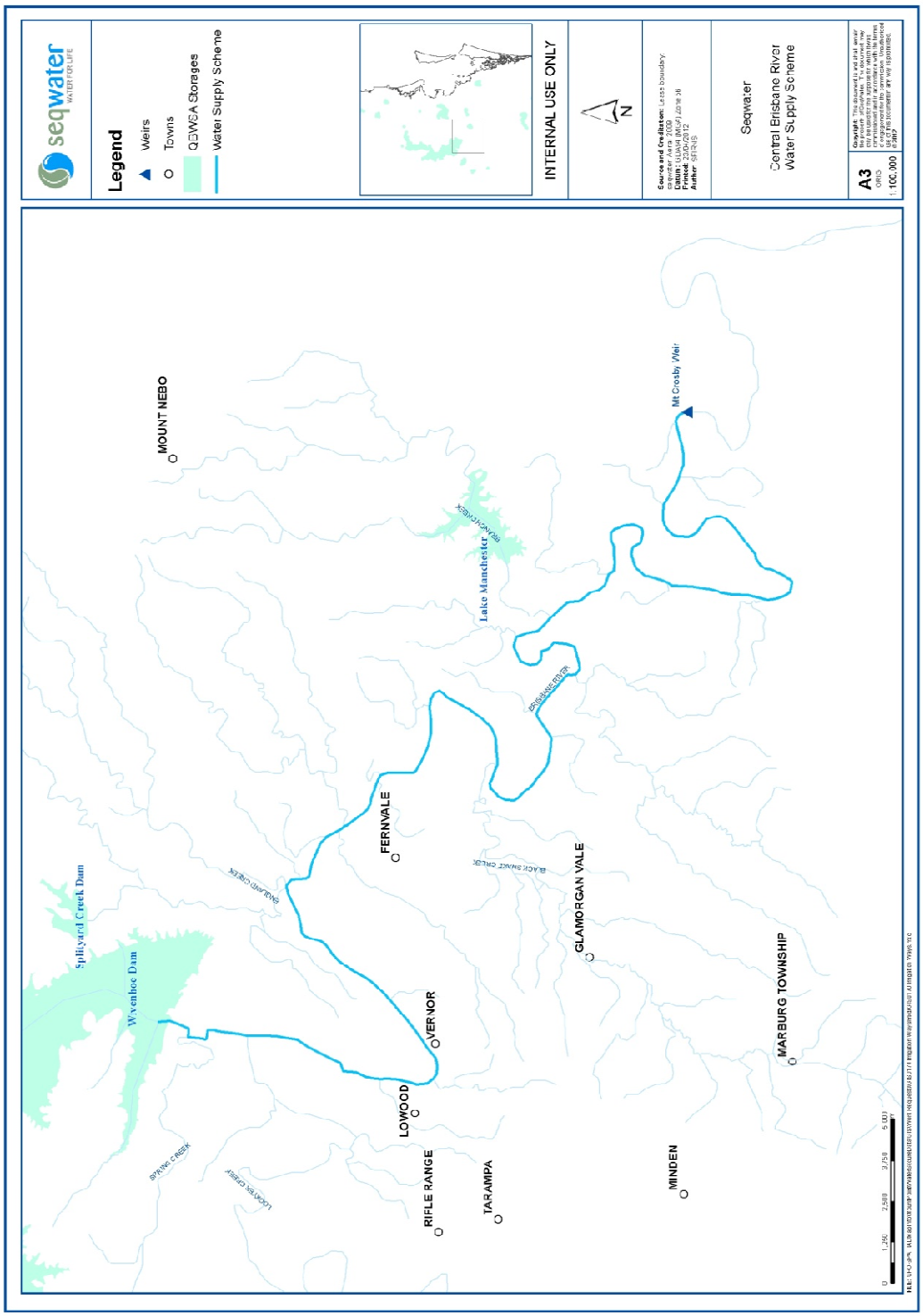
The Scheme covers the part of the Brisbane River from Mount Crosby Weir upstream to and including the ponded area of Wivenhoe Dam, and section of tributaries of the Brisbane River which contains water ponded behind the infrastructure in the scheme or ponded from natural

waterholes located in the reaches of the locations described above. The Scheme includes approximately132.9 km of regulated watercourse.

The Moreton ROP combines the Scheme with the Stanley River Water Supply Scheme for the purpose of defining water sharing rules. The water sharing rules are based on the combined usable volumes of both Wivenhoe Dam and Somerset Dam. Consequently, the Somerset Dam, although outside of the Scheme's boundaries, is also included for the purposes of this NSP.

The water year runs from 1 July to 30 June each year.

Scheme map


seqwater
WATER FOR LIFE
Legend
Weirs
Towns
SEQWCA Storages
Water Supply Scheme
INTERNAL USE ONLY
N
Seqwater
Central Brisbane River
Water Supply Scheme
A3
1:100,000
MOUNT NEBO
Mt Crosby Weir
Lake Manchester
BRISBANE RIVER
FERNVALE
BLACK SNAKE CREEK
GLAMORGAN VALE
Splityard Creek Dam
Wivenhoe Dam
VERNOR
LOWOOD
MARBURG TOWNSHIP
RIFLE RANGE
TARAMPA
MINDEN

Infrastructure details

The table below sets out the bulk water assets that comprise the Scheme.

Table 2-1. Bulk water assets

Dams	Wivenhoe Dam, Somerset Dam
Weirs	Mount Crosby Weir
Off-stream storages	Nil
Other assets	Gauging stations

Note: For irrigation pricing purposes, Mount Crosby Weir is not included.

For details of the assets, see Appendix A

Customers and water entitlements serviced

The Scheme supplies water to approximately 134 customers holding medium priority entitlements, and 278,725ML to the main high priority customer, the SEQ Water Grid Manager.

These are comprised of:

- 131 irrigation customers holding 6,771ML of medium priority water allocation;
- Ipswich City Council which holds 65ML of medium priority water allocation;
- Somerset Regional Council which holds 15ML of medium priority water allocation;
- Lowood and District Golf Club which holds 40ML of medium priority water allocation;
- Seqwater which holds 25ML of High Class A priority water allocation and 150 medium priority water allocation;
- WGM which holds 278,725ML of High Class A priority water allocation; and
- The Glamorgan Vale Water Board which is a customer of the WGM, holds 250ML of High Class A water allocation.

The following charts illustrate the distribution of WAE amongst classes of customers.

Figure 2-1. Distribution of allocations

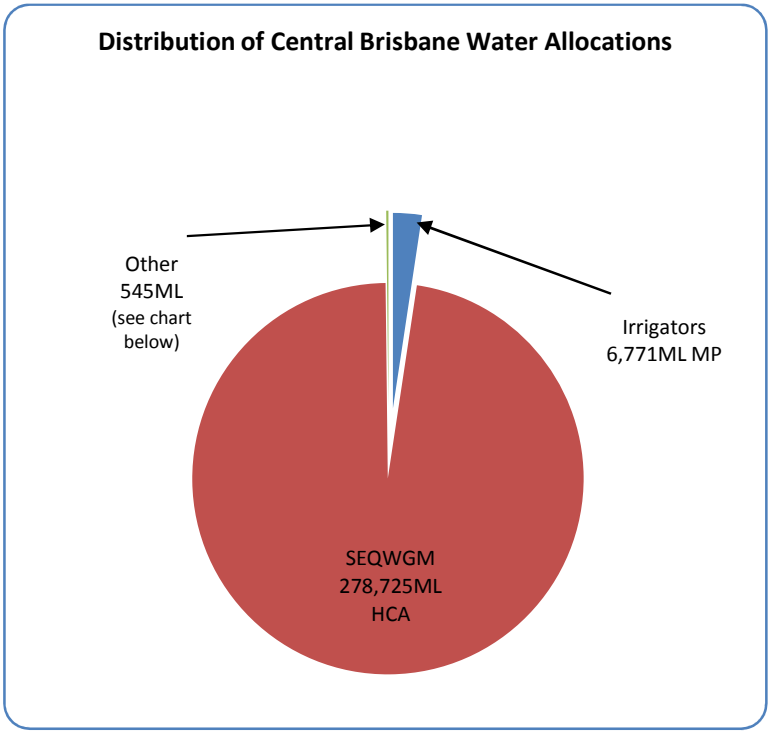
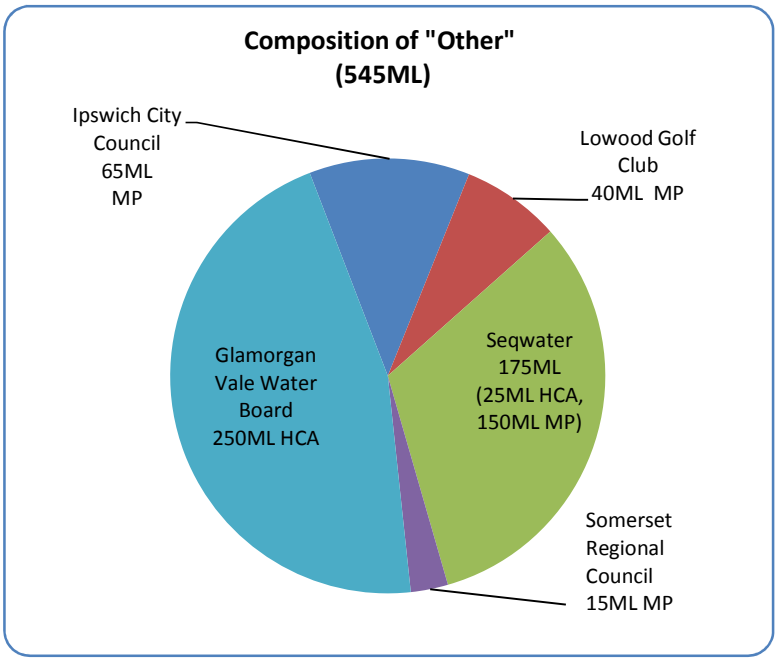


Table 2-2. Composition of "Other"



This table sets out the ownership (as at 30 June 2011) of water entitlements in the Scheme.

Table 2-2. Ownership of entitlements*

Customer Type	No. of customers	MP Vol (ML)	HCA Vol (ML)	Notes
Irrigation	131	6,771	-	Irrigation customers do not pay water charges
Ipswich City Council	1	65	-	
Somerset Regional Council	1	15	-	
Lowood and District Golf Club	1	40	-	
Glamorgan Vale Water Board	-	-	250	Customer of the WGM
Seqwater	-	150	25	
WGM	-	-	278,725	
Total	**134**	**7,041**	**279,000**	

* This information was sourced from the Moreton ROP and Seqwater's customer information data.

Water availability and use

The announced allocation determines the percentage of nominal WAE volume that is available in a water year (1 July to 30 June). The following table sets out the announced allocation over the past nine years.

Table 2-3. Announced allocations (%)

Priority	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
High Class A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100
Medium	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	100

No usage information is available as no water meters have been installed in the Scheme.

Temporary transfers

*Temporary transfers or seasonal water assignments are useful for meeting additional short-*term water needs. Under these transfers or assignments, some or all of the water that may be taken under a water entitlement in any water year can be assigned to another person or place.

In practice, a volume of water from the amount available under the entitlement may only be assigned after the announced allocation. The volume assigned is therefore not affected by any increase in the announced allocation during the water year, the benefits of which go to the holder of the entitlement and not the person to whom the water has been assigned.

The following table sets out the volumes of temporary transfers by year from 1July 2008 to 31 March 2012.

Table 2-4. Temporary transfers

Year	2008-09	2009-10	2010-11	2011-31/3/12
Volume in ML	0	0	40	200

Customer service standards

No service standards have been developed for the Scheme.

2006 lower bound costs

The Scheme was not included in the 2006 – 11 price path.

Current pricing arrangements

There are no current pricing arrangements for the Scheme.

Historic renewals expenditure

The Scheme does not have a renewals expenditure history because irrigation prices have not previously been levied on this scheme.

Renewals accounting and forecast ARR balance

A renewals annuity approach will apply to the price path established for this Scheme, and will to continue to apply in accordance with the Ministerial Referral Notice.

The renewals annuity approach requires an accounting system to monitor renewals income and expenditure, to monitor the status of the renewals account or Asset Renewals Reserve (ARR). This balance can be either positive or negative, and is incorporated into the calculation of the renewals annuity itself. Interest is applied to the balance, at the same rate used to determine the original renewals annuity.

In the case of this Scheme, the ARR balance at 30 June, 2013 is zero.

3. Proposed lower bound costs and tariffs

Lower Bound costs

The following provides a summary of Seqwater's proposed lower bound costs for the scheme over the 1 July 2013 to 30 June 2017 forecast period. Lower bound costs include operating and renewals costs. None of the costs vary proportional to water demand. That is, the short run marginal cost in this scheme is $0, and all costs are fixed.

In order to determine lower bound estimates for irrigation customers within the scheme, aggregate scheme costs are attributed to irrigation customers based on an assessment of storage that relates to irrigation entitlements.

Operating costs

Operating activities for this scheme include service provision, compliance, recreation, and other supporting activities:

- Service provision relates to:
  - scheduling and releasing bulk water from storages, surveillance of water levels and flows in the river, and quarterly meter reading; and
  - customer service and account management.
- Compliance requirements relates to:
  - Requirements set out in the Resource Operations Plan (ROP) and Resource Operations Licence;
  - Dam safety obligations under the Water Act 2000;
  - Environmental management obligations to comply with the ROP and Environmental Protection Act 1994; and
  - Land management, workplace health and safety obligations and other reporting obligations.
- Recreation relates to the operation and maintenance of recreation facilities in the Central Brisbane River scheme; and
- Other supporting activities cover a range of services including central procurement, human resources and legal services.

Operating cost forecasting approach

Seqwater has adopted an approach to forecasting whereby operating expenditure for schemes is derived for a representative base year (2012-13) and escalated forward over each year of the regulatory period on the basis of predetermined escalation factors.

The 2012-13 year was adopted as the base year as it provides the best and most current representation of the costs required to deliver Seqwater's service standards and obligations during the regulatory period. Aggregate operating costs for 2012-13 (including costs associated with both grid and irrigation services but excluding costs associated with unregulated activities) were derived as part of Seqwater's 2012-13 grid service charges submission to the QCA. Seqwater has developed its 2012-13 budget on the basis of a zero base build-up, taking into account costs which could be reasonably anticipated at the time of budget development. In addition, the 2012-13 operating expenditure forecasts provided in the grid service charges submission have been reviewed by the QCA for prudency and efficiency.

Further details on the forecasting methodology are provided in the Irrigation Pricing submission provided to the QCA.

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

- direct labour, materials and contractors' costs and repairs and maintenance were escalated at 4% per annum over the regulatory period; and
- 'other' direct costs and all non-direct costs were escalated at forecast CPI (2.5% per annum).

Details of the direct and non-direct operating expenditure forecasts for the Central Brisbane River scheme are provided below.

Direct operating and maintenance costs

Direct costs are those costs that have been budgeted at the individual asset level.

Operations

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 (and catchment management).

Dam operations are the largest contributor to direct operating costs. Dam Operations aims to deliver best practice management of dams and water sources while being fully compliant and effective in operating, maintaining and monitoring its water source infrastructure.

Dam operations must meet the regulatory requirements under various Acts including those relating to Dam Safety, Flood Management, Resource Operating Plans, and providing sufficient water to meet standards of service.

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

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

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

In particular, Seqwater has responsibility for the ongoing management and maintenance of recreation sites transferred from SunWater. The uses of Seqwater assets for recreational purposes are 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.

Direct operations costs are presented in terms of the type of cost being labour; contractors and materials; and "other".

- labour costs are derived on the basis of budgeted work in the scheme for 2012-13 and the related salary costs for routine activities. Consistent with the current Enterprise

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

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

Forecast operations costs are provided below.

Table 3-1. Forecast direct operations costs ($000)

Cost	2013-14	2014-15	2015-16	2016-17
Labour	3,143.1	3,268.8	3,399.5	3,535.5
Contractors and materials	1,177.3	1,224.4	1,273.4	1,324.3
Other	1,132.4	1,160.7	1,189.7	1,219.4
TOTAL	**5,452.7**	**5,653.8**	**5,862.6**	**6,079.2**

Repairs and maintenance

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 and as a result of scheduled inspections.

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

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

Repairs and maintenance for 2012-13 has been escalated at 4% per annum over the regulatory period.

The table below presents a summary of forecast repairs and maintenance costs.

Table 3-2. Forecast repairs and maintenance by expenditure type ($000)

Type	2013-14	2014-15	2015-16	2016-17
Planned	1,416.1	1,472.8	1,531.7	1,593.0
Unplanned	578.4	601.6	625.6	650.7
TOTAL	**1,994.6**	**2,074.4**	**2,157.3**	**2,243.6**

Dam safety inspections

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

In addition, more thorough periodic dam safety inspections are carried out on a 5 yearly basis. Costs associated with these inspections have been added to forecast direct operating expenditure in the year in which the expenditure is expected to be incurred. Forecast dam safety inspections expenditure is provided below.

Table 3-3. Forecast dam safety inspections ($000)

Dam	2013-14	2014-15	2015-16	2016-17
Wivenhoe			26.9	
Somerset			26.9	
Total	**-**	**-**	**53.8**	**-**

These inspections are based on the dam safety compliance requirements for the dams and the cost estimates are based on actual historic cost of inspection.

The table below presents consolidated forecast repairs and maintenance costs for the Central Brisbane River scheme.

Table 3-4. Total repairs and maintenance forecast ($000)

Type	2013-14	2014-15	2015-16	2016-17
Planned	1,416.1	1,472.8	1,531.7	1,593.0
Unplanned	578.4	601.6	625.6	650.7
Dam safety inspections	-	-	53.8	-
TOTAL	**1,994.6**	**2,074.4**	**2,211.2**	**2,243.6**

Rates

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

Table 3-5. Forecast rates cost ($000)

Year	2013-14	2014-15	2015-16	2016-17
Cost	706.4	724.1	742.2	760.8

Metering

Consistent with the Referral Notice to the QCA, capital expenditure (renewals) costs for meter upgrades to meet national metering standards have been excluded. Similarly, operating costs associated with complying with the new standards have not been included in the cost estimates.

Non-direct costs

Non-direct costs are common costs which are not directly attributable to the operations and management of a specific scheme and include both indirect and overhead costs associated with the provision of corporate and other business services. In the absence of suitably disaggregated data at the project level, allocations of non-direct costs to renewals / capital expenditure were not examined. All non-direct costs were therefore allocated to operating expenditure only.

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

Non-direct costs are categorised by type of expenditure:

- Water delivery includes non-direct costs associated with dam operations, infrastructure maintenance, environmental management and recreation and catchment maintenance services;
- Asset delivery costs are associated with project planning and managing the delivery of projects;
- Corporate costs include business services, organisational development and the office of the CEO. These include costs associated with the provision of IT services, finance, procurement, legal and risk, governance and compliance activities; and

- Other costs primarily reflect costs associated with the North Quay facilities and flood control centres.

As discussed, the Central Brisbane River scheme was allocated a portion of 2012-13 total business non-direct costs on the basis of direct costs attributable to the scheme. This estimate was escalated by CPI to derive forecasts for each year of the regulatory period.

Forecast non-direct operating costs are provided below.

Table 3-6. Forecast non-direct operating cost ($000)

Type	2013-14	2014-15	2015-16	2016-17
Water Delivery	787.9	807.6	827.8	848.5
Asset Delivery	351.8	360.6	369.6	378.8
Corporate	2,815.1	2,885.5	2,957.7	3,031.6
Other	2,936.7	3,010.1	3,085.4	3,162.5
TOTAL	**6,891.6**	**7,063.9**	**7,240.5**	**7,421.5**

In addition to non-direct operating costs, Seqwater has allocated costs to the Central Brisbane River scheme associated with the use of non-infrastructure assets, insurance and working capital.

Non-infrastructure assets

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

The table below provides a breakdown of forecast non-infrastructure asset costs allocated to the Central Brisbane River scheme over the forecast period.

Table 3-7. Forecast non-infrastructure operating cost ($000)

Year	2013-14	2014-15	2015-16	2016-17
Cost	350.6	359.3	368.3	377.5

Insurance

Seqwater's annual insurance premium cost for 2012-13 is forecast at $6.96 million. The major components to the premium include industrial special risks, machinery breakdown, public liability, professional indemnity, contract works and directors and officers insurance.[1]

Seqwater is in the process of placing insurances, and proposes to update this forecast once new premiums are set.

Seqwater has allocated its 2012-13 premium to the Central Brisbane River scheme using the replacement value of scheme assets. This value has been escalated by CPI to determine a premium for each year of the forecast period. The table below shows the forecast premiums for the Central Brisbane River scheme.

Table 3-8. Forecast insurance cost ($000)

Year	2013-14	2014-15	2015-16	2016-17
Cost	800.8	820.8	841.3	862.4

Working capital

The QCA has already adopted a methodology for calculating Seqwater's working capital in Grid Service Charges. Seqwater has calculated the working capital allowance using this methodology and the values submitted to the QCA for 2012-13[2], at $5.538M.

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

Table 3-9. Forecast working capital ($000)

Year	2013-14	2014-15	2015-16	2016-17
Cost	132.1	135.5	138.8	142.3

Total operating costs for the forecast period are provided in the table below.

[1] Seqwater also notes the QCA canvassed concerns raised by irrigators about the insurance costs attributable to irrigation services, and accepted SunWater's proposed scope of insurances as reasonable (including professional indemnity). Refer to QCA (2011).pp 106-107

[2] Seqwater (2012). p146

Table 3-10. Total operating cost forecast ($000)

Cost	2013-14	2014-15	2015-16	2016-17
Direct				
Operations	5,452.7	5,653.8	5,862.6	6,079.2
Repairs and maintenance	1,994.6	2,074.4	2,157.3	2,243.6
Dam safety	-	-	53.8	-
Rates	706.4	724.1	742.2	760.8
Non-direct	-	-	-	-
Operations	6,891.6	7,063.9	7,240.5	7,421.5
Non-infrastructure	350.5	359.3	368.3	377.5
Insurance	800.8	820.8	841.3	862.4
Working capital	132.1	135.5	138.8	142.3
Total	**16,328.8**	**16,831.7**	**17,404.8**	**17,887.2**

Revenue offsets

Seqwater receives revenue from other sources, including property leases, recreation fees and the provision of town water supplies. The estimated revenue from these sources for the Central Brisbane River scheme for the regulatory period is provided in Table xx. These forecasts are based on expected revenue received in 2012-13 escalated by CPI for the regulatory period.

Table 3-11. Forecast revenue offset ($000)

Year	2013-14	2014-15	2015-16	2016-17
Revenue	180.3	184.8	189.4	194.1

To ensure that Seqwater is not overcompensated for the provision of services, this revenue has been removed from the estimate of scheme costs for the regulatory period.

Renewals

The renewals outlays for the irrigation schemes consist of the same cost elements as their operating costs, namely direct labour, materials and contractors' services, other direct costs (such as rates and land taxes) and miscellaneous administrative costs and non-direct (indirect and overhead) costs.

Seqwater has adopted the same rates for escalation of renewals expenditure as for operating expenditure.

Accordingly, renewal expenditure has been escalated for direct labour, materials and contractors costs at 4% per annum for the years 2013-14 to 2016-17 and forecast inflation thereafter for the remainder of the planning period. All other direct costs and non-direct costs are escalated at forecast inflation for both the regulatory period and the remainder of the planning period.

Inflation is forecast to increase at 2.5% per annum over the forecast period and beyond.

Renewals forecast

Seqwater has proposed a rolling 20 year renewals annuity, consistent with the approach adopted for SunWater's irrigation pricing in the QCA's draft report.

Seqwater has defined renewals as non-maintenance expenditure that is required to maintain the service capacity of the assets.

Seqwater has based its renewals forecast on the more significant and predictable renewals expenditure items. Seqwater has not attempted to include minor renewals projects (less than $10,000), or renewals on water treatment plants at recreation areas, or make any allowance or contingency for renewals expenditure arising from damage or changes in law. This approach has been adopted to focus the renewals forecasting effort on more material items of expenditure.

Seqwater identified renewals needs and the schedule of projects through a range of processes, including:

- the existing Facility Asset Management Plans (FAMPs);
- the existing asset maintenance program;
- reports from site safety inspections and dam safety management program; and
- advice from operators.

Seqwater then evaluated potential projects against criticality and other criteria, and conducted workshops with local staff as well as site inspections to validate and adjust the scope and timing of projects. In many cases, Seqwater has revised the timing of major renewals jobs to a later time where there was not sufficient evidence that the asset required renewal, or renewal of the asset could be deferred at an acceptable risk of failing to meet service standards or compliance obligations.

Forecast renewals expenditure for the regulatory period is provided below.

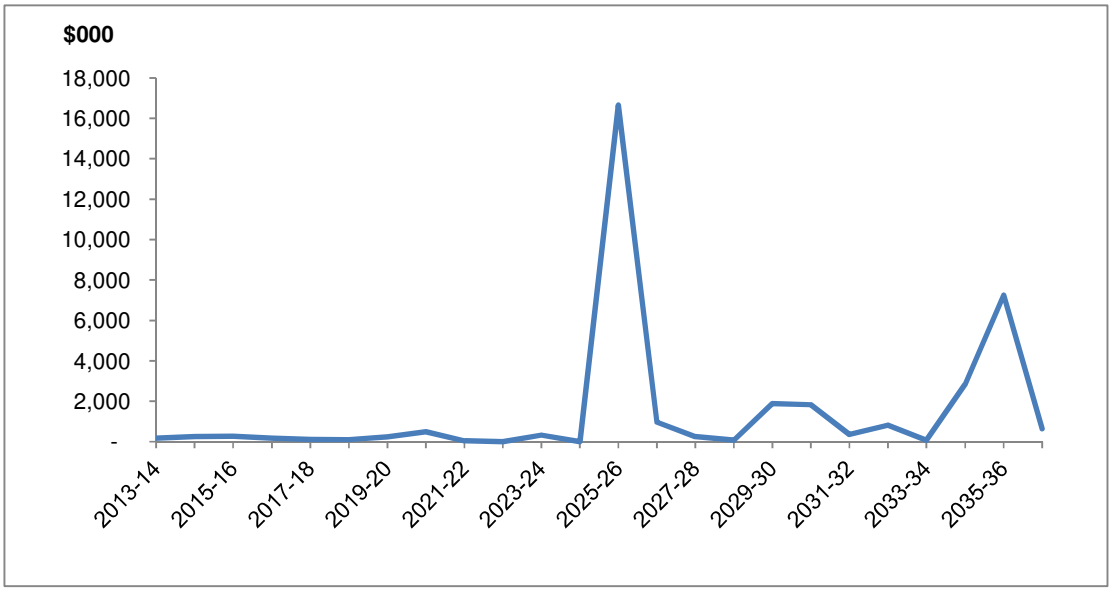
Table 3-12. Forecast renewals expenditure to 2016-17 ($2012-13, $000)

	2013-14	2014-15	2015-16	2016-17
Renewals expenditure	170.0	240.0	255.0	175.0

This excludes any dam safety or meter upgrade expenditure, in accordance with the Referral Notice.

The figure below shows the long term renewals profile over a 24 year period.

Figure 3-1: Central Brisbane River renewals profile ($2012-13)



A list of projects included in the Annuity and that come under at least one of the following categories are outlined in the table below:

- scheduled between 2013/14 and 2016/17 financial years and having a project value greater than the average project value for that period; and
- a project that has an impact on the annuity of greater than 10%.

Table 3-13. Major renewals projects

Asset	Description of Work	Timing of Work	Project Value $'000	Significance*
Wivenhoe Dam – electrical winch	Replacement of baulk seals on No 1,2,4,5 & 6	2014-15	100	HAV
Wivenhoe Dam – trash screens	Repainting	2015-16	80	HAV
Wivenhoe Dam – cone valves	Refurbish and replace seals	2015-16	100	HAV
Somerset Dam – spillway crest gates	Repainting	2013-14	75	HAV
Somerset Dam – spillway crest gates	Repainting	2014-15	50	HAV
Somerset Dam – spillway crest gates	Replace electric winch motor and brake	2016-17	60	HAV
Somerset Dam – spillway sluice gates	Repainting	2013-14	75	HAV
Somerset Dam – spillway sluice gates	Repainting	2014-15	50	HAV
Somerset Dam – spillway sluice gates	Replace electric winch motor and brake	2016-17	60	HAV
Somerset Dam – gantry crane – steel superstructure	Refurbishment	2025-26	3,000	IA
Somerset Dam – outlet works – inlet screen and trash racks	Refurbishment of structural walls, columns and beams	2025-26	3,250	IA

* HAV – Higher than Average Value (for period from 2013/14 to 2016/17)
IA – Project has an impact on the annuity of greater than 10%

Total Lower Bound Costs

The total lower bound costs for the Central Brisbane River scheme are set out in the table below.

Table 3-14. Total Lower Bound costs ($000)

Cost	2013-14	2014-15	2015-16	2016-17
Direct operations*	5,978.9	6,193.2	6,469.2	6,645.9
Repairs and maintenance	1,994.6	2,074.4	2,157.3	2,243.6
Non-direct opex**	8,175.0	8,379.4	8,588.9	8,803.6
Renewals annuity	1,188.6	1,191.7	1,292.5	1,559.2
TOTAL	**17,337.1**	**17,838.6**	**18,508.0**	**19,252.3**

* Incorporates revenue offset ** Incorporates operations, non-infrastructure costs, insurance and working capital.

Cost allocation to irrigation

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

However, PB found that a strict application of the methodology resulted in a perverse outcome for the Central Brisbane River WSS. As a result, PB suggested an alternative method is to calculate the ratio between medium and high priority customers factored by the cut-off percentage for medium priority entitlements, which calculates to 2.1%.

Accordingly, the proposed allocation of renewals and maintenance costs to medium priority customers is 2.1%.

In its draft SunWater report, the QCA allocated insurance premium costs in water supply schemes based on the HUF, and in distribution systems according to nominal WAEs.[3] Seqwater has adopted the same approach. Similarly, Seqwater has assigned working capital costs between medium and high priority customers according to the HUF.

The balance of costs have been allocated to the irrigation sector based on a 50:50 split between the adjusted asset utilisation factor (2.1%) and the nominal ML entitlements attributable to medium priority customers (2.5%).

The table below presents the outcomes of the allocation of costs to Central Brisbane irrigation customers.

[3] QCA (2011). SunWater Irrigation Price Review: 2012-2017. Draft Report. p244

Table 3-15. Total Lower Bound costs allocated to irrigation sector ($000)

Cost	2013-14	2014-15	2015-16	2016-17
Direct operations*	137.9	142.8	149.2	153.2
Repairs and maintenance	42.8	44.5	46.3	48.2
Non-direct opex**	187.2	191.9	196.7	201.6
Renewals annuity	25.5	25.6	27.8	33.5
Distribution losses	-	-	-	-
TOTAL	**393.4**	**404.8**	**419.9**	**436.5**

* Incorporates revenue offset ** Incorporates operations, non-infrastructure costs, insurance and working capital.

Proposed tariffs

Tariff groups

The Referral Notice requires the QCA to adopt the tariff groups as proposed in Seqwater's NSPs.

Seqwater propose the current tariff groupings continue for the Scheme. That is, a single tariff group will continue to apply.

Tariff structure

As discussed, Seqwater consider that all costs associated with the provision of irrigation services are fixed. Accordingly, Seqwater propose to apply a single fixed tariff to Central Brisbane irrigation customers.

Lower bound reference tariffs

Lower bound reference tariffs for Central Brisbane irrigation customers are provided in the table below.

Table 3-16. Forecast Central Brisbane irrigation tariffs

	2013-14	2014-15	2015-16	2016-17
Lower bound cost ($000)	393.4	404.8	419.9	436.5
WAE (ML)	7,041	7,041	7,041	7,041
Tariff (smoothed)				
Fixed component ($/ML)	56.52	57.93	59.38	60.87
Variable component ($/ML)	-	-	-	-

Price path

The Referral Notice requires the QCA to consider a price path where potential price increases are above inflation.

Supporting documentation

- Irrigation Infrastructure Renewal Projections - 2013/14 to 2046/47 – Central Brisbane Tariff Group

Appendix A – Asset details

Table 1 Wivenhoe Dam, Brisbane River—AMTD 150.2 km

Description of water infrastructure	
Description	Zoned earth fill and rock fill saddle dam.
Full supply level	E.L. 67.0 m AHD
Minimum operating level	E.L. 35.0 m AHD
Storage capacity	
Full supply volume	1 165 200 ML
Minimum operating volume	4886 ML
Storage curves	Drawing number: A3-110404.
Spillway arrangement	
Description of works	Primary spillway is 72 m wide and consists of 5 radial gates (12 m wide by 16 m high) with a flip bucket dissipater. Secondary spillway consists of a 164 m wide spillway chute with 3 m ogee crest and three fuse plug embankments.
Spillway level	Primary spillway fixed at E.L. 57.0 m AHD. Secondary spillway fixed at E.L. 67.0 m AHD.
Spillway width	Primary spillway – 72 m wide, secondary spillway – 164 m wide.
Spillway length	Nil.
Discharge characteristics	Refer to flood manual.
River inlet/outlet works	
Description of works	1.8 m and 3.6 m diameter penstocks located through the left hand wall of the concrete gravity spillway structure terminating with a 4.5 kW mini hydro station and a 1.5 m diameter FDC bypass regulator valve. 1.5 m FDC valve max discharge 36 m^3/s at E.L 67 m AHD. Hydro has a max discharge of 18 m^3/s at E.L 67 m AHD.
Inlet	Inlet well has six baulks to facilitate selective withdrawal.
Cease to flow levels	River outlet: E.L 31.0 m AHD.

Table 2 Mount Crosby Weir, Brisbane River—AMTD 90.8 km

Description of water infrastructure	
Description	Concrete weir
Full supply level	6.9 m AHD
Minimum operating level	6.2 m AHD
Storage capacity	
Full supply volume	2200 ML
Minimum operating volume	1800 ML
Storage curves	Nil.
Spillway arrangement	
Description of works	Ogee spillway
Spillway level	E.L. 6.9 m
Spillway width	E.L. 91.08 m
Spillway length	Nil.
Discharge characteristics	0.7 m wide x 0.305 m high fishway slot.
River inlet/outlet works	
Description of works	Fishway slot: 0.7 m wide x 0.305 m high.
Inlet	Nil.
Cease to flow levels	E.L. 6.7 m AHD

Table 3 Somerset Dam, Stanley River—AMTD 7.4 km

Description of water infrastructure	
Description	Concrete gravity dam
Full supply level	E.L. 99.0 m AHD
Minimum operating level	E.L. 71.5 m AHD
Storage capacity	
Full supply volume	379 850 ML
Minimum operating volume	4000 ML
Storage curves	Drawing number: A3-110929.
Spillway arrangement	
Description of works	8 radial gates with a fixed crest level of 100.45 m AHD. 8 sluice gates with invert at E.L 71.2 m AHD.
Spillway level	E.L 100.45 m AHD.
Spillway width	Radial gate height of 7.0 m and a width of 7.0 m (clear width 63.4 m). Sluice gates 3.66 m high x 2.44 m wide (clear width of 19.52 m).
Spillway length	Nil.
Discharge characteristics	Discharge per sluice gate 69 m^3/s at FSL, 231 m^3/s at MFL 107.46. Discharge per gate is 310 m^3/s at MFL of E.L 107.46 m AHD.
River inlet/outlet works	
Description of works	8 x 2.44 m x 3.66 m sluice gates. 4 x 2.3 m diameter regulator valves. 1 4 MW hydro-power station – releases only to made for hydropower generation when dam is above 90.0 m AHD (rate of release has capacity of 370 ML/day).
Inlet	Nil.
Cease to flow levels	River outlet: E.L. 71 m AHD.